



## Mid-Atlantic Fishery Management Council

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Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman

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

# MEMORANDUM

**Date:** July 30, 2015  
**To:** Council  
**From:** Kiley Dancy, Staff  
**Subject:** Summer Flounder Management Measures for 2016-2018

The following materials are provided for Council consideration of the above subject, starting with the most recent documents. Note that some materials are found behind other briefing book tabs.

- 1) Advisory Panel comments from July 29 webinar, with additional advisor comments received through July 29
- 2) July 2015 Monitoring Committee Meeting Summary
- 3) July 2015 SSC meeting report dated July 27, 2015 (*found behind the bluefish tab; Tab 8*)
- 4) Supplemental Staff Memo dated July 17, 2015
- 5) Original Staff Memo dated July 9, 2015, with attached supplemental memo from North Carolina Division of Marine Fisheries regarding flynet mesh size exemption dated June 24, 2015
- 6) Summer Flounder Stock Assessment Update for 2015
- 7) 2015 Summer Flounder, Scup, and Black Sea Bass Fishery Performance Report
- 8) 2015 Summer Flounder Fishery Information Document



## Advisory Panel Webinar Meeting Summary and Additional Advisor Comments July 29, 2015

**Comments from July 29, 2015 Joint Advisory Panel Webinar, 9:00 a.m. – 12:00 p.m.**

### ***Webinar Attendees:***

#### **Council Advisors:**

Bonnie Brady (NY)	Joan Berko (NJ)	Harry Doernte (VA)
Mary Fabrizio (VA)	James Fletcher (NC)	Hank Lackner (NY)
Jan McDowell (VA)	Ross Pearsall (RI)	Michael Plaia* (CT)
Lisa Poyer (NY)	Bob Pride (VA)	James Reese (MD)
Robert Ruhle (NC)	Harvey Yenkinson (PA)	Steve Witthuhn (NY)

#### **Commission Advisors:**

Bob Busby (NY)	Jack Conway (CT)	Aaron Gewirtz (RI)
Mike Hall (RI)	Marc Hoffman (NY)	Michael Ireland (NC)
Mark King (NY)	Arthur Kretschmer (NY)	James Lovgren (NJ)
Ken Neill (VA)	Michael Plaia* (RI)	Buddy Segiel (MD)
Bill Shillingford (NJ)	Art Smith (NC)	James Tietje (MA)

*\*Serves as both Council and Commission Advisor*

#### **Staff and Others:**

Kiley Dancy (MAFMC staff)	Julia Beaty (MAFMC staff)	Kirby Rootes-Murdy (ASMFC staff)
Jim Gartland (VIMS)	Meghan Lapp (Seafreeze)	Jeff Kaelin (MAFMC)
Katie Almeida (Town Dock)	Angel Willey (MD DNR)	Eric Reid (Seafreeze)
Spencer Talmage (ASMFC staff)	Cecilia ?	

***Please note:*** comments below are paraphrased and not verbatim quotes.

### **Summer Flounder**

**Marc Hoffman:** All the party boats I'm talking to are seeing plenty of fish, but not a lot of keepers. There are plenty of fish just under 18 inches. We had a very long and very late winter. How much did that affect what everybody is seeing? I think this is a very drastic action. It's too drastic based on what we're seeing.

**Hank Lackner:** The commercial fishery has not changed in recent years, but the charts show an increase in recruitment. Why are we seeing that? It seems as though the fishery is performing absolutely fine. It seems like we're going about this too fast and this is a knee-jerk reaction.

**Michael Ireland:** The fish have moved more to the northeast, with the exception of this year. A lot of fish showed back up in the southern waters that were not there in previous years. I think we're going at this way too fast. I think we may have gotten an inaccurate assessment, and we need another assessment as soon as possible.

**Buddy Segiel:** The MRIP estimates are not accurate, despite ongoing changes to the program. We are moving too quickly.

**James Fletcher:** The assessment is not using accurate information. No one is considering that we've gone from the Albatross to the Bigelow in the trawl survey. The assessment should include different information, and the SSC should have reviewed the information from the study fleet. There are more fish out there than are being reported. Fish have expanded their range and the biomass has expanded. The Magnuson Act says that we should reduce discards but the Council hasn't complied with that. If we changed to barbless hooks and total retention in the recreational fishery, that would reduce discards. But the Council policy has been not to put gear restrictions on the recreational fishery. If you use a 30% assumed recreational discard mortality rate, the retrospective bias disappears. Net pen studies for discard mortality rates do not account for predation in recreational discards. If we allowed the commercial fishery to use cable TEDs [Turtle Excluder Devices] instead of aluminum TEDS, that would show that the fishery is expanding since commercial catch would reflect actual distribution.

**Hank Lackner:** The survey does not reflect how fish distributions have changed in recent years due to climate change. Since we've had the Bigelow, we've had a lot of mixed results out of the survey. I think a lot of this has to do with the calibration coefficient. I doubt the net is catching summer flounder correctly.

**Bill Shillingford:** I tag and release all my flounder. Prior to 2012, 96% of the returns that were out more than 12 months were 50 miles farther north than were they were tagged. Since then it has gone down to 72% and more fish are being recaptured to the south. The stock is growing to the north and south. The proposed changes will have a significant economic impact in southern New Jersey, which is already seeing economic devastation with closing businesses. With a size limit of 18 inches, we're catching the prime spawners. We should be doing something different, such as a total cumulative length limit.

**Robert Ruhle:** There should be other alternatives to just directly dropping the quota. For example, we could lower the commercial minimum fish size so you take the pressure off the larger females that contribute to the spawning stock biomass. This would serve two purposes. It would leave the larger females to increase SSB and would also reduce discards. A reduction of this caliber is unbelievable; it's a drastic reduction. There could be alternatives that could dampen the level of it.

**Jim Lovgren:** The SSB target is too high. We have yet to come within 10 thousand metric tons of that target. It's never been at that level. The stock has shifted to the east. If the winter trawl survey wasn't canceled you would have an idea of the amount of jumbo fluke that are on the 60 fathom edge off Georges Bank. No one listened to the recommendations of the original trawl survey advisory panel. That group said the survey was done at the wrong time of the year. The fish are migrating in the spring and fall and there's variation in the timing of migration every year. The nets on the Bigelow are not designed to catch flatfish. At the Long Branch meeting in April we saw a presentation on the National Standard Guidelines that showed that 30% of the stocks that underwent rebuilding didn't need to be rebuilt in the first place. The number is really 37% and half of those stocks were in the northeast. They need to take this whole thing back to the drawing board. These cuts will have enormous impacts. We have a failure of management.

**Bob Pride:** The Science Center never deals with our comments. The survey is always questioned. It's important to take that message back to the committees and get this fixed once and for all. As we reduce fishing pressure, fish reduce their productivity. As we increase fishing pressure, they increase spawning rates. We should be managing for yield instead of biomass. A crucial element of policy development is to have good scientific information, particularly on the surveys.

**James Fletcher:** In the '90s the science center started using a precautionary approach in the numbers that they generated. The numbers that they are generating now, including the OFLs, have built into it a certain amount of precaution. How much precaution is already built into the numbers before we put the buffer in? My suggestion

is that the Council send a letter to the NEFSC and tell us how much precaution is already built in so we know how much of a buffer to put on the numbers. What would happen if we let it stay the same as in 2015 for the next 4 years? I'd bet the numbers would be exactly the same in terms of overfishing and overfished.

**Hank Lackner:** This is going to be the end of the directed summer flounder commercial fishery. It's not going to be economically feasible. How is the Council going to handle this new low limit? Where are the accountability measures going to fall into place? We're going to have shifting effort into the other fisheries like scup and squid. I know we can't fix the science immediately, but we can look at other things. It's time to look at a flexible landings policy.

**Mike Ireland:** As a North Carolina fishermen, we're required to drag a TED. The TED causes chafing and gear loss so we elect to not use the TED and fish up above the TED line. The data shows that there are no landings from the TED area, but this is because we've moved our effort away from that area. Now we have a 36 hour steam to fish for summer flounder. With these cuts, the only people who make money will be the fuel company. It won't be economically feasible to go fishing. Then you'll see even less landings, which again will not reflect reality.

**James Lovgren:** I believe the recruitment retrospective pattern is caused by predation. There's an enormous biomass of dogfish and skates. We should work to reduce the biomass of those predators. We need to address the problems of shifting stocks so some states are not negatively affected. States should work together to allow quota to be landed in different states and provide flexibility.

**Bonnie Brady:** When fishing pressure is taken off these stocks they stop producing at the level they should. I think this is what has happened with recruitment. I'm really concerned that this level of cuts will cause a further reduction in recruitment. There's no fishery-independent survey in New York. The surveys in neighboring states don't accurately reflect New York. I think this cut goes against National Standard 4. New York will be cut out of the fishery.

**Hank Lackner:** The Council should look at latent permits and the problems that they may cause, meaning those with zero landings. Using a pound delimiter for identifying latent permits may pose a problem due to state regulations; for example, New York is much different than North Carolina.

**Arthur Kretschmer:** This reduction is going to hurt us badly. We should use a three-year phase in to reduce the negative impacts. We need a stock assessment based on sex. Without fluke we'll be out of business in Long Island Sound. There's nothing else to catch except for scup and they aren't worth much.

## Scup

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**Marc Hoffman:** We're being cut back even though biomass is at 200% of the target and we've been under-harvesting relative to the quota for the last several years. This doesn't make sense. All those scup are eating lobster roe, small crabs, shellfish, and baby flounder. We should get the biomass to about 150% of the target and keep it within that range. When one species grows so much, it's going to wipe out some other species. To cut us back because we haven't been using quota is nonsensical. Sea bass and scup are growing enormously and need to be contained to a reasonable amount. You can't allow one species to devour everything else.

**Bonnie Brady:** Catch per unit effort was looked at as part of the last assessment, but was not used. Fishermen in New York have been landing very large scup. Dealers are seeing the largest scup they have ever seen. But this is not shown in the survey. The survey needs to be changed. I agree that the quotas should not decrease if we are at 200% of the target biomass. The discard calculations used to determine the quotas used an average of 2012-2014 discards but the Winter I and Winter II possession limits changed over that time period, which had a

big effect on discards. We should have used just the most recent year of discard estimates. Effort on scup will increase due to restrictions on other species.

**James Fletcher:** The trawl survey has a lot of problems. The data is showing that all species are declining at the same time, but that doesn't make sense. It must be a problem with the source of the information. The Council gave the scup market to tilapia when they cut quotas drastically 8 or 9 years ago. The market for scup has not rebuilt. It takes a long time. The SSC is not looking at all sources of information. They should look at the observed trips. They should look at the study fleet.

**Mark King:** I've been fishing for scup in Long Island Sound for 40 years. I've released many scup in recent years. I'm now catching scup in the third week of April when they used to show up around Memorial Day. I've probably released half a million fish behind the boat in the last 10 years. Unfortunately we're stuck with the daily limit in New York. It's very frustrating to have to release all these fish. There's a tremendous amount of fish out there in all size ranges. I don't understand why we should be reducing effort.

**Robert Ruhle:** In spring 2015 the NEAMAP survey showed strong younger year classes of scup throughout the entire range of the survey. As far as what we've seen on the survey, it looks good. We're trying to rebuild the scup market, but if we reduce quota, it could restrict the expansion of the market. We will repeat the same cycle we're trying to recover from now. The quota won't be utilized because you can't do anything with the fish. Nobody is going to fish for nothing. Availability is not the problem, it's getting anything for them.

**Jim Gartland:** NEAMAP shows a huge recruitment event around 2007. It looks like things have come down over the time series, but that's more of an effect of a large recruitment event at the beginning. It's about average now. For distribution, I don't recall much of a change, we get them pretty much throughout the entire survey area in the spring and fall. We see large numbers of small fish in southern New England in the fall.

**Hank Lackner:** I agree with Bonnie's comments about discards. We can reduce discards as an industry by allowing more scup to be landed in the small mesh fisheries by raising the incidental possession limits. This would turn discards into landings and get us closer to the quota. We are facing a small decrease in the ABC, but this is by no means a small decrease when income is concerned. The weather was pretty horrible this year, and this is a factor in scup landings. As the quota is decreasing from 2015, we're projected to have stable discards. How is that possible? How are discards not affected by changes in regulations and quotas? It's hard to look at these numbers and swallow them. I have towed side by side with the Albatross. I had a big tow of scup when the Albatross didn't have a single scup in their bag. Taking a decrease based on these numbers is problematic. We should also look at moving October to the Winter II period.

**Aaron Gewirtz:** If SSB is so far above the target, can you explain what the impetus is to reduce quotas, especially given not overfished and no overfishing? It's a counterintuitive system, that's a major problem. With the economic impact at stake, it's hard to accept that explanation. Plugging numbers into a formula and does not incorporate context.

*[Council staff noted that the Council has considered modifications to the risk policy and control rule in the past and could consider further modifications. Staff said they would raise this concern from advisors at the Council meeting when summarizing these AP comments.]*

**Aaron Gewirtz:** It's not logical, so it's hard to ask people whose livelihoods depend on it to wait to deal with it for a couple years. You're going to see a shift in effort due to decreases in other species. Action should be taken quickly, not over the next few years.

**Jim Lovgren:** The biomass is twice the target and over the last four years, we've been 25% under the allowable catch. Where are the extra fish going? The problem is with the assessment. We have bad information going in and bad information coming out.

**Michael Ireland:** I recently had a huge tow of scup and some of them got damaged while we were bringing them aboard. We discovered they were eating small scallops. There were 10-12 scallops in each fish. When you think about how many scup are out there, that's a big impact on other species. We're coming in under quota because effort is driven by price.

**Robert Ruhle:** Have any studies been done to see what other species were at all-time lows when scup, or other species, were at all-time highs? It's impossible to manage everything to high levels at the same time.

**James Fletcher:** We don't know that scup are being aged correctly. The only way to know is to use a scanning electron microscope. Every time industry has funded science, it has caused the science coming from the Science Center to change. This means that the Science Center is not doing a good job.

## **Black Sea Bass**

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**Jim Lovgren:** I've been fishing for over 40 years and this is the healthiest I've ever seen the sea bass fishery. They're on open bottom all the time. They didn't use to be there. I think the quota should be at 7.5 or 8 million pounds. It's a high-value fish. Raising the quota would alleviate some of the pain of the summer flounder cutback. The Council still does not know how to deal with a rebuilt stock and seems unwilling to raise quotas when warranted.

**James Fletcher:** If we use the Science Centers estimates to determine how many fish there are per acre based on their estimates, this could be one way to show that their estimates are inaccurate.

**Marc Hoffman:** The biomass for sea bass is so much higher than what we have recorded. They're wiping out other species. If we don't act soon you're going to lose the lobster fishery throughout the northeast. We need an emergency opening of both the commercial and recreational black sea bass fishery. We need to allow 100 pounds of black sea bass bycatch per day. The range is expanding to the north and the south.

**Michael Ireland:** Sea bass are eating scallops, lobsters, everything. What is being put in place for all these fisheries as accountability measures for the years that either sector goes over? Have we thought about changing the season for them at all? Any consideration of season periods?

**Jim Lovgren:** The states would have to set up commercial seasons.

**Robert Ruhle:** Something has to be done to address discards. The Council needs to be able to implement a program to turn discards into incidental landings. I can't stand watching good fish being thrown overboard. We should consider removing the minimum fish size for commercial sector given the current gear restrictions.

**Jim Lovgren:** Scup and black sea bass have different mesh size requirements – scup is 4.5 inches and black sea bass is 5 inches. Most people out of Point Pleasant are using 5 inches, as it targets a bigger sea bass. I think the black sea bass minimum mesh size should increase to 5" to match scup.

**Robert Ruhle:** I don't know many people who use the small black sea bass mesh size. We use the 5" for both so we don't have to switch back and forth.

## Additional Comments Received Via Email or Phone

**From:** James Fletcher <unfa34@gmail.com>  
**Sent:** Thursday, July 30, 2015 7:42 AM  
**To:** Dancy, Kiley; ARTHUR D SMITH; Moore, Christopher  
**Subject:** Need to ground truth science!

The Council needs to estimate what percent of precaution is undocumented in the summer flounder management plan & SCIENCE FROM THE SCIENCE CENTER.

Beginning with the NE science center utilizing the precaution approach! Why is a buffer of scientific uncertainty necessary? REMOVE THE SCIENTIFIC BUFFER!

We did not discuss gear for recreational fishing BARBLESS HOOKS!

TOTAL LENGTH RETENTION MUST BE REQUIRED! WITH NO DISCARDS!

UTILIZING THE 54.2 MILLION ACRE INSIDE THE 100 FATHOM LINE. This does not include the NEMAP area { *ONLY SURVEY STRATA* } CAN THE SCIENCE POSSIBLY BE CORRECT? {WHAT ARE THE NEMAP ACRES NUMBERS}

A possible answer is that the science center software has a glitch {converting from metric to US in both pounds & numbers with the user unaware} Thus the science does not know if the numbers are metric or US & in some cases weather the numbers are for fish or pounds.

The council could leave the present quota in effect for 4 years based solely on the 54.2 {plus NEMAP } acres converted to fish not fitting observed logic. The Best available science would then be logical science from observed catches by fishermen. Let us argue observed catches VS theorize science as best available science.

Last compare Bigelow to Albatross HP 1130 A to 3016 Bigelow those boats if towing the same net WILL NOT CATCH THE SAME. GIVEN THE SAME SEA CONDITIONS!

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James Fletcher  
United National Fisherman's Association  
123 Apple Rd.  
Manns Harbor, NC 27953  
252-473-3287

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**From:** Vetcraft Sportfishing <vetcraft@aol.com>  
**Sent:** Wednesday, July 29, 2015 10:16 PM  
**To:** Dancy, Kiley  
**Cc:** Yenkinson, Harvey  
**Subject:** Re: Summer flounder, scup, and black sea bass webinar - Wednesday, July 29, 9 a.m.-noon

Kiley.....I would like to enter the following comments after our webinar July 29, 2015:

It strikes me as being quite problematic that the SSC, based on recent SAW/SARC recommendations has come up with ABC for fluke requiring such drastic cuts in upcoming years.

Clearly, the fish stocks didn't change that dramatically, only our assessment of the changes in the fluke parameters. Clearly the data available was being misconstrued in such a way that instead of gradual changes in ABC we are seeing such a dramatic and catastrophic quota change that is going to force businesses to close and cause great financial harm to those involved in all aspects of the commercial and recreational fishing communities.

Looking back at the data, F was seen to be close to the mortality threshold as far back as 2005. Also back as far as 2005 we were beginning to see below average recruitment indices. As mentioned in the meeting, we were overestimating SSB and underestimating F. I think we need to pay more attention to changing parameters particularly when they trend close to parameters requiring quota cuts.

For sure, a retrospective study is in order by the SSC to try to reduce or eliminate such drastic cuts in quotas, when clearly the fish populations are changing in a more gradual fashion. Many many folks depend on us to regulate the fisheries in a more consistent manner. Much like the Fed has to regulate interest rates and inflation to keep our economy healthy, we need to get better at utilizing our fisheries data and interpretive apparatus to achieve a more harmonious regulatory profile.

With that being said, and dealing with the situation we are in, I would make the following suggestions:

1. The SAW/SARC is highly dependent on trawl surveys to provide them with timely and accurate data. For sure this process is flawed, required the CV parameters in our fisheries equations. The fishing community is very critical of the results we hear about these trawl surveys. I would like to see the advisory councils have access to the specifics of the trawl surveys used by the workshops in coming up with their recommendations. Data that would be appropriate is time, area, gear used, and catch data.

I think the data we gather from these trawl surveys are inaccurate for several reason.

A. One reason is that the fish stocks are constantly shifting. For example, if I fish nearshore to Cape May, New Jersey, where I had fished and caught well for many years, I will come home with few fish and none of legal size. If I go offshore and fish on wreck or debris structure I will catch quite well. If trawls keep repeating the areas they have done in previous years, the catch may be diminished, not because the stock numbers have necessarily changed, but because the stock has shifted. We see this pattern with many of the species we fish for. Clearly, changing the trawl areas with stock shifts makes comparing previous tows difficult, but it is necessary. The best science from trawls can not be obtained if we ignore stock shifts. The parameter that should be kept constant is trawling on areas of similar abundance, not trawling on the same geographic area.

B. Much has been said about sea bass being structure oriented fish, but little mentioned about fluke being structure related. The only legal size fish I catch now days are always around structure of some type. In the past, when fishing on smaller size limits, we could catch fish on sandy bottom, but such is no longer the case. Clearly trawls can not be done on "snaggy" areas, and will result in a reduced stock estimate when this environmental niche is ignored. This factor is accounted for in sea bass but not for fluke and needs to be taken into account.

C. My understanding is of all the trawl surveys done for fluke, all are done inshore except for the NEFSC survey. Clearly fluke are becoming more of an offshore then an inshore species.. In the Cape May area where I fish, our Delaware Bay has less then 5% of the fluke that it did when I first fished the bay 20 years ago. The near shore structure too is largely devoid of fish in my area. All of my fluke fishing is now done from 9 to 25 miles offshore where the fish are reasonable abundant. By not shifting our trawls with the population dynamics we are getting inaccurate data by sticking to inshore trawl data.

2. Clearly, recruitment is not what we would like it to be, but we are clearly not doing enough in the fishery management process to try to improve this population dynamic. I would make the following suggestions to work on this:

A. I have tried to read as many studies as I could find, most done in the late 80's and early 90's, regarding when the serial spawning process occurs during the offshore foray of the fluke population. The best I can figure a large part of the spawning occurs in the late fall and early winter. I think it would be in order to apportion the offshore quota season at a time when the fluke are done spawning. With the commercial fisherman finding it so easy to catch their quota in such short order, I think this change would not cause much difficulty for the commercial sector. My further thought on this is that it would actually benefit the commercial sector. As the fish processors pay for poundage of fish, and their profit is based on poundage of filets, a fish that has more of its weight in muscle mass, and less in ovary weight, would be worth more to the fishery processors, and thus should pay the commercial sector more for the post spawned fish.

B. I think we need to closely examine the populations of other fish that co inhabit the same ecosystems as the migratory fluke. Clearly excess populations of scup, sea bass, skates, spiny dogfish, etc will reduce the recruitment of fluke. Skates have become much more abundant over time in our fluke fisheries and a larger commercial quota for them is surely in order.

C. In both sectors we need to work on killing less of our SSB. Mention was made at the meeting of allowing a smaller mesh size to capture smaller fluke in the commercial sector and this is something that would help. Online educational information disseminated via various channels could help to educate recreational fisherman on proper release techniques for undersize fish. My observation is very very few anglers have good release techniques. I realize that allowing lower size limits on fluke for the recreational sector could easily cause a quota overage, it may be a net benefit to the SSB by killing less of those that have already become important breeders. Many bait and tackle shops have closed, charter and party boats gone out of business, and marinas gone up for sale as regulations result in many boats coming home with no fish. Just this past weekend, for example, 9 out of 10 boats in my marina came home with 2 or fewer keepers. Suggestions have been made for total length of fish or at least an allowance of one small fish to try to reduce the fishery related business eminent collapse.

3. I strongly recommend we do away with regional management for fluke. 65% of fish populations, including fluke among them, are shifting north. This fisheries for fluke in New York and Connecticut are entirely different then the fishery in New Jersey. Each year we see smaller and smaller fish, with less and less keeper size. Our neighboring Delaware is allowed 16" which takes much business from southern New Jersey charters and head boats.

Clearly we would not want regulations for fluke to be the same over the entire eastern United States coast. Nor would we want to have regulations the same for the all the northern or southern states. The size related fisheries dynamics are such that state by state management better allows recommended quotas that will keep the most businesses profitable.



4. Lastly, I would strongly recommend that states (or regions) be allowed to adjust their quotas via size and numbers limits rather than shortening the season. I realize that season adjustment is the easiest way to reduce catch but it is also the most harmful for fishery related businesses. During closed season for fluke, say during October for example, there are few to any other species that people will fish for. Bait shops are dormant, marinas sell no gas, and charter boats stayed tied to the dock.

Thank you for reviewing these comments. We are in a difficult situation with the new ABC requirements but am hopeful we can learn from our errors, practice more efficient and accurate management of our fisheries, and rebuild the fluke stock in a timely manner.

**Capt Harv**  
**Vetcraft Sportfishing**  
**Cape May, New Jersey**  
**Call or Text 610-742-3891**  
**Email: [vetcraft@aol.com](mailto:vetcraft@aol.com)**

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**From:** ARTHUR D SMITH [<mailto:artsmith@gotricounty.com>]  
**Sent:** Wednesday, July 29, 2015 4:03 PM  
**To:** Kirby Rootes-Murdy <[krootes-murdy@asmfc.org](mailto:krootes-murdy@asmfc.org)>  
**Subject:** AP Meeting 07/29/2015

Kirby,

I did not say anything at the meeting because it was just dragging on. I would like to offer the following.

1. A 50% quota reduction on summer flounder would really hurt the industry. It may result in only one 15,000 pound trip for the entire year of 2016. This means no work for fish house employees and no steady supply of fresh fish for consumers.
2. Listen to the fishermen. I do not know if the stock assessment is valid or not but if someone like Jimbo Ireland says that the body of fish has moved to the east and the biomass is healthy he knows what he is talking about.
3. If the quota does have to be reduced perhaps you could total the next three years quota, divide by three (or five by five or ten by ten) and thus lessen the shock of the initial hit.
4. The issue of discards needs to be dealt with. It is my understanding that projected discards are deducted from the quota. If discards could be dealt with and added back to the quota the commercial fishery would benefit.

Thank you,

Art Smith

Belhaven, NC

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**From:** James Fletcher <[unfa34@gmail.com](mailto:unfa34@gmail.com)>  
**Sent:** Wednesday, July 29, 2015 2:08 PM  
**To:** Dancy, Kiley; James Gartland; Didden, Jason  
**Subject:** Fwd: Re: acres or sq miles in EEZ 100 fathoms to shore SC to Maine

Now! Pounds or fish for the numbers utilized by SSC ! For numbers utilized less than one per acre? Or less than a half pound. Let the Council chew on this!

From Hatteras to SC line would account for Canadian Georges.

need to ask SSC Same Stupid Conclusion committee if the 20 *BEST SCIENCE AVAILABLE* think 1/4 to 1 fishper acre is a true number.

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----- Forwarded Message -----

**Subject:** Re: acres or sq miles in EEZ 100 fathoms to shore SC to Maine

**Date:** Wed, 29 Jul 2015 12:42:06 -0400

**From:** Paul Rago (NOAA Federal) <[paul.rago@noaa.gov](mailto:paul.rago@noaa.gov)>

**To:** James Fletcher <[unfa34@gmail.com](mailto:unfa34@gmail.com)>, Dancy, Kiley <[KDancy@mafmc.org](mailto:KDancy@mafmc.org)>

Hi Jim,

Our survey strata encompass about 64,000 sq nautical miles or roughly 54.2 million acres for Cape Hatteras north (includes Canada Georges Bank and some of SW Nova Scotia). This type of computation is often done in freshwater systems, especially lakes and reservoirs. I can send you some papers that used this type of information, along with total dissolved solids, to estimate freshwater production. I think some of the ecosystem folks have tried similar exercises on a worldwide basis. The computations are often controversial since there are big arguments about what is a relevant numerator (eg yield, total biomass, total production etc.)

Best regards,

Paul

On 7/29/2015 12:20 PM, James Fletcher wrote:

> We would then be able to ask how many pounds per acre or fish per acre  
> or sq mile Sent question to DR Rago at science center.

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**From:** Mary C. Fabrizio <[mfabrizio@vims.edu](mailto:mfabrizio@vims.edu)>

**Sent:** Wednesday, July 29, 2015 12:34 PM

**To:** Dancy, Kiley; Kirby Rootes-Murdy; Beaty, Julia

**Subject:** today's call - Advisory Panel on SF, Scup, and BSB

Hello,

Thank you for providing excellent background materials on the assessments and reference points for summer flounder, scup, and black sea bass. Your review today was very helpful.

This was the first time I participated on this committee and I have a few questions that I hope you can address. What is the role of scientists on this Advisory Panel? How can we assist with the panel's meeting? The comments I heard today were primarily from recreational and commercial fishers who are understandably concerned about the recommendations from the SSC and MAFMC. At one point, I heard one gentleman indicate that the "Panel was in agreement about the status of summer flounder fishery and what should be done" but I wish to indicate that I (and perhaps others) did not share that opinion. I was particularly concerned about the unnecessary derogatory comments about the science process, scientists, and the NEFSC. Clearly, I do not agree with statements directed at science or assessment scientists. Some were rather personal and not appropriate for this meeting. Perhaps at the start of the next meeting the Panel could be reminded that personal opinions about individuals are not appropriate?

As I listened to the comments offered, I heard a number of good ideas that could be presented and proposed for further study. I am assuming that the Advisory Panel has an opportunity to identify research priorities for assessed species and I think a number of them were identified today. For example, there appeared to be doubt about the estimate of post-release mortality for the recreational summer flounder fishery. There is a need to re-assess this estimate and perhaps consider use of barbless hooks. A comparative study of barbless hooks vs. conventional terminal tackle would be useful information for this fishery. One of my Ph.D. students published a study that hinted at high post-release mortality rates, particularly for small summer flounder. This was not the primary focus of his work, but it could form the basis of a new study. A second idea concerns the adequacy of the NEFSC bottom-trawl survey to assess summer flounder and black sea bass. If I were to design a fishery-independent survey *de novo*, it would take place in winter, when these species are not moving and, in the case of black sea bass, are more vulnerable to bottom trawls. Perhaps a joint survey with the fishing industry (through a research set-aside?) could be conducted and abundance estimates compared with those from the traditional NEFSC bottom trawl survey? Finally, it was clear to me that some of the (vocal) participants were uninformed

about calibration factors and their application. Perhaps a workshop to educate the Advisory Panel would be beneficial?

These were a few thoughts I had today as I listened to the discussion and comments from participants. I hope my observations and suggestions are helpful and constructive.

Thank you,

Mary.

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**Dr. Mary C. Fabrizio**

Moses D. Nunnally Distinguished  
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**From:** [JDHLCL@aol.com](mailto:JDHLCL@aol.com) [<mailto:JDHLCL@aol.com>]

**Sent:** Wednesday, July 29, 2015 12:33 PM

**To:** [kdancy@mafmc.org](mailto:kdancy@mafmc.org)

**Cc:** [gregdidomenico@gmail.com](mailto:gregdidomenico@gmail.com); Meghan Lapp

**Subject:** scup

Kiley, the uncertainty put on the scup model is very problematic..

the lack of fish above age 3 really bothers me. Why wasn't dealer reports as well as port side sampling incorporated into the assessment.. Using 5in twine, that is all we catch.. also if the SAW said to use a CV of 30% and the SSC said 60% why didn't we use 45%

Thanks Hank Lackner

**From:** Meghan Lapp <[Meghan@seafreezeltd.com](mailto:Meghan@seafreezeltd.com)>

**Sent:** Wednesday, July 29, 2015 1:25 PM

**To:** Lackner, Hank; Dancy, Kiley

**Cc:** [gregdidomenico@gmail.com](mailto:gregdidomenico@gmail.com)

**Subject:** RE: scup

To add to that, I did help provide input into the assessment that specifically noted that the larger fish are on the top of the school and will only be caught with high rise nets. It is my understanding that the various surveys incorporated into the assessment do not have the appropriate high rise nets and therefore do not survey the larger sized fish. It would then seem that if actual age/size composition of the stock were to be sampled, there would be no other way to do that than through dealer reports/portside sampling of fish caught with commercial nets.

Thanks,

Meghan

Meghan Lapp

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[Meghan@seafreezeltd.com](mailto:Meghan@seafreezeltd.com)

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**From:** Monty Hawkins <capt.montyhawkins@gmail.com>

**Sent:** Tuesday, July 28, 2015 7:49 PM

**To:** Dancy, Kiley

**Cc:** John Boreman; Luisi, Michael; Moore, Christopher; Robins, Rick; Tony DiLernia

**Subject:** Re: Summer flounder, scup, and black sea bass webinar - Wednesday, July 29, 9 a.m.- noon

Hi Kiley,

I have to go fishing. The ecosystems meeting cost me big-time as did the SFL/BSB meeting. I cannot lay-in to be on the call.

I have begged & begged for inclusion of biology in sea bass management.

When management first began we were thought to land millions of sea bass. What could possibly have been a darker time for sea bass that decades of unrelenting laser-guided fishing pressure? ..yet we caught millions when reason would surely conclude a population at nadir & in crisis. .

Now, if you released us from ALL regulation from the South Shore of Long Island to the NC state line we probably wouldn't/couldn't land half a million - all of us all together - even canoes & kayaks.

What could be a darker time for sea bass?

How about management that's not watching for changes in spawning age as it affects overall production..

Exponential population growth. We had it. It's not an illusion - it happened just as it's happening right now in Florida on the Gulf side.

My cpue was at 111 sea bass per-person in a one week sample from May, 2003. We limited more often than not. From the blackest heart of completely unregulated severe overfishing in the 1980s to the true splendor of what management has to offer. What a spectacular ride!

Sadly, we now see what else management has to offer - regulatory & biological collapse. My cpue this May was, if I recall exactly, 2.6 sea bass per-person. That period is no mistake - two point six fish..

I have tried & failed.

My primary fishery has collapsed.

The last thing in the world MRIP based regulation will allow is a path to repair. We must rekindle age one spawning.

To do that we have to lower the size limit.

I wish sea bass had been important enough to pay attention to. We could have created a fabulous fishery.

Regards,

Monty

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**From:** captain [<mailto:rbusby@optonline.net>]

**Sent:** Tuesday, July 28, 2015 11:13 AM

**To:** Kirby Rootes-Murdy <[krootes-murdy@asmfc.org](mailto:krootes-murdy@asmfc.org)>

**Subject:** AP Input

Hi Kirby,

Hope all is well with you folks down there.

I read the material in preparation for our webinar tomorrow and I wanted to give you a pre- meeting response. I left our meeting in Baltimore this June feeling good about the state of Summer flounder as well as Regional management in general. Now we seem to be getting blindsided by a new "stock assessment" which calls for a

possible 43% reduction which may be reduced to 25% as an act of "kindness". This would be devastating to a fishery and industry that has been determined by many to have been rebuilt and not overfished.

It seems that the claim is "lack of recruitment" I invite you to go out on any charter/party boat including mine and see the number of juvenile fish being caught, sometimes 9 of 10 or more.

Another claim is the increase in mortality. As I have explained before, a new widely adopted method of fishing bucktails with or without gulps results in most if not all fish being lip-hooked and therefore easily released. If this is being considered it would preclude the notion of increased mortality.

Lastly is my "pet peeve", the 45 day rule. I have not yet seen evidence that this is warranted. Also, why does the 45 day rule only apply to our region? The belief that May and June carry such heavy weight is totally contrary to what was accepted and believed for many years. I am also curious why that was announced at the very last minute.

I intend to take part in the conference call tomorrow.

Best to all,

Capt. Bob Busby

New York

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**From:** James Fletcher <unfa34@gmail.com>

**Sent:** Tuesday, July 28, 2015 10:48 AM

**To:** Dancy, Kiley

**Subject:** Re: Summer flounder, scup, and black sea bass webinar - Wednesday, July 29, 9 a.m.- noon

Attempting to obtain information on discarded summer flounder. RECREATIONAL

Do we know the average length of discarded summer Flounder?

DISCARDED SUMMER FLOUNDER {RECREATIONAL} What is average length ?

Rather than a 23% cut let us change all recreational caught fish to retained, thus all that is needed is an amount to be

retained. nO COMMERCIAL CUT!

WHAT IS YOUR PHONE ID. 3 NUMBERS ?

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Paraphrased comments provided via phone from Greg Hueth (Council advisor from New Jersey), Monday July 27:

- A 29% cut will cause a lot of people to go out of business. Especially in combination with the low quotas for sea bass, I don't know what they will do.
- I am skeptical about the model – this is only going to cause more doubt in people's minds about fisheries management. There will be major issues with noncompliance.
- Males only grow to 17 to 19 inches, and seem to die more quickly than females. High size limits are putting too much pressure on large females, the breeders.
- Managers should implement a slot limit or alternative management strategies, otherwise we have a recipe for disaster with upcoming commercial measures. Managers should discuss alternative strategies to ease the pain.
- An update to the stock assessment model next year will hopefully help the situation.



**Summer Flounder, Scup, and Black Sea Bass Monitoring Committee  
Meeting Summary  
July 23-24, 2015, Baltimore, MD**

**Monitoring Committee Attendees:** Mike Bednarski (MA-DMF), Jason McNamee (RI-DFW), Peter Clarke (NJ-F&W), Greg Wojcik (CT-DEEP), Joe Grist (VMRC), Steve Doctor (MD-DNR), Moira Kelly (NMFS GARFO), John Maniscalco (NY-DEC), Tom Wadsworth (NC-DMF; via webinar), Kiley Dancy (Council staff), Julia Beaty (Council staff), Kirby Rootes-Murdy (ASMFC staff)

**Additional Attendees:** Toni Kerns (ASMFC staff), Spencer Talmage (ASMFC staff), Greg DiDomenico (Garden State Seafood Association), Jeff Kaelin (Council member; via webinar)

### **General Comments**

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The Monitoring Committee began the meeting with a discussion of commercial management measures. As noted in the staff memos for all three species, many commercial measures have not been modified or reviewed in detail in many years. Managers and advisors have requested a review of and/or modifications to some of these measures. As described below, the Committee plans to conduct a thorough review of commercial management measures for all three species this fall. At the July 23-24 meeting, the Committee discussed appropriate data sources and analyses that should be pursued to accomplish this review. The Committee plans to make additional information and recommendations available for consideration by the Council and Board at the December 2015 meeting.

The Monitoring Committee does not currently have any formal control rules for the recommendation of ACTs. The Committee recognizes the need to develop ACT control rules or guidelines for addressing management uncertainty in the future, which would be applicable to all three species.

### **Summer Flounder Comments and Recommendations**

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For the commercial fishery, the landings monitoring and fishery closure system is timely and has typically been successful in holding the landings close to the quota. Given two years in a row of above-average commercial overages, states should be more diligent in managing their state quotas. Individual states and the Greater Atlantic Regional Fisheries Office (GARFO) should work to identify specific reporting and monitoring problems that may be contributing to these overages. If commercial overages continue to this degree, the Monitoring Committee may need to account for this in future ACT recommendations. The Monitoring Committee recommends no reduction from the commercial ACLs to the ACTs in 2016-2018 to address management uncertainty.

The recreational fishery has also performed relatively well relative to the harvest limits for the past few years. However, the Monitoring Committee and Technical Committee will need to carefully consider the potential effects of proposed decreases in landings limits for 2016-2018, especially given the lack of in-season closure authority for the recreational fishery. The Monitoring Committee will consider management uncertainty explicitly when recommending recreational management measures in the fall of each year. The Committee recommends no reduction from the recreational ACLs to the recreational ACTs for 2016-2018.

The Monitoring Committee and Technical Committee will evaluate the effectiveness of the commercial management measures this fall, and plan to present recommendations to the Council and Board at their

joint meeting in December. Pending additional analyses, the Committee recommends no changes to the minimum fish size, minimum mesh size, minimum mesh size triggers, or exemption programs at this time.

### **Scup Comments and Recommendations**

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For the past four years the recreational and commercial scup fisheries have substantially under-harvested their landings limits. The ABCs began to decline in 2012 and continue to do so through 2018. If recent fishery performance continues, the 2018 ABC may be constraining. The commercial landings monitoring and fishery closure system is timely and successful in managing the landings. No additional reduction is needed from the commercial and recreational ACLs to the ACTs to address management uncertainty.

The Monitoring Committee and Technical Committee will evaluate the effectiveness of current commercial regulations this fall and plan to present recommendations to the Council and Board at their joint meeting in December. Given that the quota has been under-utilized and that scup stock status is good, it may be worth modifying the threshold possession limits triggering minimum mesh size, and potentially other measures; however, further analysis of impacts is warranted. Pending additional analyses, the Monitoring Committee recommends no changes to the minimum fish size, minimum mesh size and associated threshold possession limits, and quota period possession limits at this time.

The Monitoring Committee will also evaluate the timing of the seasonal commercial quota periods. Any changes to the quota period dates would require a framework or amendment.

### **Black Sea Bass Comments and Recommendations**

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As noted at the SSC meeting, catch limits that are not responsive to black sea bass abundance have made constraining harvest increasingly difficult. These catch limits are resulting in foregone yield, as evident in the 2015 McNamee et al. working paper and fishery independent indices. The Committee notes that the 2011 year class of black sea bass is much larger than any other recent year class, and is contributing significantly to high availability, particularly in the northern states. The Monitoring Committee fully supports any efforts by the SSC to re-evaluate the methods used to recommend ABCs for level 4 stocks, especially black sea bass. In the event that the SSC revises their ABC recommendations for black sea bass based on this evaluation, the Monitoring Committee will also revisit the recommendations for ACTs.

The Committee notes that commercial landings have been very close to the commercial quotas over the last five years with the exception of 2014. Similar to comments made for summer flounder, states and GARFO should work to identify specific reporting or monitoring problems that may be contributing to above-average overages. However, the commercial quota monitoring system is timely and is generally successful in managing the landings. Therefore, the Committee does not recommend any reduction in the commercial ACL to the commercial ACT.

The recreational fishery has had a history of large overages in several of the past five years. Realistically, the black sea bass recreational measures have not constrained the fishery to the recreational harvest limit during that time frame. The Technical and Monitoring Committees continue to work to simplify regulations to reduce management uncertainty in the recreational fishery. The Committees will consider management uncertainty explicitly when recommending recreational management measures in the fall of each year. The Monitoring Committee recommends no reduction in the recreational ACLs to the recreational ACTs for 2016-2017.

The Monitoring Committee and Technical Committee will evaluate the effectiveness of the commercial management measures this fall. Pending additional analyses, the Monitoring Committee recommends no changes to the minimum fish size, minimum mesh size, minimum mesh size triggers, or pot and trap gear restrictions at this time.

## SSC and Monitoring Committee Recommendations Summary

The tables below summarize the catch and landings limit recommendations from the SSC and Monitoring Committee for summer flounder (Table 1), scup (Table 2), and black sea bass (Table 3).

**Table 1:** SSC and Monitoring Committee recommendations for summer flounder catch and landings limits, 2016-2018, and 2015 implemented catch and landings limits. Numbers may not add precisely due to unit conversions and rounding error.

Management Measure	2015 (current)		2016		2017		2018		Basis for 2016-2018 Recs.
	<i>mil lb.</i>	<i>mt</i>	<i>mil lb.</i>	<i>mt</i>	<i>mil lb.</i>	<i>mt</i>	<i>mil lb.</i>	<i>mt</i>	
<b>OFL</b>	27.06	12,275	18.06	8,194	19.82	8,991	22.40	10,159	Stock assessment projections
<b>ABC</b>	22.77	10,329	16.26	7,375	15.86	7,193	15.68	7,111	Projections/SSC recommendation <sup>1</sup>
ABC Landings Portion	18.45	8,368	13.54	6,142	13.19	5,983	13.16	5,968	Projections
ABC Discards Portion	4.32	1,961	2.72	1,233	2.67	1,210	2.52	1,143	Projections
<b>Commercial ACL</b>	13.34	6,049	9.43	4,275	9.19	4,168	9.10	4,127	60% of ABC landings portion (per FMP allocation) + 48% of ABC discards portion
Commercial ACT	13.34	6,049	9.43	4,275	9.19	4,168	9.10	4,127	Monitoring Committee rec.; no deduction from ACL for management uncertainty
Projected Comm. Discards	2.27	1,028	1.30	590	1.28	579	1.21	547	48% of ABC discards portion, based on 2012-2014 average % discards by sector
<b>Commercial Quota</b>	11.07	5,021	8.12	3,685	7.91	3,590	7.89	3,581	Commercial ACT, less projected commercial discards
<b>Recreational ACL</b>	9.44	4,280	6.84	3,100	6.67	3,025	6.58	2,984	40% of ABC landings portion (per FMP allocation) + 52% of ABC discards portion
Recreational ACT	9.44	4,280	6.84	3,100	6.67	3,025	6.58	2,984	Monitoring Committee rec.; no deduction from ACL for management uncertainty
Projected Rec. Discards	2.06	933	1.42	643	1.39	631	1.32	596	52% of ABC discards portion, based on 2012-2014 average % discards by sector
<b>Recreational Harvest Limit</b>	7.38	3,347	5.42	2,457	5.28	2,393	5.26	2,387	Recreational ACT, less projected recreational discards

<sup>1</sup> The SSC deviated from the Council's ABC control rule in order to recommend ABCs over the 2016-2018 period that phase in the required reductions in catch. This was done at the request of the Council, based on socio-economic concerns over the magnitude of the reduction in the fishery catch in 2016 that would potentially be destabilizing.



**Table 2:** SSC and Monitoring Committee recommendations for scup catch and landings limits, 2016-2018, and 2015 implemented catch and landings limits. Numbers may not add precisely due to unit conversions and rounding error.

Management Measure	2015 (current)		2016		2017		2018		Basis for 2016-2018 Recs.
	<i>mil lb</i>	<i>mt</i>	<i>mil lb</i>	<i>mt</i>	<i>mil lb</i>	<i>mt</i>	<i>mil lb</i>	<i>mt</i>	
OFL	47.80	21,680	35.80	16,238	32.09	14,556	29.68	13,464	Stock assessment projections
ABC	33.77	15,320	31.11	14,110	28.40	12,881	27.05	12,270	Stock assessment projections/ Council risk policy/SSC recommendations
ABC landings portion	28.03	12,716	26.56	12,047	23.88	10,832	22.55	10,227	Stock assessment projections
ABC discards portion	5.74	2,604	4.55	2,063	4.52	2,049	4.50	2,043	Stock assessment projections
Commercial ACL	26.34	11,950	24.26	11,006	22.15	10,047	21.10	9,571	78% of ABC (per FMP allocation)
Commercial ACT	26.34	11,950	24.26	11,006	22.15	10,047	21.10	9,571	Monitoring Committee recommendation; no deduction from ACL for management uncertainty
Projected commercial discards	5.11	2,318	3.80	1,721	3.77	1,710	3.76	1,705	83.4% of the ABC discards portion (the average percentage of dead discards attributable to the commercial fishery from 2012-2014)
Commercial quota	21.23	9,632	20.47	9,284	18.38	8,337	17.34	7,866	Commercial ACT minus discards
Recreational ACL	7.92	3,592	6.84	3,104	6.25	2,834	5.95	2,699	22% of ABC (per FMP allocation)
Recreational ACT	7.92	3,592	6.84	3,104	6.25	2,834	5.95	2,699	Monitoring Committee recommendation; no deduction from ACL for management uncertainty
Projected recreational discards	0.67	304	0.75	342	0.75	339	0.75	338	16.6% of the ABC discards portion (the average percentage of dead discards attributable to the recreational fishery from 2012-2014)
Recreational harvest limit	6.80	3,288	6.09	2,763	5.50	2,495	5.21	2,361	Recreational ACT minus discards

**Table 3:** SSC and Monitoring Committee recommendations for black sea bass catch and landings limits, 2016-2017, and 2015 implemented catch and landings limits. Numbers may not add precisely due to unit conversions and rounding error.

Management Measure	2015 (current)		2016 and 2017		Basis for 2016-2017 Recs.
	<i>mil lb.</i>	<i>mt</i>	<i>mil lb.</i>	<i>mt</i>	
<b>ABC</b>	5.50	2,494	5.50	2,494	SSC-recommended constant catch ABC
ABC Landings Portion	4.56	2,070	4.56	2,070	Prior year proportion of landed catch <sup>2</sup>
ABC Discards Portion	0.93	424	0.93	424	Prior year proportion of discarded catch <sup>2</sup>
<b>Commercial ACL</b>	2.60	1,180	2.60	1,177	49% of ABC landings portion (per FMP allocation) + 38% of ABC discards portion
Commercial ACT	2.60	1,180	2.60	1,177	Commercial ACL, less deduction for management uncertainty
Projected Commercial Discards	0.37	166	0.36	163	38% of ABC discards portion, based on 2013-2014 average % discards by sector <sup>3</sup>
<b>Commercial Quota</b>	2.24	1,014	2.24	1,014	Monitoring Committee recommendation; no deduction from ACL for management uncertainty
<b>Recreational ACL</b>	2.90	1,314	2.90	1,317	51% of ABC landings portion (per FMP allocation) + 62% of ABC discards portion
Recreational ACT	2.90	1,314	2.90	1,317	Recreational ACL, less deduction for management uncertainty
Projected Recreational Discards	0.57	258	0.58	261	62% of ABC discards portion, based on 2013-2014 average % discards by sector
<b>Recreational Harvest Limit</b>	2.33	1,056	2.33	1,056	Monitoring Committee recommendation; no deduction from ACL for management uncertainty

<sup>2</sup> When the ABC was last revised in 2013, 2011 data was the most recent full year available to derive these proportions. For 2011, 83% of catch was landed and 17% was discarded. Based on the 2015 data update, these proportions were the same in 2014.

<sup>3</sup> When the ABC was last revised in 2013, 2010-2011 data was used to derive the contribution of discards by sector, with 39% attributable to the commercial fishery and 61% to the recreational fishery. Based on the data update, for 2013-2014, these proportions are 62% and 38%, respectively. This contributes to a slight change in the commercial and recreational ACLs between the 2015 and 2016, due to the slight change in projected discards by sector.

## MEMORANDUM

**Date:** July 17, 2015  
**To:** Chris Moore, Executive Director  
**From:** Kiley Dancy and Jessica Coakley, Staff  
**Subject:** Summer Flounder ABC Recommendations for 2016-2018

For summer flounder, the staff acceptable biological catch (ABC) recommendation for 2016 in the memo dated July 9, 2015 would result in a 45% reduction from the current (2015) catch levels. This recommendation was based on the information from the most recent stock assessment and ABC derivation method previously applied by the SSC, which assumes a Level 3 assessment and applies the Council's risk policy. Specifically, this ABC calculation approach uses a probability of overfishing of 25.8%, a coefficient of variation (CV) for the overfishing limit (OFL) distribution of 60%, and an iterative approach that assumes the ABC is taken in each year.

However, staff recognize that the fisheries for summer flounder would not be able to effectively absorb such a large reduction in ABC in one year. A reduction of this magnitude has severe economic implications for commercial and recreational fishing businesses, the seafood industry and markets, and fishing communities they support.

Given the potential for these substantial negative impacts, staff recommend implementing an approach to phase in the full reduction to meet the Council's preferred probability of overfishing (as noted in the Council's risk policy) over 3 years. This approach is consistent with the phase in approach for ABC as described in the National Standard 1,3,7 Proposed Rule (Dated January 20, 2015),<sup>1</sup> as well as approaches successfully applied elsewhere in the world. Essentially, the approach reduces the scientific uncertainty buffer between the OFL and ABC in years 1 and 2 (2016 and 2017) in order to address these economic and social concerns. The National Standard Proposed Rule suggests that these phase in approaches are considered as both reasonable and feasible at the national level.

Council leadership has indicated support for a "phase-in" approach to setting catch limit reductions for summer flounder, and staff has communicated with NOAA Fisheries Greater Atlantic Region (GARFO) staff and General Counsel to confirm whether this would be consistent with the current regulations in sections §648.20 and §648.21 (Council ABC Control Rules and Risk Policy). GARFO has indicated that it is within the current regulations for the Council and SSC to use a phase-in approach to setting summer flounder ABCs, provided that the resulting ABC recommended by the

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<sup>1</sup> [http://www.nmfs.noaa.gov/sfa/laws\\_policies/national\\_standards/documents/ns1\\_proposed\\_rule.pdf](http://www.nmfs.noaa.gov/sfa/laws_policies/national_standards/documents/ns1_proposed_rule.pdf).

SSC and adopted by the Council does not exceed the OFL and that the probability of overfishing never exceeds 50 percent.

Staff propose that based on the 2016 calculations for the buffer from OFL to ABC, the buffer would be expanded by 1/3 of the total buffer each year (starting in 2016) such that by year 3 (2018) 100% of the buffer for scientific uncertainty has been addressed. This approach would fully implement the Council's tolerance for overfishing (as indicated by the risk policy); but rather than applying it fully in year 1 it would be phased in over 3 years. The ABC would be less than the OFL, and the probability of overfishing would be less than 50 percent, in all three years.

Specifically, this approach would work as follows:

Based on the assessment update and assuming the 2015 ABC is taken, the projected OFL for 2016 is 18.06 million lb (8,194 mt). The resulting ABC, assuming the use of a 30% CV (an approximate doubling of the 16% CV resulting from the stock assessment) and a  $P^*$  of 0.258, would be 14.93 million lb (6,770 mt). This ABC represents 83% of the OFL, meaning that there would be a 17% buffer in place between the OFL and the ABC to account for scientific uncertainty.

Staff recommend that instead of applying the full 17% buffer from the OFL to ABC to address scientific uncertainty in 2016, a 6% buffer be applied in 2016, 12% in 2017, and 17% in 2018. A 6% buffer from the OFL to ABC in 2016 would result in an ABC of 16.98 million lb (7,702 mt). This represents a 25% reduction in the ABC from 2015 (22.77 million lb or 10,329 mt).

Because the assumptions about the level of catch in a given year affect the biomass projections for the following year, this approach would require re-running/iterating the projections with the assumption that this ABC of 16.98 million lb (7,702 mt) was taken in 2016 in order to derive OFLs for 2017 and 2018.

Using the projected OFL for 2017, the ABC would be calculated for 2017 based on a 12% scientific uncertainty buffer. The projections would then be re-run with the assumption that the 2017 calculated ABC has been taken to derive the 2018 OFL. The full scientific uncertainty buffer of 17% would be implemented in 2018 when deriving the ABC.



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

## MEMORANDUM

**DATE:** July 9, 2015

**TO:** Chris Moore, Executive Director

**FROM:** Kiley Dancy and Julia Beaty, Staff

**SUBJECT:** Summer Flounder Management Measures for 2016-2018

### **Executive Summary**

Based on the results of the stock assessment update received in July 2015, the summer flounder stock was not overfished, but overfishing was occurring in 2014. The model-estimated spawning stock biomass (SSB) was 88.90 million lb (40,323 mt) in 2014, 65% of the spawning stock biomass at maximum sustainable yield,  $SSB_{MSY} = 137.56$  million lb (62,394 mt). The fishing mortality rate (F) in 2014 was 0.359, 16% above the fishing mortality threshold reference point  $F_{MSYPROXY} = F_{35\%} = 0.309$ .

For 2016, staff recommend an Acceptable Biological Catch (ABC) of 12.60 million lb (5,713 mt). This ABC results in a commercial Annual Catch Limit (ACL) of 7.30 million lb (3,312 mt), and a recreational ACL of 5.29 million lb (2,401 mt). Staff also recommend that the commercial and recreational Annual Catch Targets (ACTs) be set equal to their respective sector Annual Catch Limits (ACLs) for 2016. After removing projected discards, the resulting 2016 commercial quota is 6.30 million lb (2,858 mt), and the recreational harvest limit is 4.20 million lb (1,905 mt; Table 1).

For 2017, staff recommend an Acceptable Biological Catch (ABC) of 15.20 million lb (6,894 mt). This ABC results in a commercial ACL of 8.81 million lb (3,997 mt), and a recreational ACL of 6.39 million (2,897 mt lb). Staff also recommend that the commercial and recreational ACTs be set equal to their respective sector ACLs for 2017. After removing projected discards, the resulting 2017 commercial quota is 7.61 million lb (3,451 mt), and the recreational harvest limit is 5.07 million lb (2,301 mt; Table 1).

For 2018, staff recommend an Acceptable Biological Catch (ABC) of 18.12 million lb (8,219 mt). This ABC results in a commercial ACL of 10.52 million lb (4,773 mt), and a recreational ACL of 7.60 million lb (3,446 mt). Staff also recommend that the commercial and recreational ACTs be set equal to their respective sector ACLs for 2018. After removing projected discards, the resulting 2018 commercial quota is 9.15 million lb (4,150 mt), and the recreational harvest limit is 6.10 million lb (2,766 mt; Table 1).

Staff recommends that a thorough analysis of the current commercial management measures be conducted, including a review of the minimum fish size (14 inch total length), gear requirements, seasonal possession thresholds triggering gear requirements, and minimum mesh size exemption programs (small

mesh exemption area and North Carolina flynet). Pending this additional analysis, staff is not proposing specific changes at this time.

**Table 1:** Staff-recommended multi-year catch and landings limits for summer flounder for 2016-2018.

Management Measure	2016		2017		2018		Basis
	mil lb.	mt	mil lb.	mt	mil lb.	mt	
<b>ABC</b>	12.60	5,713	15.20	6,894	18.12	8,219	Stock assessment projections/Council risk policy
ABC Landings Portion	10.50	4,763	12.68	5,752	15.25	6,916	Stock assessment projections
ABC Discards Portion	2.09	950	2.52	1,142	2.87	1,303	Stock assessment projections
<b>Commercial ACL</b>	7.30	3,312	8.81	3,997	10.52	4,773	60% of ABC landings portion (per FMP) + 48% of ABC discards portion
Commercial ACT	7.30	3,312	8.81	3,997	10.52	4,773	Commercial ACL, less deduction for management uncertainty
Projected Commercial Discards	1.00	454	1.20	546	1.37	623	48% of ABC discards portion, based on 2012-2014 average % discards by sector
<b>Commercial Quota</b>	6.30	2,858	7.61	3,451	9.15	4,150	Commercial ACT, less discards
<b>Recreational ACL</b>	5.29	2,401	6.39	2,897	7.60	3,446	40% of ABC landings portion (per FMP) + 52% of ABC discards portion
Recreational ACT	5.29	2,401	6.39	2,897	7.60	3,446	Recreational ACL, less deduction for management uncertainty
Projected Recreational Discards	1.09	496	1.31	596	1.50	680	52% of ABC discards portion, based on 2012-2014 average % discards by sector
<b>Recreational Harvest Limit</b>	4.20	1,905	5.07	2,301	6.10	2,766	Recreational ACT, less discards

## **Introduction**

The Magnuson-Stevens Act (MSA) requires each Council's Scientific and Statistical Committee (SSC) to provide ongoing scientific advice for fishery management decisions, including recommendations for ABC, preventing overfishing, and achieving maximum sustainable yield. The Council's catch limit recommendations for the upcoming fishing year(s) cannot exceed the ABC recommendation of the SSC. In addition, the Monitoring Committee established by the Fishery Management Plan (FMP) is responsible for developing recommendations for management measures designed to achieve the recommended catch limits.

Multi-year specifications may be set for summer flounder for up to three years at a time. The SSC must recommended ABCs that addresses scientific uncertainty, while the Monitoring Committee must

recommend annual catch targets (ACTs) that address management uncertainty. Based on the SSC and Monitoring Committee recommendations, the Council will make a recommendation to the National Marine Fisheries Service (NMFS) Greater Atlantic Regional Administrator. Because the FMP is cooperatively managed with the Atlantic States Marine Fisheries Commission, the Commission's Summer Flounder, Scup, and Black Sea Bass Board will meet jointly with the Council to recommend summer flounder catch limits and management measures. In this memorandum, information is presented to assist the SSC and Monitoring Committee in developing recommendations for the Council and Board to consider for the 2016-2018 fishing years for summer flounder.

Additional relevant information about fishery performance and past management measures is presented in the June 2015 Summer Flounder Fishery Information Document prepared by Council staff, and the June 2015 Fishery Performance Report for summer flounder developed by the Council and Commission Advisory Panels.

### **Recent Catch and Landings**

Reported 2014 landings in the commercial fishery were approximately 11.32 million lb (5,134 mt), about 8% over the commercial quota (10.51 million lb = 4,767 mt). Recreational landings in 2014 were 7.39 million lb (3,354 mt), about 6% above the recreational harvest limit (7.01 million lb = 3,179 mt). The 2015 commercial landings as of the week ending June 27, 2015, indicate that 58% of the coastwide commercial quota has been landed (Table 2).

**Table 2:** The 2015 state-by-state commercial quotas and the amount of summer flounder landed by commercial fishermen, in each state as of week ending June 27, 2015.

State	Cumulative Landings (lb)	Quota (lb) <sup>a</sup>	Percent of Quota (%)
ME	0	5,265	0
NH	0	51	0
MA	226,476	760,795	30
RI	1,203,275	1,736,013	69
CT	136,400	249,845	55
NY	452,568	846,477	53
NJ	808,148	1,860,420	43
DE	0	0	0
MD	78,442	225,716	35
VA	1,244,866	2,401,568	52
NC	2,278,883	2,976,243	77
Other	0	0	0
<b>Totals</b>	<b>6,429,058</b>	<b>11,062,393</b>	<b>58</b>

<sup>a</sup> Quotas adjusted for overages. Source: NMFS Weekly Quota Report for week ending June 27, 2015.

## **Regulatory Review**

Multi-year specifications for summer flounder were previously implemented for 2014 and 2015. In July 2014, the SSC met to review the previously implemented specifications for summer flounder ABC for fishing year 2015. The SSC reviewed summer flounder data including recent catch and landings data and fishery independent survey indices. The SSC saw no compelling evidence to change its previous 2015 ABC recommendation of 22.77 million lb (10,329 mt).

The 2015 ABC was derived from a 2015 overfishing limit (OFL) of 27.06 million lb (12,275 mt), based on an  $F_{MSY}$  proxy of  $F = 0.309$  ( $F_{35\%}$ ) and 2014 projected biomass. The Council's risk policy was applied to the OFL to calculate the ABC, based on the 2014 projected  $B/B_{MSY} = 95\%$ , Council risk policy  $P^* = 0.378$ , and a lognormal distribution with a  $CV = 60\%$ .

The SSC considered the 2013 benchmark summer flounder stock assessment to be a level 3 assessment.<sup>1</sup> In a level 3 assessment, the SSC provides its own estimate of uncertainty. The SSC was not comfortable with defining the assessment as level 1, and because no alternative level of uncertainty in OFL was provided in the assessment as required for level 2, the SSC was constrained to designating the assessment as level 3.

In past level 3 assessments, the SSC has used a default CV for the OFL of 100%, based on a meta-analysis of statistical catch-at-age models. However, the SSC noted that the 2013 summer flounder stock assessment is considerably more accurate than other assessments of Mid-Atlantic stocks and, therefore, use of the default  $CV=100\%$  was likely inappropriate. Accordingly, the SSC determined that it would use a  $CV = 60\%$ . The SSC adopted this CV based on a presentation of the distribution of CVs in published simulation experiments in which the assessment model did fully reflect the underlying population dynamics.

The SSC considered the following to be the most significant sources of uncertainty associated with the determination of the OFL and ABC:

- The potential for sex-specific differences in life history parameters.
- The existence of spatially distinct size distributions.
- NEFSC surveys and PMAFS fishery sampling confirm sexually-dimorphic and time-varying spatial differences in growth that are not fully accounted for in the stock assessment because not all fishery and survey catches are fully and independently sampled by sex.
- Landings from commercial fishery assume no under-reporting of summer flounder landings so should be considered minimal estimates.
- The current assumption for  $M$  remains an ongoing source of uncertainty.  $M$  is highly influential on assessment results and impacts nearly all aspects of the assessment and evaluation of status.
- The stock-recruitment relationship could not be defined internally in the model and thus an  $F_{MSY}$  proxy was used to calculate the OFL.

Management measures in the commercial fishery other than quotas and harvest limits (i.e., minimum fish size, gear requirements, etc.) have remained generally constant since 1999.

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<sup>1</sup> Based on SSC and Council discussions in March/April 2015, the “level 3” assessment designation is now known as the “SSC-modified OFL probability distribution.”



### **Biological Reference Points**

The last peer-reviewed benchmark stock assessment was conducted in the summer of 2013 at the Stock Assessment Workshop/Stock Assessment Review Committee (SAW/SARC 57).<sup>2</sup> The SAW/SARC 57 biological reference points include a fishing mortality threshold of  $F_{MSY} = F_{35\%}$  (as the  $F_{MSY}$  proxy) = 0.309, and a biomass reference point of  $SSB_{MSY} = SSB_{35\%}$  (as the  $SSB_{MSY}$  proxy) = 137.56 million lb (62,394 mt). The minimum stock size threshold ( $1/2 SSB_{MSY}$ ), is estimated to be 68.78 million lb (31,197 mt).

### **Stock Status and Projections**

The most recent stock assessment update was completed in July 2015, using data through 2014.<sup>3</sup> This assessment update uses the model from the 2013 benchmark stock assessment, which is an age-structured assessment model called ASAP. Documentation on this assessment and previous stock assessments, such as reports on stock status, including annual assessment and reference point update reports, Stock Assessment Workshop (SAW) reports, and Stock Assessment Review Committee (SARC) panelist reports, are available online at the Northeast Fisheries Science Center (NEFSC) website: <http://www.nefsc.noaa.gov/saw/>. NMFS declared the summer flounder stock rebuilt based on the 2011 assessment update, which included stock status determinations using data through 2010.

Results from the July 2015 assessment update indicate that the summer flounder stock was not overfished, but overfishing was occurring in 2014 relative to the biological reference points from the 2013 SAW/SARC 57. Fishing mortality on the fully selected age 4 fish ranged between 0.793 and 1.776 during 1982-1996 and then decreased from 0.867 in 1997 to 0.284 in 2007. Since 2007 the fishing mortality rate has generally increased, and was 0.359 in 2014, 16% above the 2013 SAW 57  $F_{MSY}$  proxy =  $F_{35\%} = 0.309$ . SSB was estimated to be 88.90 million lb (40,323 mt) in 2014, about 65% of  $SSB_{MSY} = 137.6$  million lb (62,394 mt), and 29% above the 2013 SAW 57  $1/2 SSB_{MSY}$  proxy =  $1/2 SSB_{35\%} = 68.78$  million lb (31,197 mt).

The 2015 assessment updates indicates that while catch in recent years has not been substantially over the ABCs, the projected fishing mortality rates have been exceeded and projected spawning stock biomass has not been achieved. These results appear to be largely driven by poor recruitment. The update shows a consistent recent retrospective pattern in recruitment, as 5 of the last 7 year classes have been initially over-estimated by a range of 22% to 49%. The update shows that recruitment of age 0 fish was below average for each of the four year classes from 2010 to 2013. A historical retrospective analysis, comparing model estimates from the 1990-2015 assessments, also indicates a recent trend of underestimation of  $F$  and overestimation of SSB since the 2011 assessment update. Additionally, there is evidence of substantial illegal harvest in recent years in the form of unreported, underreported, or misreported landings, which is likely to have contributed to these patterns.

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<sup>2</sup> Northeast Fisheries Science Center. 2013. 57th Northeast Regional Stock Assessment Workshop (57th SAW) Assessment Summary Report. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 13-14; 39 p.

<sup>3</sup> Northeast Fisheries Science Center. 2015. Stock Assessment Update of Summer Flounder for 2015. US Dept Commer, Northeast Fish Sci Cent; 17 p.

According to the assessment update for 2015, if the total catch of summer flounder in 2015 equals the 2015 ABC (22.77 million lb or 10,329 mt), the median  $F$  in 2015 is projected to be 0.385, above the fishing mortality threshold  $F_{MSYPROXY} = F_{35\%} = 0.309$ . The median SSB on November 1, 2015 is projected to be 93.53 million lb = 42,423 mt, about 68% of the biomass target  $SSB_{MSYPROXY} = 137.55$  million lb = 62,394 mt. The stock assessment update gives projections for the OFL based on fishing at the fishing mortality threshold  $F_{MSYPROXY} = F_{35\%} = 0.309$  in 2016-2018. These projections assume median recruitment levels in 2015, 2016, and 2017. Staff will work with NEFSC staff and others to derive a methodology to evaluate recruitment in interim years between assessment updates and confirm that this assumption is correct.

### **ABC Recommendations for 2016-2018**

Input from the Council's Visioning and Strategic Planning processes as well as from the Advisory Panel Fishery Performance Reports highlight stakeholder interest in increasing the stability of fishery management measures. In 2013, multi-year specifications were set for summer flounder for 2014 and 2015. These multi-year specifications led to increased predictability in management for stakeholders, as well as administrative time savings that allowed the Council and Board to focus efforts on other management priorities. Staff recommend setting three year specifications for summer flounder, for the 2016 through 2018 fishing years.

ABC projections were provided in the 2015 assessment update. The approach used to specify ABC using biomass projections presumes that the ABC was caught in the preceding year. The SSB in the current year is then updated based on the presumed catch. The ABCs were derived using the Council's risk policy as previously applied by the SSC, for a level 3 assessment with a typical life history, assuming the 2016-2018 OFL CV = 60%. The resulting ABC projections for 2016-2018 are shown in Table 3.

**Table 3:** ABC total catch, landings, discards, fishing mortality ( $F$ ) and Spawning Stock Biomass (SSB).  $P^*$  values from the MAFMC SSB ABC calculations. Source: Stock Assessment Update of Summer Flounder for 2015.

Year	ABC Total Catch (mil lb)	ABC Total Catch (mt)	Landings (mil lb)	Landings (mt)	Discards (mil lb)	Discards (mt)	$F$	$P^*$ Value	SSB (mil lb)	SSB (mt)
2015	22.77	10,329	19.29	8,752	3.48	1,577	0.385	n/a	93.53	42,423
2016	12.60	5,713	10.50	4,763	2.09	950	0.208	0.258	104.17	47,251
2017	15.20	6,894	12.68	5,752	2.52	1,142	0.222	0.292	114.38	51,880
2018	18.12	8,219	15.25	6,916	2.87	1,303	0.234	0.325	123.13	55,852

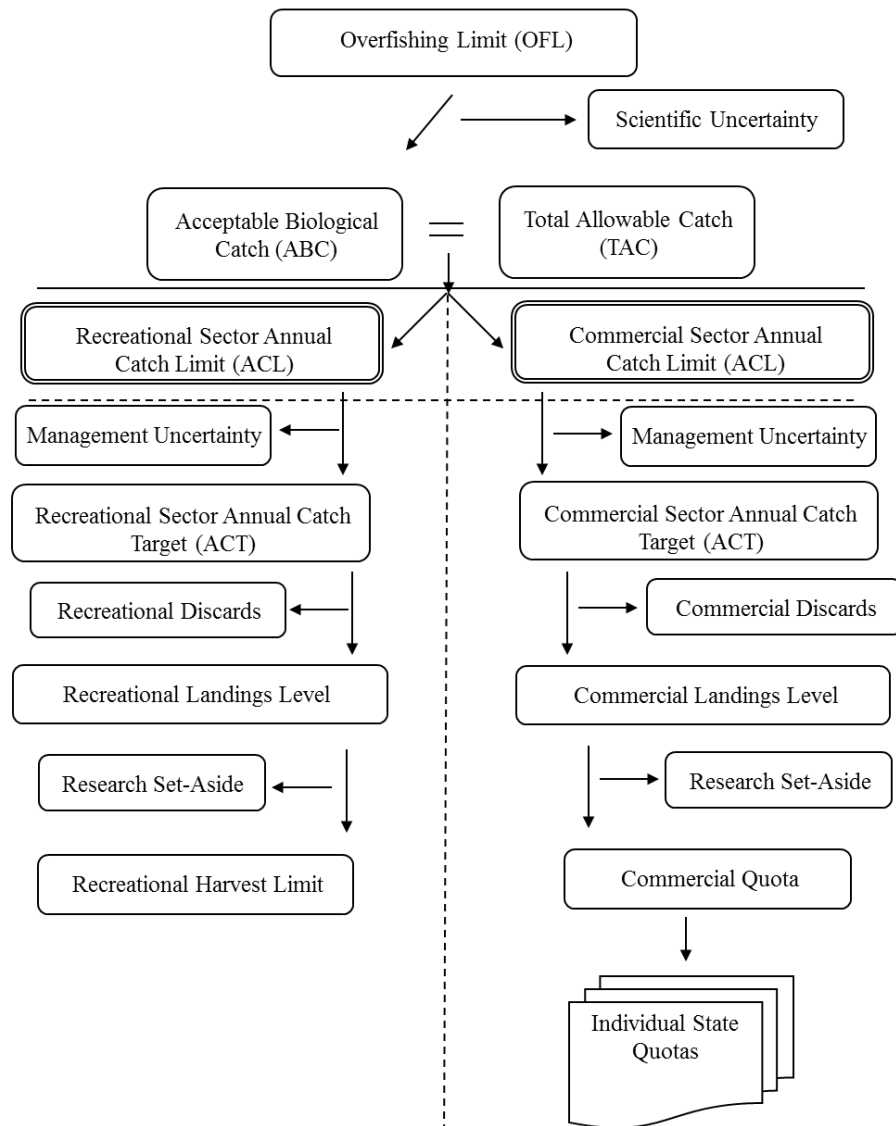
Staff recommend ABCs for 2016-2018 consistent with the projection methodology described above. The recommended ABC in 2016 is 12.60 million lb (5,713 mt). For 2017, the recommended ABC is 15.20 million lb (6,894 mt), and for 2018, the recommended ABC is 18.12 million lb (8,219 mt).

## Other Management Measures

### *Recreational and Commercial Annual Catch Limits*

As defined by the Omnibus ACLs and AMs Amendment (Amendment 15 to the Summer Flounder, Scup, and Black Sea Bass FMP), the ABC includes both landings and discards, and is equal to the sum of the commercial and recreational ACLs for summer flounder (Figure 1). Based on the allocation percentages in the FMP, 60% of the landings are allocated to the commercial fishery, and 40% to the recreational fishery. Discards are apportioned based on the discards contribution from each fishing sector using a 3-year moving average percentage; from 2012-2014, on average, 52% of dead discards were attributable to the recreational fishery, and 48% to the commercial fishery (Table 1).

### Summer Flounder Flowchart



**Figure 1:** Flowchart for summer flounder catch and landings limits.

### ***Annual Catch Targets***

The Summer Flounder Monitoring Committee is responsible for recommending Annual Catch Targets (ACTs), which are intended to account for management uncertainty, for the Council and Board's consideration. The Monitoring Committee is responsible for considering all relevant sources of management uncertainty in the summer flounder fishery and providing the technical basis, including any formulaic control rules, for any reduction in catch when recommending an ACT. The ACTs, technical basis for ACT recommendations, and sources of management uncertainty should be described and provided to the Council. The relationships between the recreational and commercial ACTs and other catch components are given in Figure 1.

Management uncertainty is comprised of two parts: uncertainty in the ability of managers to control catch and uncertainty in quantifying the true catch (i.e., estimation errors). Management uncertainty can occur because of a lack of sufficient information about the catch (e.g., due to late reporting, underreporting, and/or misreporting of landings or bycatch) or because of a lack of management precision (i.e., the ability to constrain catch to desired levels).

The sector-specific landings performance for recent years indicates that recreational fishery landings have typically been below the recreational harvest limits for the past five years, with the exception of 2014 (Table 5). The commercial fishery has reported landings generally very near the commercial quotas for the last several years, although overages have been higher in 2013 and 2014 (Table 5). The NMFS Regional Administrator has in-season closure authority for the commercial summer flounder fishery, and commercial quota monitoring systems in place are typically effective in allowing timely reactions to landings levels that approach quotas. Staff recommend no reduction in catch from the recreational or commercial ACL, so that each sector's ACT would be set equal to the ACL.

**Table 4:** Summer flounder commercial and recreational fishery performance relative to quotas and harvest limits, 2010-2014.

<b>Year</b>	<b>Commercial Landings (mil lb)<sup>a</sup></b>	<b>Commercial Quota (mil lb)</b>	<b>Percent Overage(+)/ Underage(-)</b>	<b>Recreational Landings (mil lb)<sup>b</sup></b>	<b>Recreational Harvest Limit (mil lb)</b>	<b>Percent Overage(+)/ Underage(-)</b>
<b>2010</b>	13.55	12.79	+6%	5.11	8.59	-41%
<b>2011</b>	16.57	17.38	-5%	5.96	11.58	-49%
<b>2012</b>	12.91	12.73	+1%	6.49	8.49	-24%
<b>2013</b>	12.49	11.44	+9%	7.39	7.63	-3%
<b>2014</b>	11.32	10.51	+8%	7.40	7.01	+6%
<b>5-yr Avg.</b>	-	-	+4%	-	-	-22%

<sup>a</sup> Source: NMFS dealer data as of February 9, 2015. <sup>b</sup> Source: NMFS MRIP database as of June 30, 2015.

### ***Commercial Quotas and Recreational Harvest Limits***

Projected discards are removed to derive landings limits, which include annual commercial quotas and recreational harvest limits (Table 1). The sum of the commercial quota and recreational harvest limit is equivalent to the total allowable landings in a given year. The commercial quota is divided amongst the states based on the allocation percentages given in Table 6.

**Table 5:** The summer flounder allocation formula for the commercial fisheries in each state.

State	Allocation (%)
ME	0.04756
NH	0.00046
MA	6.82046
RI	15.68298
CT	2.25708
NY	7.64699
NJ	16.72499
DE	0.01779
MD	2.03910
VA	21.31676
NC	27.44584
<b>Total</b>	<b>100</b>

In previous years, the Council and Board have voted for a reduction of up to 3% from the commercial and recreational landings levels for the Research Set Aside (RSA) program (Figure 1). The Council suspended the RSA program in 2014, thus staff recommend no RSA reductions in the commercial quota or recreational harvest limit for 2016-2018.

Specific management measures that will be used to achieve the harvest limit for the recreational fishery in 2016 will not be determined until after the first four waves of 2015 recreational landings are reviewed. These data will become available in October 2015. The Monitoring Committee will meet in November to review these data and make recommendations regarding any necessary changes in the recreational management measures (i.e., possession limit, minimum size, and season). Given the performance of the recreational fishery relative to the recreational harvest limit in recent years, management measures (i.e., minimum size, possession limits, and seasons) should be implemented that are designed to achieve the recreational harvest limit while preventing the recreational ACL from being exceeded.

### ***Commercial Gear Regulations and Minimum Fish Size***

Amendment 2 to the Summer Flounder FMP contains provisions that allow for changes in the minimum fish size and minimum mesh size provisions. The current commercial minimum fish size is 14 inches total length (TL). The 14-inch minimum size was implemented in 1997 and represented an increase from the previous minimum size of 13 inches TL.

Current trawl gear regulations require a 5.5 inch diamond or 6.0 inch square minimum mesh in the entire net for vessels possessing more than the threshold amount of summer flounder, i.e., 200 lb in the winter

(November 1-April 30) and 100 lb in the summer (May 1-October 31). The minimum fish size and mesh requirements may be changed through specifications based on the recommendations of the Monitoring Committee. The 5.5 inch diamond or 6.0 inch square minimum mesh size requirements were first implemented in 1993 under Amendment 2 to the FMP, but at the time applied only to the net's codend. Under Amendment 10 to the FMP, effective in 1998, the minimum mesh requirements were modified to apply throughout the whole net.

Some advisors and managers have suggested that changes to the commercial measures may be warranted. For example, several advisors have suggested that a minimum commercial fish size in the trawl fishery is not necessary if an appropriate minimum mesh size is in place, and that elimination of the minimum size would reduce regulatory discards. Given that these measures have not been re-examined in detail in several years, staff recommend that a thorough review be conducted to examine the current minimum fish size, minimum mesh size, and seasonal thresholds that trigger the minimum mesh size requirement, for consideration by the Council and Board in December. Pending additional analysis, staff has no specific recommendations for modifications to the commercial measures at this time.

### ***Minimum Mesh Size Exemption Programs***

#### **Small Mesh Exemption Area**

Vessels landing more than 200 lb of summer flounder, east of longitude 72° 30.0'W, from November 1 through April 30, and using mesh smaller than 5.5 inch minimum mesh (diamond) or 6.0 inch minimum mesh (square) are required to obtain a small mesh exemption program (SMEP) permit from NMFS. The exemption is designed to allow vessels to retain a bycatch of summer flounder while operating in other small-mesh fisheries. The exemption allows for the prosecution of a traditional small-mesh fishery while minimizing discards of summer flounder.

The FMP requires that observer data be reviewed annually to determine whether vessels fishing seaward of the SMEP line with smaller than the required minimum mesh size and landing more than 200 lb of summer flounder are discarding more than 10% (by weight) of their summer flounder catch per trip. Typically, staff evaluates the available Northeast Fisheries Observer Program (NEFOP) data for the period from November 1 in the previous year to April 30 in the current year. Due to data access limitations, staff are still working to complete this analysis. Additional information will be provided to the Monitoring Committee prior to their review of commercial measures. Pending additional analysis, staff has no specific recommendations for the small mesh exemption program at this time.

#### **Flynet Exemption Program**

Vessels fishing with a two-seam otter trawl flynet are also exempt from the minimum mesh size requirements. Exempt flynets have large mesh in the wings that measure 8 to 64 inches, the belly of the net has 35 or more meshes that are at least 8 inches, and the mesh decreases in size throughout the body of the net to 2 inches or smaller. Only North Carolina has a flynet fishery at present. The supplemental memo from Tom Wadsworth dated June 24, 2015 indicates that summer flounder comprised less than 0.05% of the total landings by flynet in North Carolina in 2014.

A review of North Carolina flynet landings from 2005 through 2014 indicates that summer flounder landings have generally declined since 2007, and have been under 2,000 lb since 2010 (Table 7). The decline in flynet landings has largely been attributed to shoaling in Oregon Inlet and the consequent lack

of access to important landing ports in North Carolina. Based on this information, staff recommends no change to this exemption program.

**Table 6:** North Carolina flynet landings for summer flounder, 2005-2014.

<b>Year</b>	<b>Summer Flounder Flynet Landings (lb)</b>	<b>Percent of Total NC Flynet Landings</b>
2005	4,102	0.05
2006	5,752	0.07
2007	7,067	0.13
2008	3,147	0.08
2009	2,842	0.05
2010	<2,000	<0.05
2011	<2,000	<0.05
2012	<2,000	<0.05
2013	0	0
2014	<2,000	<0.05

### ***Bycatch and Regulatory Discards***

Managers, advisors, and other stakeholders continue to highlight concerns over commercial regulatory discards associated with the summer flounder quotas and management strategies. In 1998 the Council and Board recommended that 15% of each state's commercial allocation be set aside to mitigate discards after closure of the directed summer flounder commercial fishery. To be eligible to land this 15%, states were to adopt appropriate trip limits sufficiently restrictive to allow bycatch landings for the entire year without exceeding the state quota. Additionally, either the state or the fishermen were to participate in collection of additional discard data. Staff will work with the Monitoring Committee to review current bycatch measures and set-asides by state. Staff recommend that states that allocate 15% of their quota to bycatch fisheries should continue to do so, and all other states should consider measures to reduce bycatch.



## North Carolina Department of Environment and Natural Resources

Pat McCrory  
Governor

Donald R. van der Vaart  
Secretary

**Memorandum**

**To:** Kiley Dancy, MAFMC

**From:** Tom Wadsworth, NCDMF

**Date:** June 24, 2015

**Subject:** Species composition and landings from the 2014 North Carolina flynet fishery

Table 1 provides the species composition and landings in pounds from the North Carolina flynet fishery in 2014. Individual landings listed as “other species” are not reported because the data are confidential and cannot be distributed to sources outside the NC Division of Marine Fisheries (North Carolina General Statute 113-170.3 (c)). Confidential data can only be released in a summarized format that does not allow the user to track landings or purchases to an individual. Summer flounder flynet landings were among the confidential data but less than 2,000 lb were landed, trips landing summer flounder had less than 200 lb per trip, and the landings accounted for less than 0.05% of the total flynet landings. Note that flynet landings for all species were markedly higher in 2014 than in 2013 due to more flynet vessels landing catches at North Carolina ports.



Table 1. Species and landings for 2014 NC flynet fishery. Species with confidential landings are listed under 'Other Species.'

Species	Weight (lb)	Percent
Croaker	1,076,700	85.2
Other Species	86,770	6.9
Bluefish	43,657	3.5
Menhaden Bait	27,870	2.2
Sea Bass, Black	21,958	1.7
Sea Mullet (whiting, kingfish)	2,936	0.2
Squid, Loligo	2,251	0.2
Monkfish (Whole)	1,032	0.1
Trout (Gray Trout)	773	0.1
Butterfish	383	<0.1
Total	1,264,330	

Other Species
Scup
Jolthead (Knobbed) Porgy
Cutlassfish (Ribbonfish)
Dogfish, Smooth
Spot
Drum, Black
Skates
Cobia
Flounders (Paralichthid)
Spadefish
Searobin
Squid
Hakes (Ling/Whiting)
Mackerel, Boston

**Stock Assessment Update of Summer Flounder for 2015**

National Marine Fisheries Service  
Northeast Fisheries Science Center  
166 Water St.  
Woods Hole, MA 02543

**State of Stock:** This assessment of summer flounder (*Paralichthys dentatus*) is an update through 2014 of commercial and recreational fishery catch data, research survey indices of abundance, and the analyses of those data. The summer flounder stock was not overfished but overfishing was occurring in 2014 relative to the biological reference points from the 2013 SAW 57 benchmark assessment (NEFSC 2013; Figures 1-4). Fishing mortality on the fully selected age 4 fish ranged between 0.793 and 1.776 during 1982-1996 and then decreased from 0.867 in 1997 to 0.284 in 2007. Since 2007 the fishing mortality rate has increased to 0.359 in 2014, 16% above the 2013 SAW 57  $F_{MSY}$  proxy =  $F_{35\%}$  = 0.309 (Figures 1-3). The 90% confidence interval for  $F$  in 2014 was 0.274 to 0.435. Spawning stock biomass (SSB) decreased from 24,134 mt in 1982 to 5,394 mt in 1989 and then increased to peaks of 50,357 mt in 2003 and 47,499 mt in 2010. SSB was estimated to be 40,323 mt in 2014, 65% of the 2013 SAW 57  $SSB_{MSY}$  proxy =  $SSB_{35\%}$  = 62,394 mt, and 29% above the 2013 SAW 57  $\frac{1}{2} SSB_{MSY}$  proxy =  $\frac{1}{2} SSB_{35\%}$  = 31,197 mt (Figures 1-2 & 4). The 90% confidence interval for SSB in 2014 was 35,486 to 49,918 mt. The average recruitment from 1982 to 2014 is 41 million fish at age 0. The 1983 and 1985 year classes are the largest in the assessment time series, at 75 and 62 million fish, while the 1988 year class is the smallest at only 10 million fish. After four below average year classes in 2010-2013 (36, 20, 23, and 27 million fish), the 2014 year class is currently estimated to be average at 41 million fish (Figures 4-5).

No strong internal model retrospective patterns in  $F$  or SSB are evident in the updated assessment model, as the average retrospective errors over the last 7 terminal years are < 15% (Figures 6-7), comparable to the magnitude of the 2013 SAW 57 retrospective errors. The 2014 model estimates of  $F$  and SSB adjusted for this minor internal retrospective error are within the model estimate 90% confidence intervals (Figure 2). There is, however, evidence of a recent, consistent, small magnitude pattern in both the underestimation of  $F$  and the overestimation of SSB for the last 5 terminal years. There is a stronger and more consistent recent retrospective pattern in recruitment as 5 of the last 7 year classes have been initially over-estimated by a range of 22% to 49% (Figure 8). The historical assessment retrospective likewise indicates the emergence of a gradual upward adjustment of recent  $F$  estimates and downward adjustment of recent SSB estimates since the 2011 updated assessment (Figure 9). Tracking of recent assessment estimates and projections of Catch,  $F$ , and SSB indicates that while catches have not substantially exceeded the specified Acceptable Biological Catch (ABC; Figure 10), projected  $F$  has been exceeded and projected SSB has not been achieved (Figure 11-12). This result is mainly due to the recruitment to the stock of four below average year classes in 2010-2013. This result in turn has a large effect on the magnitude of the projected ABCs if the current MAFMC SSC risk policy for summer flounder is followed: i.e., a ~45% reduction in 2016 ABC from the 2015 ABC.

**Projections:** If the total catch of summer flounder in 2015 equals the specified ABC = 10,329 mt = 22.772 million lbs, the median F in 2015 is projected to be 0.385, above the fishing mortality threshold =  $F_{MSY}$  proxy =  $F_{35\%}$  = 0.309. The median SSB on November 1, 2015 is projected to be 42,423 mt = 93.527 million lbs, below the biomass target  $SSB_{MSY}$  proxy =  $SSB_{35\%}$  = 62,394 mt = 137.555 million lbs.

If the stock is fished at the fishing mortality threshold =  $F_{MSY}$  proxy =  $F_{35\%}$  = 0.309 in 2016-2018, the median annual total catches are the Overfishing Limit (OFL) for 2016-2018. The projected estimates in the following table are medians of the distributions for fixed F.

OFL Total Catch, Landings, Discards  
Fishing Mortality (F) and Spawning Stock Biomass (SSB)  
Catches and SSB in metric tons

Year	Total Catch	Landings	Discards	F	SSB
2015	10,329	8,752	1,577	0.385	42,423
2016	8,194	6,807	1,387	0.309	45,198
2017	8,821	7,304	1,517	0.309	47,900
2018	9,365	8,028	1,337	0.309	50,496

If the MAFMC risk policy applied for summer flounder for 2015 is used again for 2016-2018, then given the size of SSB relative to  $SSB_{MSY}$  and assuming the 2016-2018 OFL CV = 60%, the results associated with the ABCs for 2016-2018 follow:

ABC Total Catch, Landings, Discards  
Fishing Mortality (F) and Spawning Stock Biomass (SSB)  
Catches and SSB in metric tons  
P\* values from the MAFMC SSC ABC calculations

Year	Total Catch	Landings	Discards	F	P* Value	SSB
2015	10,329	8,752	1,577	0.385	n/a	42,423
2016	5,713	4,763	950	0.208	0.258	47,251
2017	6,894	5,752	1,142	0.222	0.292	51,880
2018	8,219	6,916	1,303	0.234	0.325	55,852

**Catch:** Reported 2014 landings in the commercial fishery were 5,134 mt = 11.319 million lbs, about 8% over the commercial quota (4,767 mt = 10.509 million lbs). Estimated 2014 landings in the recreational rod-and-reel fishery were 3,354 mt = 7.394 million lbs, about 6% above the recreational harvest limit (3,179 mt = 7.008 million lbs). Total commercial and recreational landings in 2014 were 8,488 = 18.713 million lbs and total commercial and recreational discard losses were 1,717 mt = 3.785 million lbs, for a total catch in 2014 of 10,205 mt = 22.498 million lbs (Figure 3).

**Catch and Status Table: Summer flounder**  
(weights in 000s mt, recruitment in millions, arithmetic means)

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Max <sup>1</sup>	Min <sup>1</sup>	Mean <sup>1</sup>
Commercial landings	7.7	6.3	4.5	4.1	4.8	6.1	7.5	5.9	5.7	5.1	17.1	4.0	7.5
Commercial discards <sup>3</sup>	1.5	1.5	2.1	1.2	1.4	1.5	1.1	0.7	0.7	0.8	2.2	0.2	1.1
Recreational landings	4.9	4.8	4.2	3.7	2.7	2.3	2.6	2.9	3.2	3.4	12.5	1.4	4.7
Recreational discards <sup>3</sup>	1.0	0.8	1.0	1.2	1.1	1.1	1.1	0.8	0.7	0.9	1.2	0.1	0.7
Total Catch	14.0	12.1	10.0	9.3	8.8	9.5	11.4	10.3	10.3	10.2	26.3	7.9	13.4
Commercial quota	8.2	6.4	4.7	4.3	5.0	6.0	8.0	5.8	5.4	4.8	8.1	8.2	6.9
Recreational harvest limit	5.5	4.3	3.1	2.9	3.3	4.0	5.3	3.9	3.5	3.2	5.5	2.9	4.6
Spawning Stock Biomass <sup>2</sup>	45.4	46.2	44.9	44.8	46.5	47.5	45.4	45.3	41.5	40.3	50.4	5.4	28.8
Recruitment (age 0)	29.5	36.8	38.2	45.2	53.4	36.4	20.3	22.5	27.3	41.4	75.2	9.6	41.8
F (age 4)	0.47	0.35	0.28	0.35	0.35	0.38	0.45	0.36	0.35	0.36	1.78	0.28	0.81

1: Over the period 1982-2014

2: On November 1 annually

3: Dead discards

**Stock Distribution and Identification:** The Mid-Atlantic Fishery Management Council (MAFMC) and Atlantic States Marine Fisheries Commission (ASMFC) Fishery Management Plan for summer flounder defines the management unit as all summer flounder from the southern border of North Carolina northeast to the US-Canada border. For assessment purposes, the definition of Wilk et al. (1980) of a unit stock extending from Cape Hatteras north to New England has been accepted in this and previous assessments. The current management unit is consistent with a summer flounder genetics study, which revealed no population subdivision at Cape Hatteras (Jones and Quattro 1999). A consideration of summer flounder stock structure incorporating tagging data supported the existence of stocks north and south of Cape Hatteras, with the stock north of Cape Hatteras possibly composed of two distinct spawning aggregations, off New Jersey and Virginia-North Carolina (Kraus and Musick, 2003). The assessment is consistent with the conclusions of this study.

**Data and Assessment:** The population model implemented for summer flounder is the forward projecting age-structured model ASAP (Legault and Restrepo 1998, NFT 2013a). The model assumes age-dependent values for instantaneous natural mortality (M) that result in a mean value of  $M = 0.25$ . The catch in the model includes both commercial and recreational fishery landings and discards at age. The fishery landings and discards are treated as two fleets in the model. Indices of stock abundance including age compositions from the NEFSC winter, spring, and fall, Massachusetts spring and fall, Rhode Island fall and monthly fixed, Connecticut spring and fall, Delaware, New York, New Jersey, VIMS ChesMMAP, and VIMS NEAMAP spring and fall trawl surveys were used in the ASAP model calibration. Aggregate indices of stock abundance from the URI GSO trawl survey and NEFSC MARMAP and ECOMON larval surveys, and recruitment indices (age 0; Young-Of-the-Year, YOY) from surveys conducted by the states of Massachusetts, Delaware, Maryland, and Virginia were also used in the model calibration.

All of the ongoing research survey indices (expressed as aggregate N) have declined since their most recent peak (generally in 2009-2012) to 2014, in percent as follows: NEFSC Spring -49%, NEFSC Fall -27%, MADMF Spring -57%, MADMF Fall -43%, RIDFW Fall -64%, RIDFW Monthly -82%, URIGSO -67%, CTDEEP Spring -22%, CTDEEP Fall -54%, NYDEC -28%, NJDFW -40%, DEDFW -17%, VIMS ChesMMAP -98%, NEAMAP Spring -51%, and NEAMAP Fall -60%. Most of the YOY indices suggest good recruitment in 2002, 2004, and 2009, and poorer recruitment since then.

No strong internal model retrospective patterns in F or SSB are evident in the updated assessment model, as the average retrospective errors over the last 7 terminal years are  $< 15\%$  (Figures 6-7), comparable to the magnitude of the 2013 SAW 57 retrospective errors. The 2014 model estimates of F and SSB adjusted for this minor internal retrospective error are within the model estimate 90% confidence intervals (Figure 2). There is, however, evidence of a recent, consistent, small magnitude pattern in both the underestimation of F and the overestimation of SSB for the last 5 terminal years. There is a stronger and more consistent recent retrospective pattern in recruitment as 5 of the last 7 year classes have been initially over-estimated by a range of 22% to 49% (Figure 8). The historical assessment retrospective likewise indicates the emergence of a gradual upward adjustment of recent F estimates and downward adjustment of recent SSB estimates since the 2011 updated assessment (Figure 9). Tracking of recent assessment estimates and projections of Catch, F, and SSB indicates that while catches have not substantially exceeded the specified ABCs (Figure 10), projected F has been exceeded and projected SSB has not been achieved (Figure 11-12). This result is mainly due to the recruitment to the stock of four below average year classes in 2010-2013.

**Biological Reference Points (BRPs):** The existing 2013 SAW 57 biological reference points for summer flounder are based on stochastic yield and SSB per recruit and stochastic projection models in the NOAA NFT framework (NFT 2013b, c; Thompson and Bell 1934) using values from the 2013 assessment. The fishing mortality reference point is  $F_{35\%} = 0.309$  ( $CV = 15\%$ ) as a proxy for  $F_{MSY}$ . The biomass reference point proxy is estimated as the projection of Jan 1, 2013 stock sizes at  $F_{35\%} = 0.309$  and mean recruitment of 43 million fish per year (1982-2012). The  $SSB_{MSY}$  proxy is estimated to be 62,394 mt (137.6 million lbs;  $CV = 13\%$ ), and the biomass threshold of one-half  $SSB_{MSY}$  is estimated to be 31,197 mt (68.8 million lbs;  $CV = 13\%$ ). The MSY proxy is estimated to be 12,945 mt (28.539 million lbs;  $CV = 13\%$ ; 10,455 mt = 23.049 million lbs of landings plus 2,490 mt = 5.490 million lbs of discards).

**Fishing Mortality:** Fishing mortality on the fully selected age 4 fish ranged between 0.793 and 1.776 during 1982-1996 and then decreased from 0.867 in 1997 to 0.284 in 2007. Since 2007 the fishing mortality rate has increased to 0.359 in 2014, 16% above the 2013 SAW 57  $F_{MSY}$  proxy =  $F_{35\%}$  = 0.309 (Figures 1-3). The 90% confidence interval for  $F$  in 2014 was 0.274 to 0.435.

**Spawning Stock Biomass:** Spawning stock biomass (SSB) decreased from 24,134 mt in 1982 to 5,394 mt in 1989 and then increased to peaks of 50,357 mt in 2003 and 47,499 mt in 2010. SSB was estimated to be 40,323 mt in 2014, 65% of the 2013 SAW 57  $SSB_{MSY}$  proxy =  $SSB_{35\%}$  = 62,394 mt, and 29% above the 2013 SAW 57  $\frac{1}{2} SSB_{MSY}$  proxy =  $\frac{1}{2} SSB_{35\%}$  = 31,197 mt (Figures 1-2 & 4). The 90% confidence interval for SSB in 2014 was 35,486 to 49,918 mt.

**Recruitment:** The average recruitment from 1982 to 2014 is 41 million fish at age 0. The 1983 and 1985 year classes are the largest in the assessment time series, at 75 and 62 million fish, while the 1988 year class is the smallest at only 10 million fish. After four below average year classes in 2010-2013 (36, 20, 23, and 27 million fish), the 2014 year class is currently estimated to be average at 41 million fish (Figures 4-5).

## References:

Jones WJ, Quattro JM. 1999. Genetic structure of summer flounder (*Paralichthys dentatus*) populations north and south of Cape Hatteras. Marine Biology 133: 129-135.

Kraus RT, Musick JA. 2003. A brief interpretation of summer flounder, *Paralichthys dentatus*, movements and stock structure with new tagging data on juveniles. Mar. Fish. Rev. 63(3): 1-6.

Legault CM, Restrepo VR. 1998. A flexible forward age-structured assessment program. ICCAT.Col. Vol. Sci. Pap. 49:246-253.

Northeast Fisheries Science Center (NEFSC) 2013. 57th Northeast Regional Stock Assessment Workshop (57th SAW) Assessment Report. US Dept Commerce, Northeast Fish Sci Cent Ref Doc. 13-16, 967 p.

NOAA Fisheries Toolbox (NFT) 2013a. Age Structured Assessment Program (ASAP) version 3.0.11. (Internet address: <http://nft.nefsc.noaa.gov>).

NOAA Fisheries Toolbox (NFT). 2013b. Yield per recruit (YPR) version 3.2.1. (Internet address: <http://nft.nefsc.noaa.gov>).

NOAA Fisheries Toolbox (NFT) 2013c. Age Structured Projection Model (AGEPRO) version 4.2. [Internet address: <http://nft.nefsc.noaa.gov> ].

Thompson WF, Bell FH. 1934. Biological statistics of the Pacific halibut fishery. 2. Effect of changes in intensity upon total yield and yield per unit of gear. Rep. Int. Fish. (Pacific halibut) Comm. 8: 49 p.

Wilk SJ, Smith WG, Ralph DE, Sibunka J. 1980. The population structure of summer flounder between New York and Florida based on linear discriminant analysis. Trans. Am. Fish. Soc. 109:265-271.

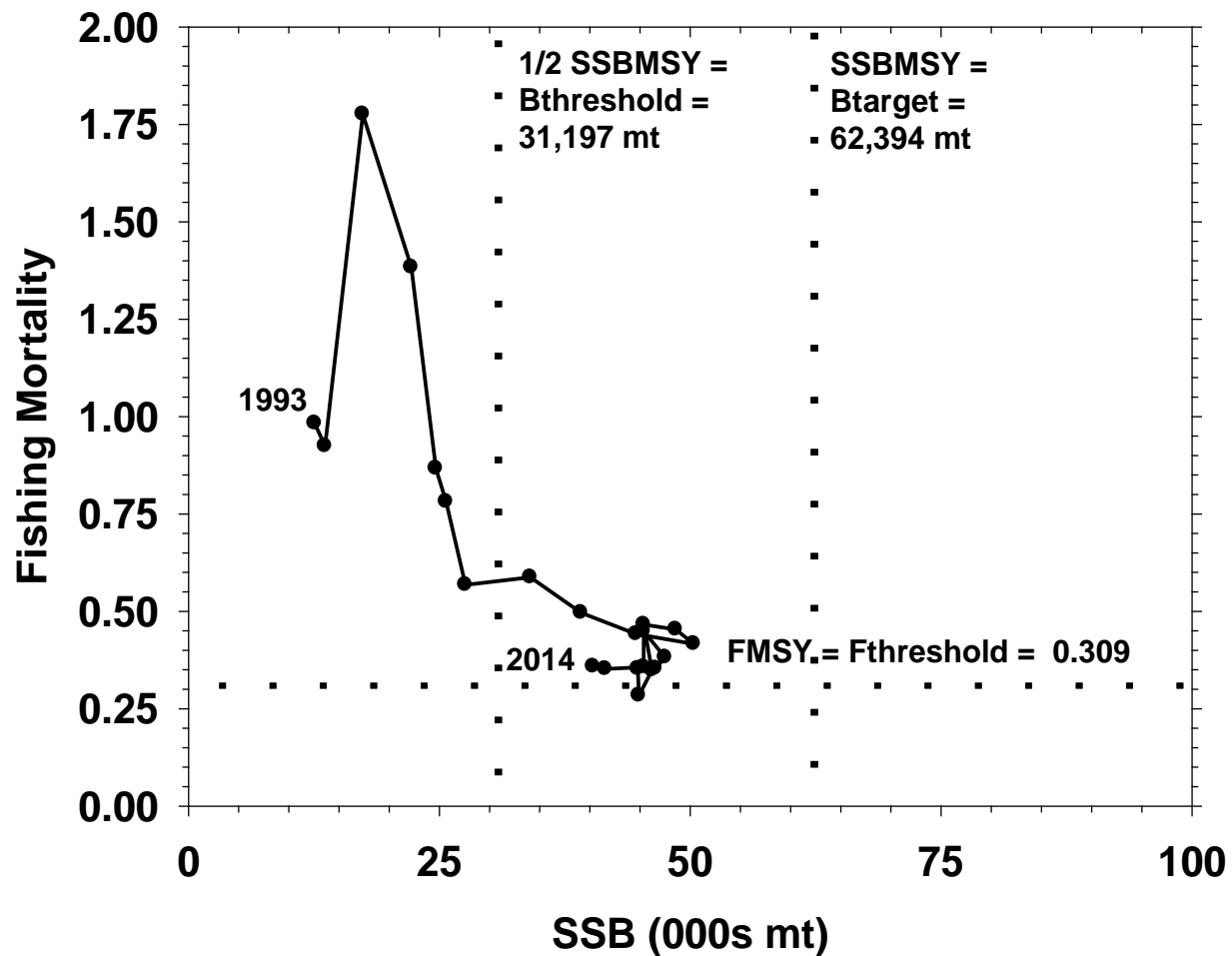


Figure 1. Stock status time series since 1993 for summer flounder. The horizontal dashed line is the 2013 SAW 57 fishing mortality threshold reference point proxy; the vertical dashed lines are the 2013 SAW 57 biomass threshold and target reference point proxies.

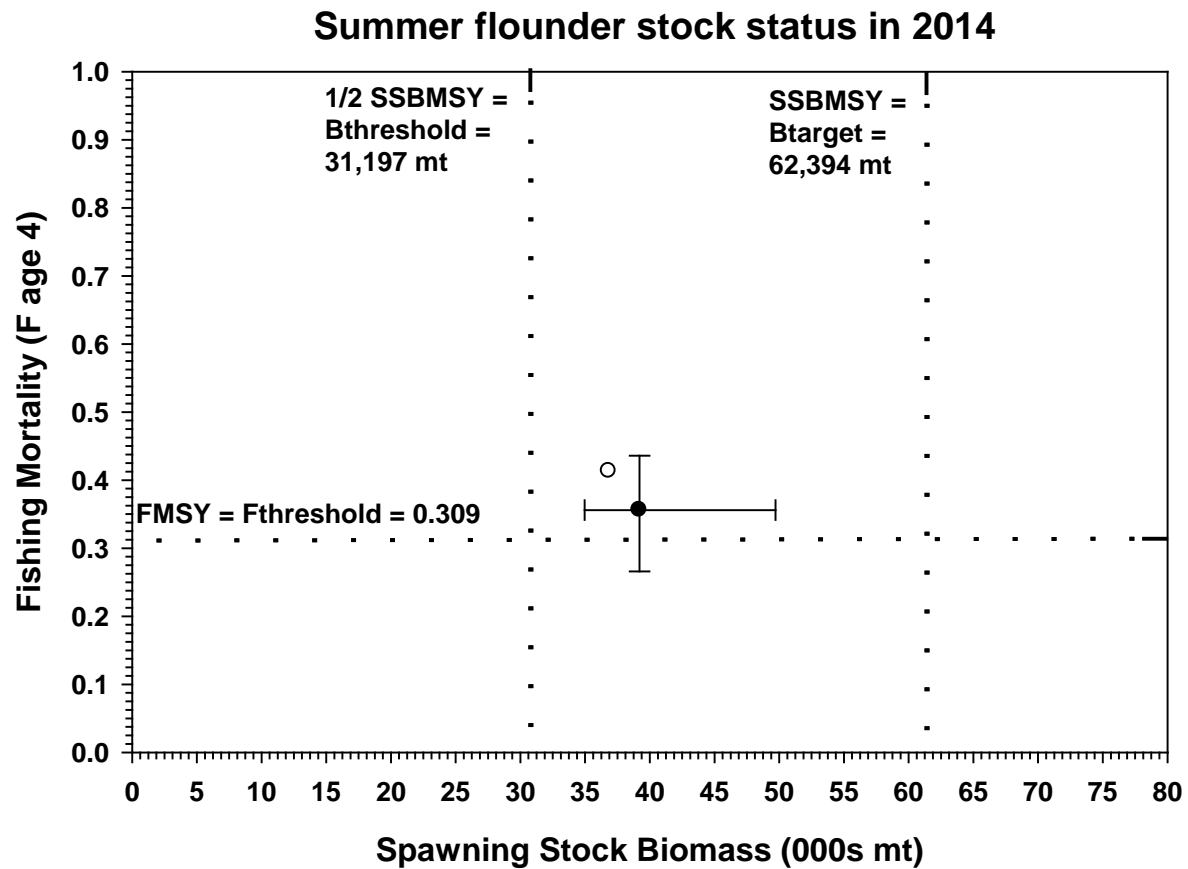


Figure 2. Stock status of summer flounder in 2014 with respect to 2013 SAW 57 threshold and target reference point proxies. The filled circle is the model estimate and the error bars are 90% confidence intervals; the open circle is the model estimate adjusted for internal model retrospective error.



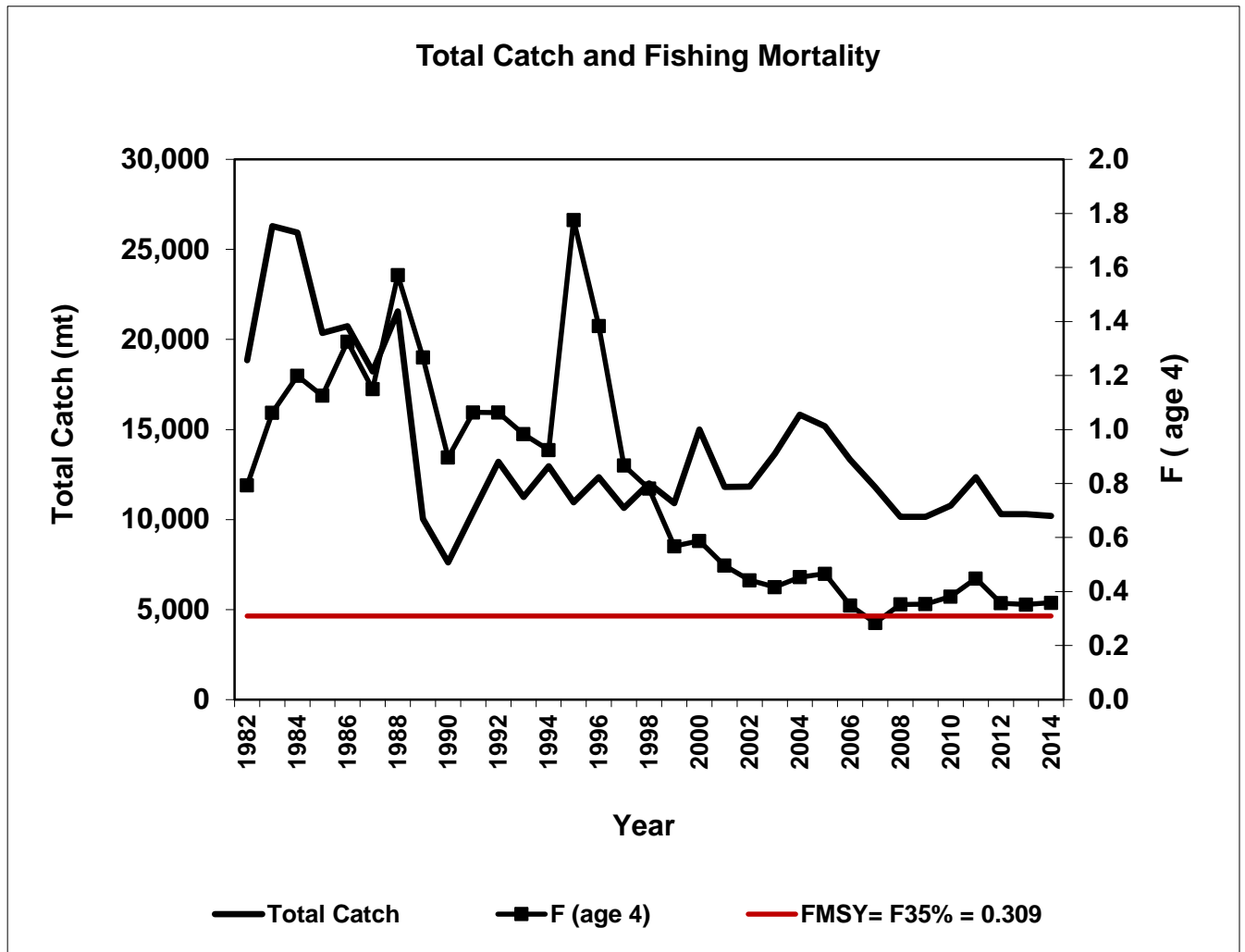


Figure 3. Total fishery catch and fully-recruited fishing mortality (F, peak at age 4) of summer flounder. The horizontal red line is the 2013 SAW 57 fishing mortality threshold reference point proxy.

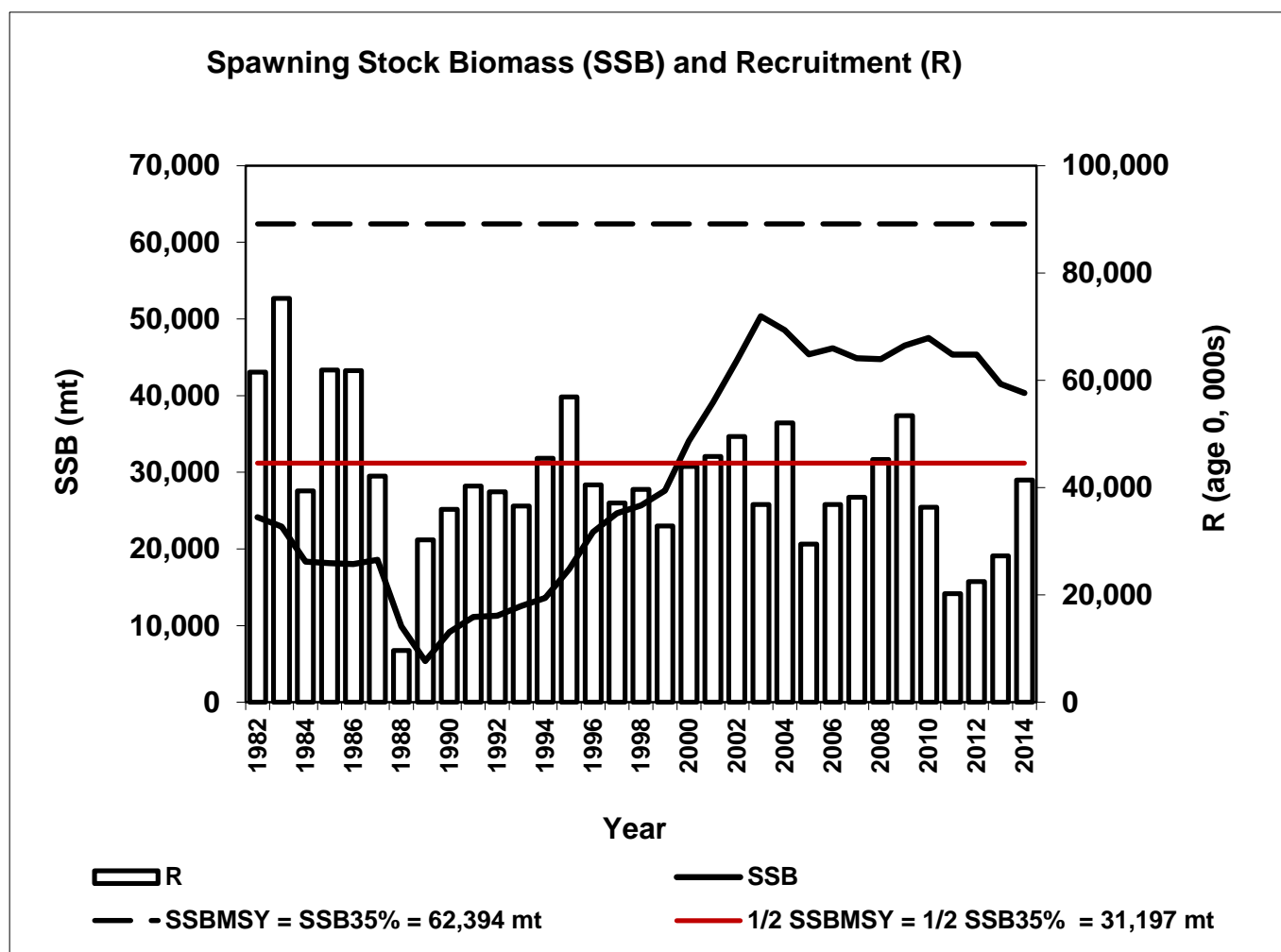


Figure 4. Summer flounder spawning stock biomass (SSB; solid line) and recruitment at age 0 (R; vertical bars) by calendar year. The horizontal dashed line is the 2013 SAW 57 biomass target reference point proxy, the horizontal red line is the biomass threshold reference point proxy.

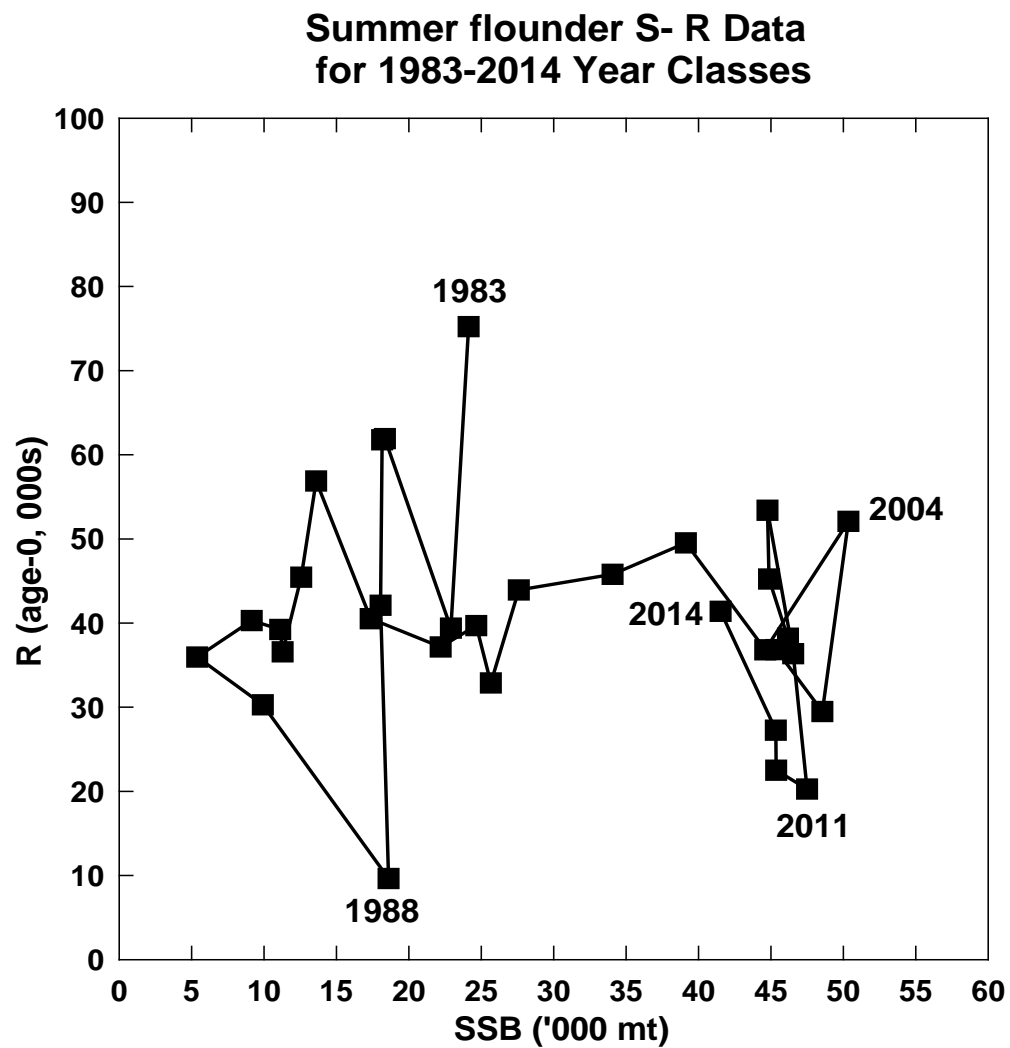


Figure 5. Stock-recruitment scatter plot for summer flounder 1983-2014 year classes.

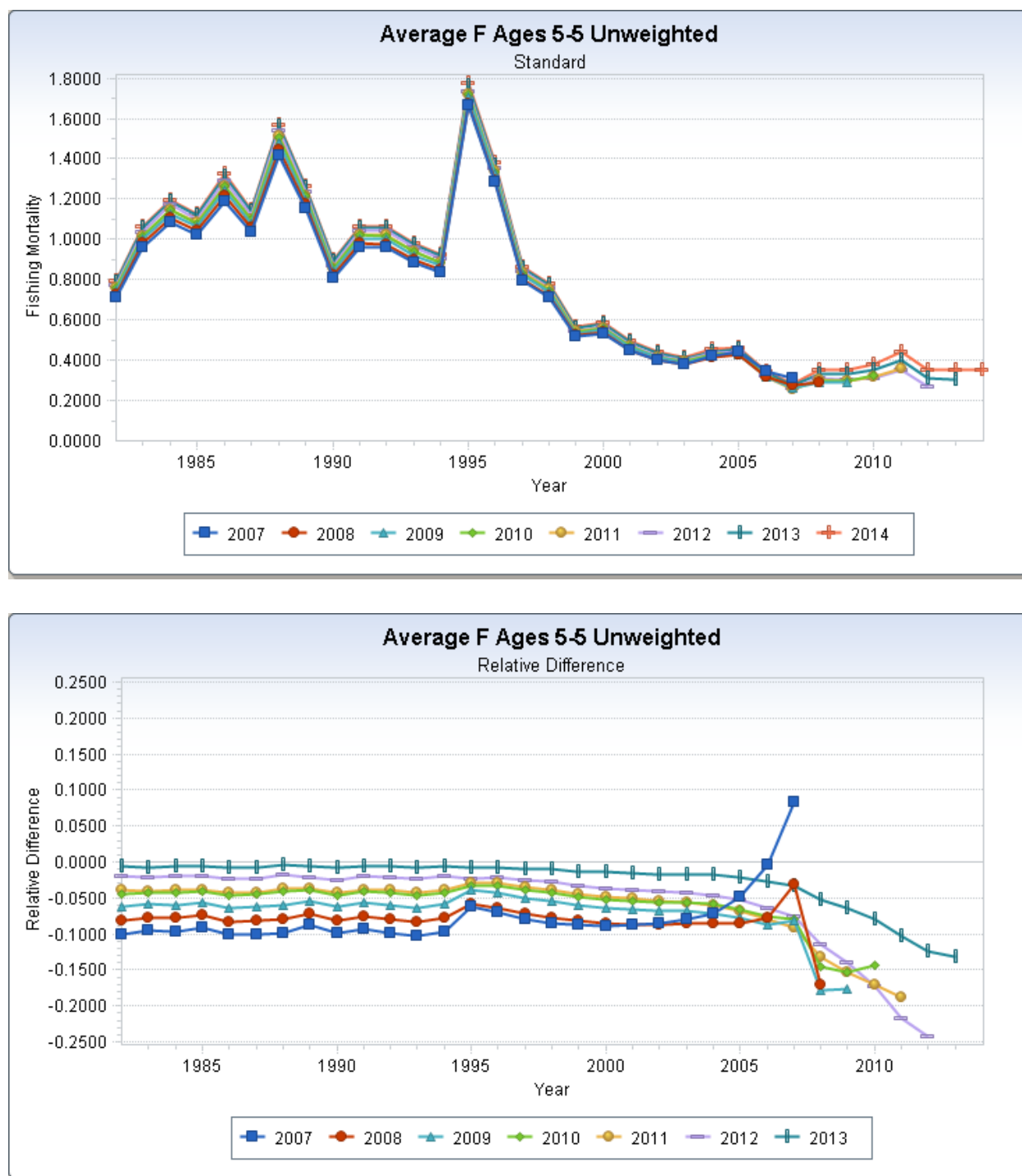


Figure 6. Results of internal model retrospective analysis: fully recruited F (true age 4, model age 5); average retrospective error = -14%.

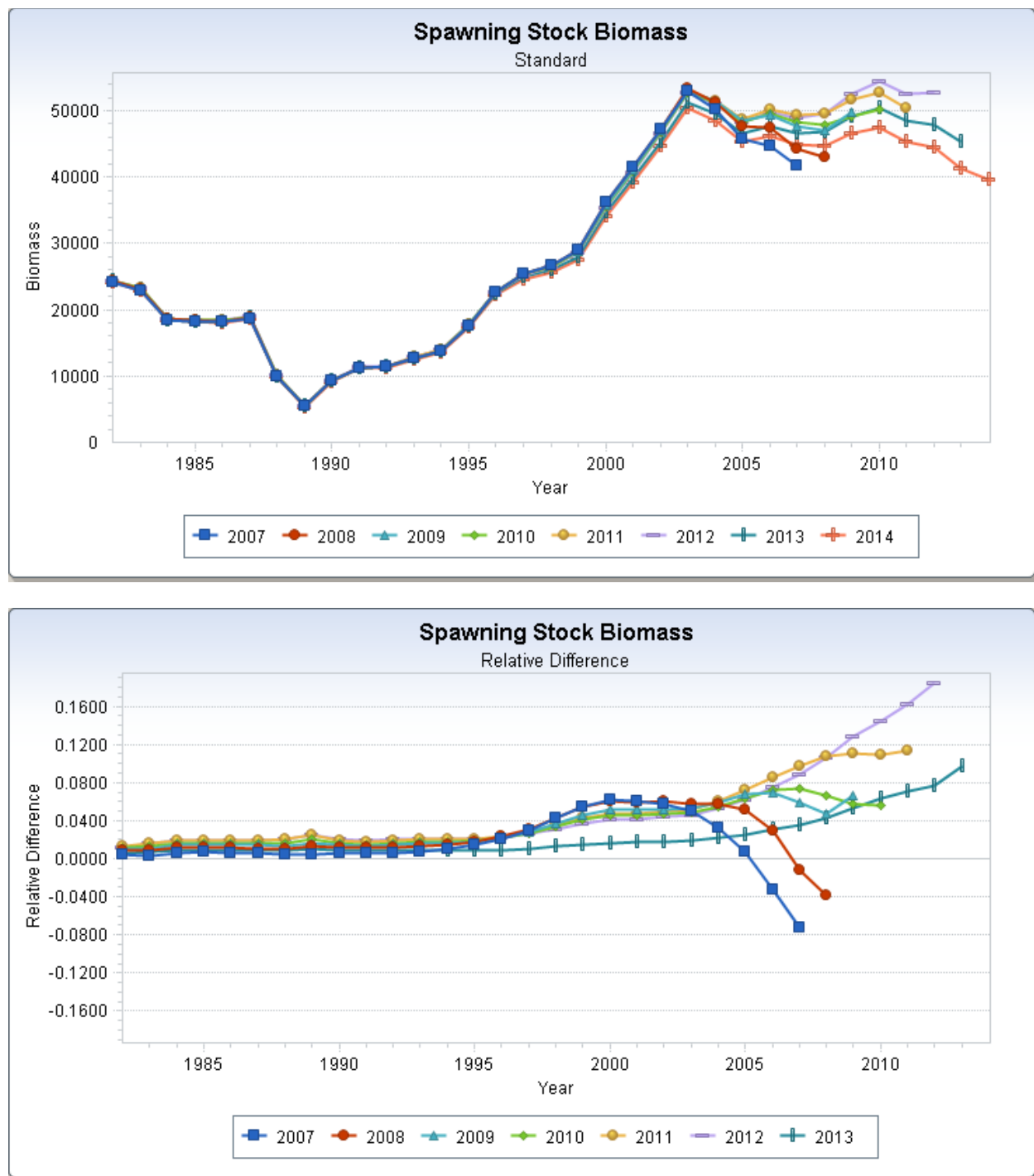


Figure 7. Results of internal model retrospective analysis: Spawning Stock Biomass; average retrospective error = +6%.

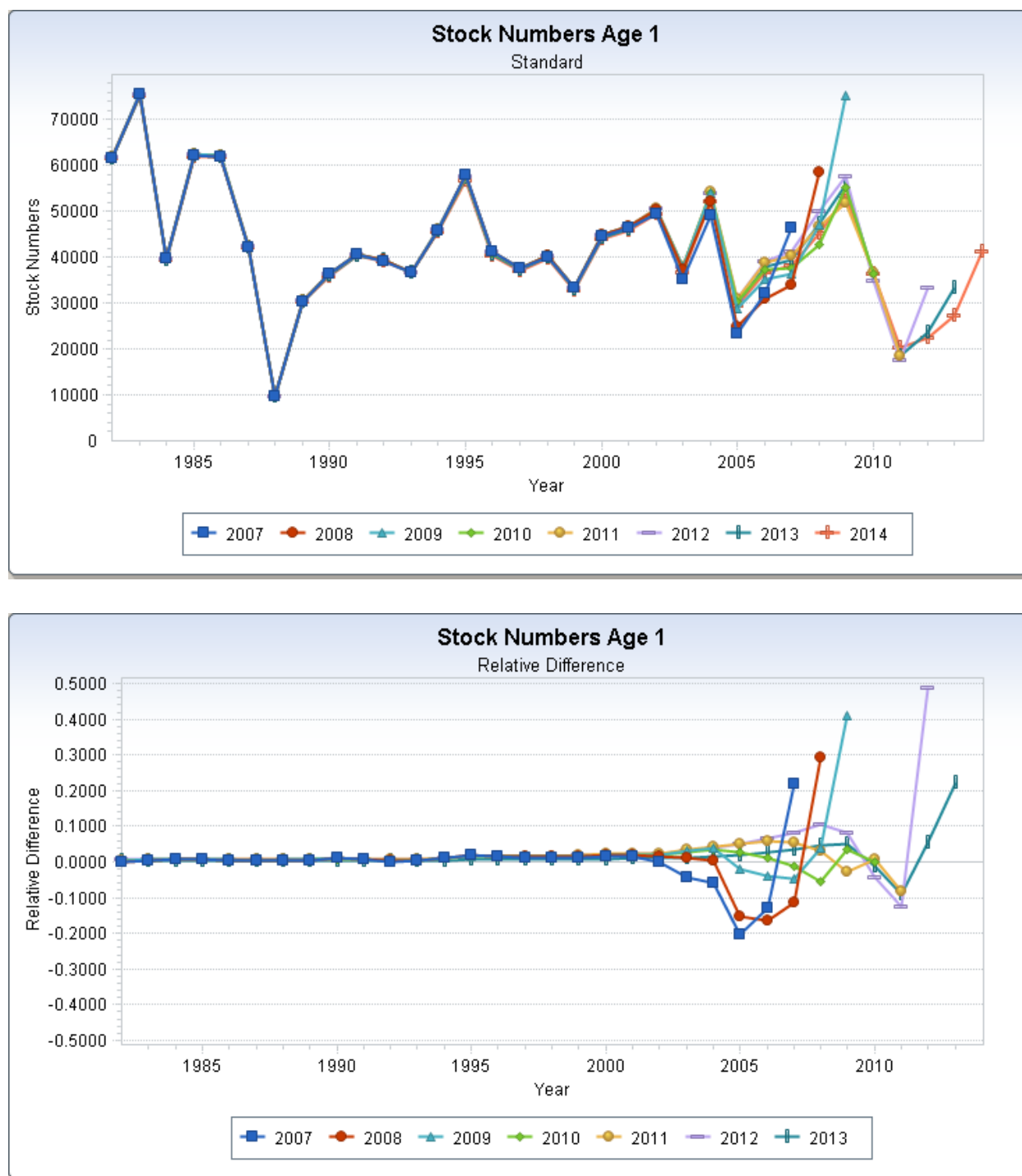


Figure 8. Results of internal model retrospective analysis: R (recruitment at true age 0, model age 1); average retrospective error = +22%.

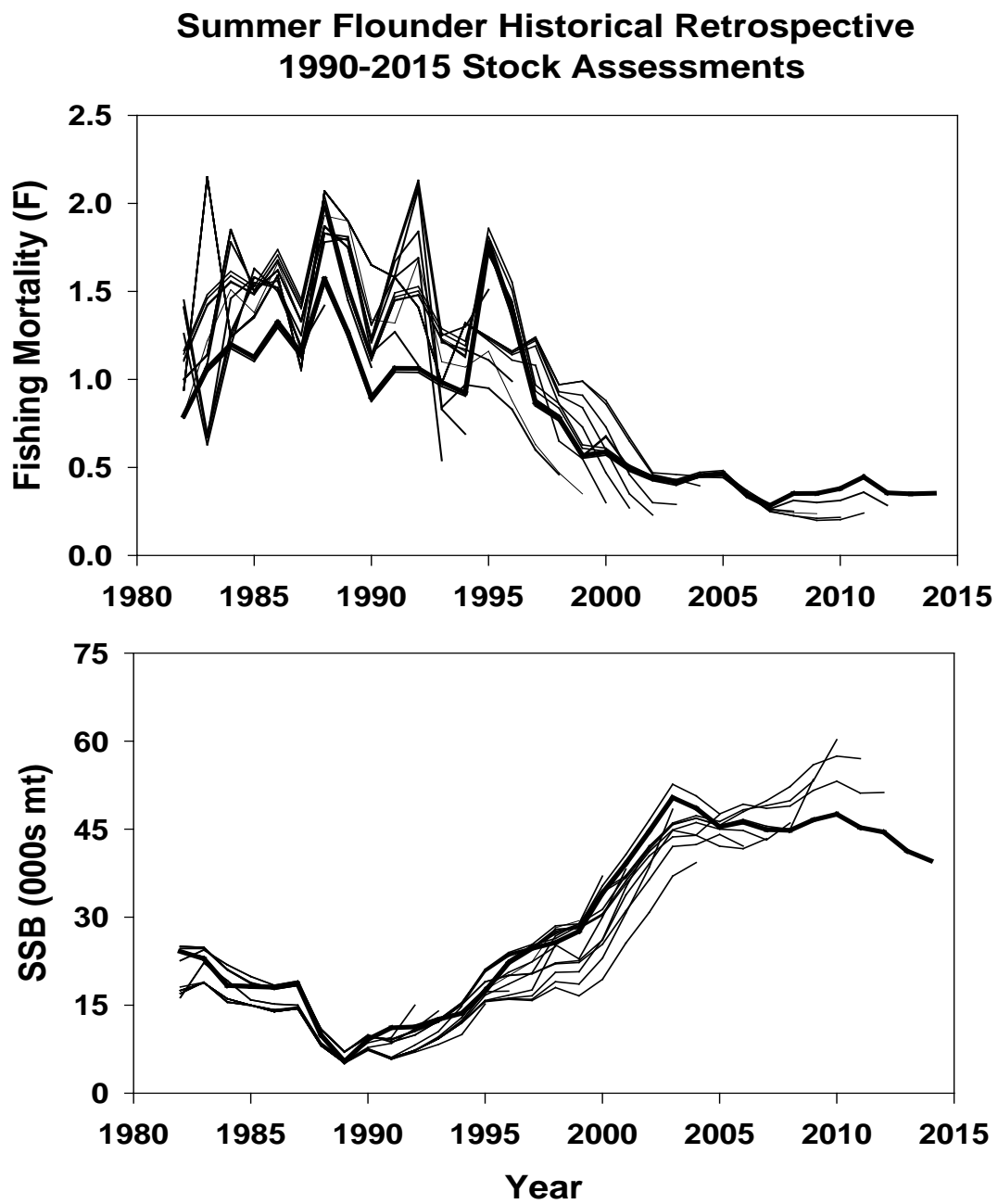


Figure 9. Comparison of estimates from the 1990-2015 assessments.

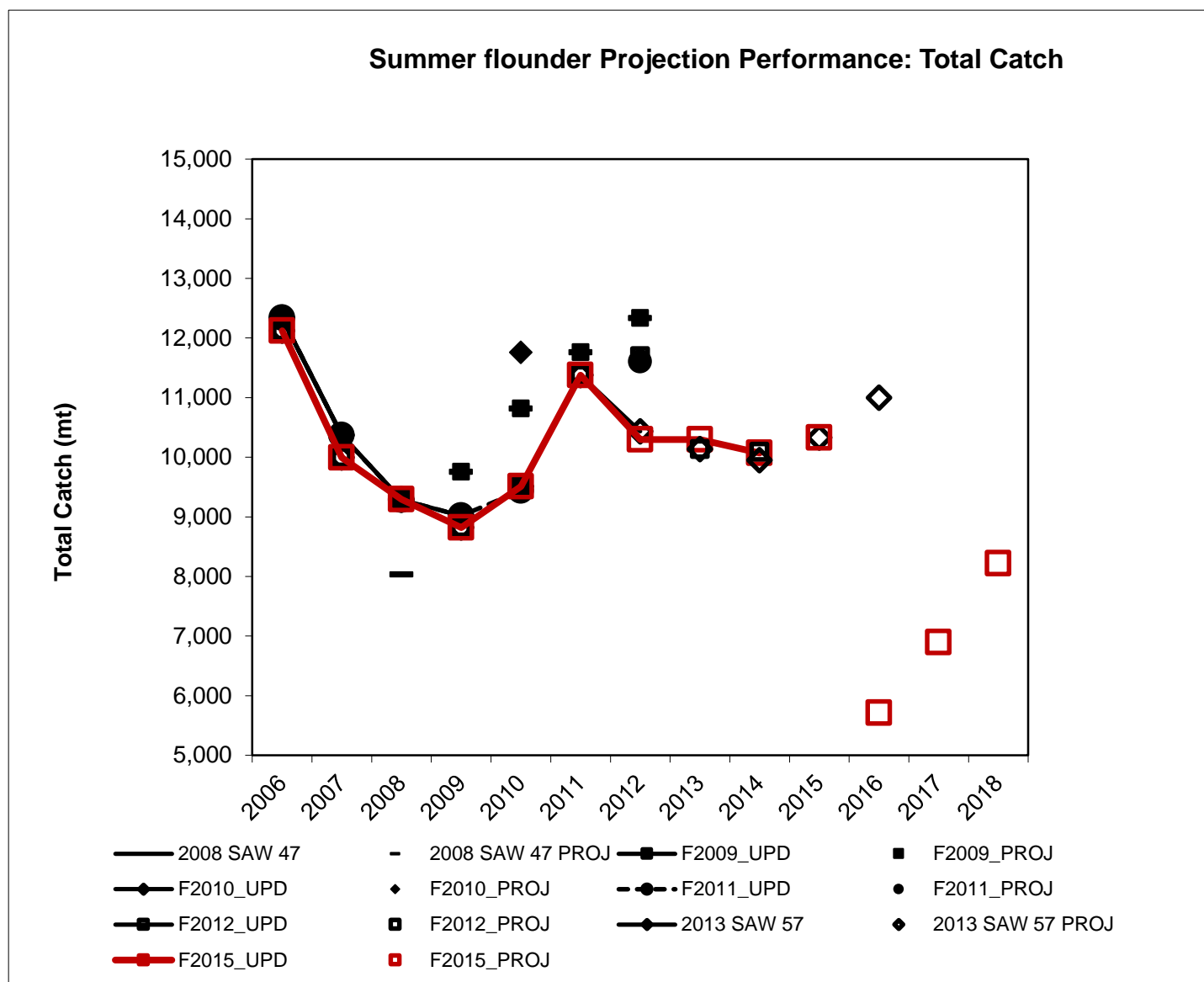


Figure 10. Comparison of estimated and projected catch (ABC) from the 2008 through 2015 assessments. The F2015 assessment catches projected for 2016-2018 are the ABCs.



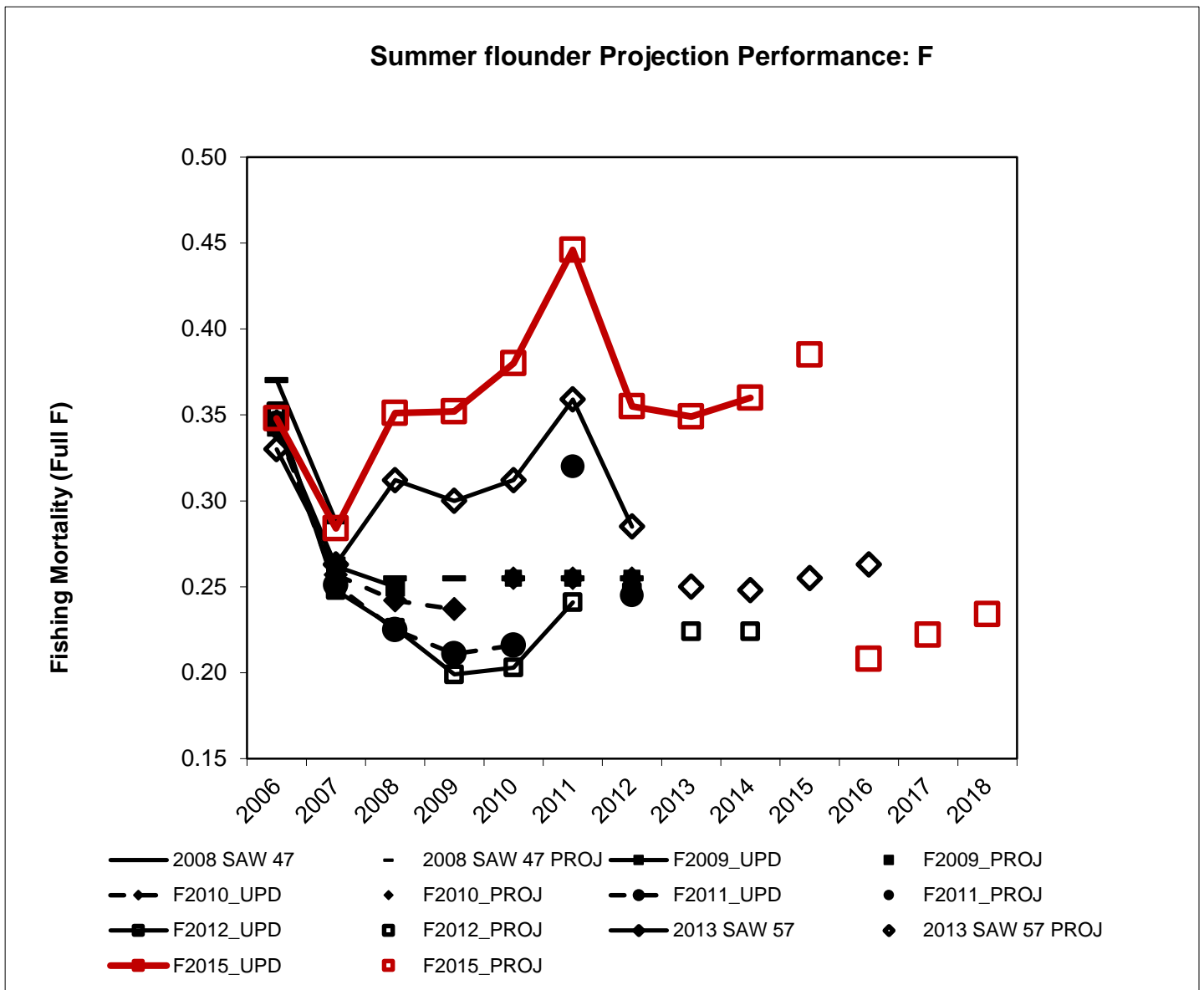


Figure 11. Comparison of estimated and projected fishing mortality (F, peak age 4) from the 2008 through 2015 assessments. The F2015 assessment F projected for 2016-2018 corresponds to the projected ABCs.

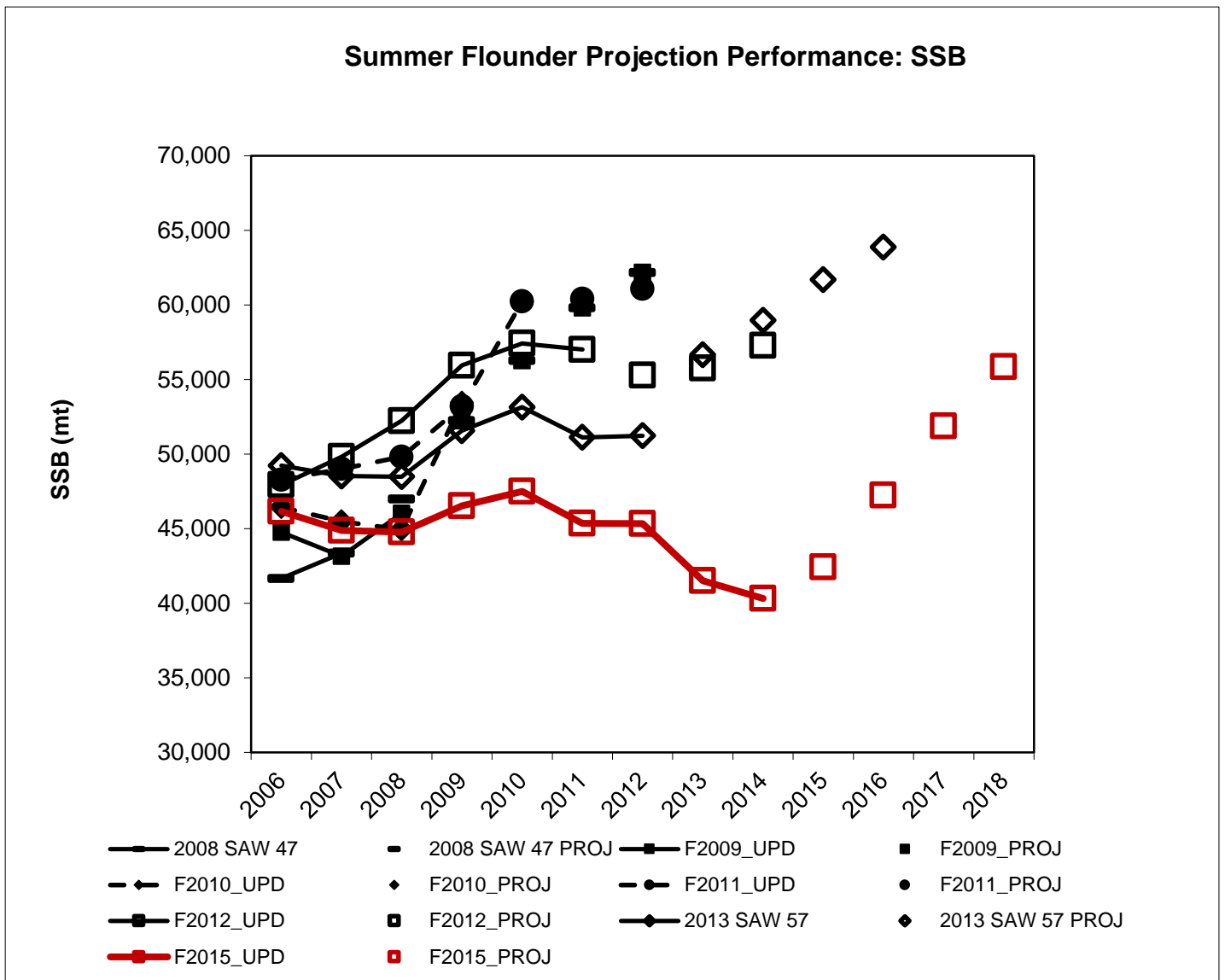


Figure 12. Comparison of estimated and projected Spawning Stock Biomass (SSB) from the 2008 through 2015 assessments. The F2015 assessment SSB projected for 2016-2018 corresponds to the projected ABCs.



## **Summer Flounder, Scup, and Black Sea Bass Fishery Performance Reports June 2015**

The Mid-Atlantic Fishery Management Council's (Council's) Summer Flounder, Scup, and Black Sea Bass Advisory Panel met jointly with the Atlantic States Marine Fisheries Commission's (Commission's) Summer Flounder, Scup, and Black Sea Bass Advisory Panels on June 17, 2015 to review fishery information documents for all three species and develop Fishery Performance Reports (FPRs) based on advisor perspectives on catch and landings patterns and other trends in these fisheries. **Please note:** Advisor comments described below are not necessarily consensus statements.

**Council Advisory Panel members present:** Meade Amory\* (VA), James Beirnes (DE), Carl Benson (NJ), Bonnie Brady (NY), Skip Feller (VA), James Fletcher (NC), Jeffrey Gutman (NJ), Monty Hawkins (MD), Gregory Hueth (NJ), Brady Lybarger (NJ), Lisa Poyer (NY), Paul Risi (NY), Robert Ruhle (NC), Wes Townsend\* (DE), Harvey Yenkinson (PA)

**Commission Advisory Panel members present:** Meade Amory\* (VA), Robert Busby (NY), Jack Conway (CT), Greg DiDomencio (NJ), Kyle Douton (CT), Paul Forsberg (NY), Marc Hoffman (NY), Bob Meimbresse (NJ), Bill Shillingford (NJ), James Tietje (MA), Wes Townsend\* (DE)

**Others present:** Julia Beaty (MAFMC Staff), John Boreman (MAFMC SSC), Kiley Dancy (MAFMC Staff), Mike Luisi (MAFMC/ASMFC), Kirby Rootes-Murdy (ASMFC Staff), Spencer Talmage (ASMFC Staff)

\*Serve on both Council and Commission Advisory Panels.

### **Summer Flounder**

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#### ***Environmental and Ecological Issues***

The advisors noted that from a broad biological perspective, the summer flounder fishery is performing well.

#### ***Market and Economic Issues***

For summer flounder, many commercial representatives agreed that the commercial fishery is not performing economically as well as it could, but that it is performing much better than it was ten years ago.

Commercial representatives feel that there is potential to increase profits by reducing operating costs. State-by-state quotas and landings prohibitions by state result in significant steam time to bring fish back to port, increasing operating costs substantially. Several advisors noted that the magnitude of this issue is serious, but also recognized that landings flexibility is controversial with some potential negative consequences (for example, to shoreside operations such as processors, which are less able to adapt to changes in the distribution of landings). However, many feel that

vessels are spending too much to operate, and this issue should be addressed in one way or another. One advisor recently took an eight-day trip, of which two days were spent fishing. This advisor noted that the current landings regulations limit income, and if landings flexibility were an option, economically the fishery would be doing much better. If federal permit holders could land in any federal port, this would reduce steam time and present increased economic opportunity. An advisor also noted that agreements between states should be worked out where vessels could land a certain amount of fish in one state and the rest in another.

For the recreational fishery, the overall economy has had a big impact on effort for both the private and for-hire sectors. Advisors from southern New Jersey also noted that regional Conservation Equivalency in the recreational fishery has had severe negative economic impacts on southern New Jersey, due to management-induced effort shifts.

### ***General Management Issues***

Many advisors believe there is a need to address both the commercial and recreational size limits. Current large size limits focus effort on large females. Management should focus on reducing waste and utilizing more of the catch. Many advisors believed that current assumed discard mortality rates may be underestimates, in particular for the recreational fishery.

### ***Commercial Management Issues***

Several advisors noted that commercial management continues to improve, but changes can still be made to increase efficiency. Management has been fairly successful in spreading the landings out and developing management strategies by state.

A commercial representative noted that NMFS's current requirements for Turtle Excluder Devices (TEDs) are burdensome to commercial fishermen operating in the south due to the materials and configuration required. This advisor noted that the aluminum TED requirement is a problem, and that pre-stressed cable TEDs would be better but they are not approved by NOAA. This advisor thought Council should address this. He indicated that the distribution of summer flounder landings would shift if the TED regulations were changed.

A commercial representative thought the commercial trawl fishery should not have both minimum mesh size restrictions and minimum fish size restrictions. Several other advisors agreed that regulatory discards could be reduced by eliminating the minimum size, but keeping the minimum mesh size. Some advisors said that commercial fishermen would not target smaller summer flounder if there were no minimum size as there is a better market for larger fish.

One advisor requested that if a change in gear requirements such as mesh size is discussed, the Council and Commission should consider the cost to each vessel of changing nets, as this can be very expensive.

One advisor noted that there are regional differences in commercial summer flounder discard mortality. In northern areas, more fish are released alive due to use of conveyers on vessels to sort fish, whereas in the south, catch is more often dumped on deck and sorted using tools that can injure or kill fish.

### ***Recreational Management Issues***

Advisors from southern New Jersey noted that because Delaware has a smaller minimum fish size than New Jersey under regional Conservation Equivalency, recreational fishing effort has shifted away from southern New Jersey, causing severe negative economic impacts in the area.

Advisors from New Jersey noted that summer flounder tend to be smaller and arrive earlier in areas south of Barnegat Bay, compared to areas north of Barnegat Bay. This results in regional differences in the fishery; however, the recreational regulations are uniform throughout the state. Some advisors suggested that northern New Jersey should have different regulations than southern New Jersey. Another advisor noted that there will always be problems with differing measures in adjacent waters, no matter where the lines are drawn.

Advisors discussed the idea of managing the for-hire recreational fishery differently than the private/shore recreational fishery (i.e. sector separation). One advisor owns a for-hire vessel in Florida, where he participated in a pilot sector separation program for red snapper in the Gulf of Mexico. This program, he indicated, has been very successful, and vessels now have more choices of when and how to fish, and they can also trade fish among vessels. Several advisors noted that sector separation was a good idea in theory, but it still comes down to the current recreational estimates. Many did not see how these estimates could result in an equitable allocation given their lack of faith in the estimates for either recreational sector (see discussion of MRIP estimates, below). They pointed out that the idea of moving toward sector separation is motivated in large part by the current recreational data, in particular the perceived potential for for-hire vessels to develop a more accurate data collection system. However, many advisors believe the current MRIP data would be insufficient to use as the basis for separation. One advisor noted that the idea of sector separation is very controversial among private boat and shore anglers. Another advisor noted that sector separation should be an option and that managers should have the ability to make good choices from available options, but that sector separation is not necessarily the best answer and managers should build in flexibility to adapt.

Several recreational advisors from New Jersey noted that they are throwing back more fish than ever due to minimum size restrictions. Some advisors noted that anglers are not willing to pay for for-hire trips if they are not able to take fish home. At a two-fish bag limit, party/charter trips are much too expensive for many people. What a person can put on the table when they return from a fishing trip is an extremely important factor in whether people return for more trips.

One advisor raised the idea of a recreational total length limit instead of individual fish size limits, with total retention required. Several other advisors agreed with this suggestion. One advisor said the Council and Commission need to think outside the box in order to reduce waste in the fishery.

One advisor noted that the inability to target striped bass due to recent management changes has led to increased effort on summer flounder and black sea bass, and generally an increase in mixed species trips and bottom fishing near eastern Long Island, Rhode Island, Long Island Sound, and Massachusetts. This would account for some of the increased landings seen in the party/charter sector MRIP data for 2014.

### **MRIP and Recreational Data Collection**

Advisors spent considerable time discussing perceived deficiencies in the summer flounder recreational data derived from the Marine Recreational Information Program (MRIP). One advisor commented that MRIP effort estimates have not reflected a drop in effort in New York and New

Jersey due to Superstorm Sandy in 2012. Another advisor pointed out that the MRIP effort surveys estimate fishing rates by contacting individuals over the phone, but that these effort interviews do not account for which states they actually fish in. For the for-hire recreational survey, one advisor noted that the intercept survey can be biased toward boats that are available at the dock and easy to survey, and sometimes surveyors get information from only one boat. Another advisor noted a similar problem with the intercept survey of private and shore anglers.

Advisors disagreed about whether the recreational summer flounder estimates for party/charter boat landings were biased high or biased low.

Some advisors commented that the states taking over the angler intercept surveys for MRIP may help improve the estimates. However, many noted that NMFS should be using the saltwater angler registry for the effort survey, and that the coastal household telephone surveys are not working. One advisor noted that with the registry, anglers could provide information about how and when to contact them in order to get a better response rate.

Many advisors agreed that NMFS should test a phone application and/or website as a possibility for collecting recreational data. Information collected from the commercial fishery has grown increasingly accurate, and improvements should be made on the recreational side. A pilot program using smartphone and website technology could be made incentive-based, so that people reporting get a lower cost license, special regulations, or other incentives. One advisor noted that when hunters buy a license, they have a responsibility to buy tags and report their activity. When people buy a fishing license, they should have a similar requirement.

Some advisors commented that error and uncertainties will be present either with self-reporting or with MRIP, but they believed that self-reported information would be more accurate. These advisors felt strongly that the dockside surveys don't provide accurate estimates.

One advisor noted that the separation of the catch and effort portions of the MRIP for-hire survey is a problem.

Advisors generally agreed that management should make better use of Vessel Trip Report (VTR) data from the for-hire sector. One advisor asked if for-hire vessels have the ability to report via the Interactive Voice Response (IVR) system. A for-hire representative indicated that the response rate would likely not be very good under this type of system.

#### Recreational Education and Outreach

One advisor emphasized the need for increased education and outreach on recreational summer flounder handling, release techniques, and optimal hook sizes. This advisor was part of a team conducting a recent study of discards and hook sizes in New Jersey, which found that as hook size increases, the size of landed fish increases and discards of undersized fish decrease.<sup>1</sup> The management community should be more involved in promoting this type of information to anglers in order to reduce discard mortality.

One advisor commented that the Council and Commission don't seem to engage with bait and tackle shops for outreach and education on management measures. Another advisor responded that bait and tackle shops spend a lot of time teaching customers about how to fish and where, which

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<sup>1</sup> [http://www.mafmc.org/s/09\\_SF-Bycatch-Combined.pdf](http://www.mafmc.org/s/09_SF-Bycatch-Combined.pdf).

is necessary to sustain interest in recreational fishing. Current complicated or restrictive regulations can discourage interest in recreational fishing. Increased engagement, especially for kids, is critical to the future of recreational fishing. Management could be more involved with this type of engagement by providing basic information online.

### ***Research Needs***

Some advisors commented that a sex-specific stock assessment model is needed, as sex information is not incorporated into the current assessment.

One advisor recommended a study on whether summer flounder segregate by season and by sex and said this information does not appear to be readily available from Northeast Fisheries Science Center (NEFSC) reports.

Another advisor suggested studying when and where spawning occurs relative to fishery catch to assess the possibility of adjusting regulations so the fishery can avoid spawning times and areas. Another advisor noted that it may be difficult to adjust regulations in this way as spawning times and areas would likely be difficult to delineate in a way that could be used for management.

Several advisors agreed that, given recent discussions of the effect of climate change on summer flounder distribution, it is important to get input from fishermen on where trawl surveys are conducted. There are now more fish outside of the areas currently surveyed.

## **Scup**

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### ***Environmental and Ecological Issues***

Advisors noted that scup biomass is high. A commercial representative described an observation from a fisherman and Council advisor who relies heavily on the scup fishery. This fisherman observed a very large school of scup, from east of Block Canyon as far as Hudson Canyon, representing all size classes. The school was uninterrupted for approximately 60 miles, in 60 feet to 60 fathoms of water.

One advisor noted that last year the Northeast Area Monitoring and Assessment Program (NEAMAP) survey observed very large catches of 1-year old scup, from Cape Hatteras to Vineyard Sound, indicating that another strong year class should be coming through.

Advisors described a recent abundance of jumbo scup, along with many small and medium sized scup.

Some advisors were concerned about potential impacts of high scup biomass on other commercially and recreationally important species. One advisor noted that he had recently discussed this issue with several scientists who noted that increasing biomass of managed species such as dogfish, black sea bass, and scup could potentially impact forage fish levels to the point of being a problem.

### ***Market and Economic Issues***

Many advisors noted that the commercial and recreational fisheries continue to under-harvest relative to the quotas because there is low demand for scup, both in the commercial and recreational fisheries. One advisor noted that one reason for a weak commercial market is due to past restrictions in the scup fishery that opened the market to imported tilapia. This has had lasting

impacts. Lowering or eliminating the commercial size limit would help improve the market for scup.

One advisor thought the Council should work to influence a name change for scup to increase market demand. One advisor said “Montauk sea bream” brings a higher price in New York than “scup.” Many advisors would like additional information about what the rules and agency roles are with respect to name changes, and would like to know what role the Council and Commission could play. Another advisor suggested that NMFS could provide more outreach on sustainability to grow the market. These advisors felt that name changes and/or marketing efforts could benefit both the commercial and recreational fisheries for rebuilt species such as scup.

Commercial representatives noted that when the price is high, many fishermen target scup, and face increased competition. When fuel prices were particularly high, landings decreased due to the search costs associated with finding scup. These advisors also noted that the price can be highly variable within a short period of time, and there are some fishermen who make sure they are the first people landing scup at the dock to get the highest price. The mean or median price does not tell the whole story. The first vessel landing can often get a high price, and the impact to a vessel’s revenue can be significant.

Some commercial advisors believed that the full commercial quota could be caught if there were a better market, along with higher trip limits. Others noted that this may not necessarily happen as there are many factors holding people back from catching a lot of scup. If the trip limits were higher, more scup would be caught even if prices were low, as scup landings can at least help cover a vessel’s expenses.

### ***Commercial Management Issues***

A few commercial representatives noted that the recent increase from a 2,000 to a 12,000-pound initial possession limit for the Winter II quota period has been beneficial for the fishery. This past Winter II period there were effectively no discards.

A few commercial representatives noted that the analysis of trip limits presented in the Fishery Information Document and staff presentation showed inaccurate information, likely due to how dealer data were analyzed. The analysis showed that over the past few years, very few commercial trips landed volumes of scup that were close to the possession limit, especially during Winter I. A few commercial advisors said many fishermen have recently landed the full trip limits, particularly in New York. These advisors noted that the use of dealer data is likely giving an inaccurate picture of landings, since scup catch from a single trip is sometimes divided up among multiple dealers so the dealer reports do not show the overall total landed by one boat on a given trip. These advisors suggested using VTR data for this type of analysis. Council staff are working to resolve this issue.

One commercial representative thought, and others agreed, that given the current commercial minimum mesh size regulations, that the commercial minimum fish size for scup was unnecessary and should be eliminated. The minimum fish size results in regulatory discards.

Several commercial representatives agreed that the scup Gear Restricted Areas (GRAs) are no longer needed and are a hindrance to small mesh fisheries. Several advisors thought the GRAs should be completely eliminated.



### ***Recreational Management Issues***

Several advisors recommended lowering the recreational scup minimum size limit in the northern states by at least an inch. However, a recreational representative from Connecticut indicated that stability is generally more important than liberalization for the current scup recreational fishery, and this is why there has not been a big push to liberalize in the northern states. This advisor thought that recreational fishermen were generally content with the scup regulations.

An advisor from Massachusetts noted that the recreational “bonus season” in the northern states for the party/charter fishery draws anglers to the scup fishery on Cape Cod in the early spring. This advisor appreciated the flexibility of the northern states to identify the bonus season that works best for each state. For example, Massachusetts gets a higher bag limit early in season, while Rhode Island has theirs later in the season. There are good reasons for these regional differences and this approach should be continued.

One advisor asked whether much recreational scup fishing occurs in January and February. A party/charter captain from New Jersey said there is some fishing for scup, but it is hard to avoid areas where black sea bass are abundant.

## **Black Sea Bass**

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### ***Environmental and Ecological Issues***

Many advisors said that black sea bass abundance is high and the distribution of the species is expanding. Sea bass are being caught in areas not considered historical areas for this fishery. For example, sea bass are being caught in the Gulf of Maine out to 100 fathoms or more. NEAMAP survey data have indicated a shift in the center of the population.

A commercial fisherman noted that, particularly in the trawl fishery, they are seeing more black sea bass than they have seen in about 10 years. Another advisor agreed that everyone in the commercial fishery, inshore and offshore, are seeing more sea bass than ever.

An advisor from the southern end of the management unit pointed out that despite apparent changes in distribution and abundance, sea bass abundance has not decreased in the south.

One advisor mentioned that climate change and population shifts are part of the story, but management-induced shifts in spawning production are also affecting the stock. This advisor also noted that habitat fidelity that has been identified through tagging studies is really spawning site fidelity, and that management is needed on a regional basis.

One advisor noted that black sea bass are feeding on prey such as small crabs, clams, oysters, and lobsters, and are posing a threat to lobster and other managed species. He commented that it is critical to get an emergency opening for both the commercial and recreational black sea bass fisheries in order to prevent the large biomass from negatively impacting other managed species.

One advisor noted that trawl surveys avoid hard bottom and structure, so management is not getting a true estimate of black sea bass abundance.

One advisor commented that due to a harsh winter with many severe storms, many northeastern boats could not get out as often, and as a result effort may be down in those areas.

### ***Market and Economic Issues***

An advisor from Massachusetts noted that the commercial fishery is not able to meet the high market demand for black sea bass due to fishery regulations. Poaching and illegal sales are currently a huge problem. Because the commercial fishery is on a tight leash, some restaurants are willing to buy sea bass from anyone who will sell it.

### ***General Management Issues***

Many advisors called for increased quotas for the commercial and recreational black sea bass fisheries.

Several advisors noted that management is unable to quickly adapt to changes in biomass. Management changes often lag behind the biomass changes that fishermen see. By the time managers get data and implement regulations, fish stocks may already be in decline or may have increased substantially. Changes in biomass are then associated with changes in the regulations that may not have been in place in time to have truly had the assumed effect.

### ***Commercial Management Issues***

Commercial representatives noted that the commercial fishery is landing their full quota and the numbers are accurate, but that the landings data do not reflect the number of sea bass avoided or discarded. There are many more sea bass in the water than have been seen in years.

Similar to comments made for summer flounder and scup, several advisors agreed that there is no need for a minimum fish size in the commercial trawl fishery if there is an appropriate minimum mesh size.

Some commercial representatives requested the ability to transfer black sea bass at sea, in order to turn some regulatory discards into landings. This would reduce waste in the fishery.

### ***Recreational Management Issues***

One advisor requested that the recreational party/charter season be opened year-round for black sea bass.

Advisors from many different areas indicated that they would like to see January and February (MRIP Wave 1) open for the recreational fishery. They commented that MRIP or other catch accounting should be in place to find out the value of those days to the fishery. When the recreational fishery has short seasons and fishing days are lost due to weather, there is no way to make them up.

Non-compliance and angler confusion are big issues, particularly in shared waters with differing regulations such as Eastern Long Island Sound, New York, and Rhode Island. Anglers have a difficult time tracking what they can keep, or where to go in order to be able to keep it. Some advisors described difficulty in marketing for-hire trips, since they cannot market a combination trip due to differing regulations in differing states, combined with the need to transit through the waters of other states.

### **MRIP and Recreational Data Collection**

Similar to summer flounder, much of the discussion on black sea bass focused on problems with the MRIP estimates. For example, Maryland advisors noted that the MRIP numbers for their state have been dramatically underestimated in recent years, particularly for the for-hire fleet. Another

advisor noted that the state of Connecticut recently compared MRIP data to logbook data from the special access party/charter program and found that the numbers were quite different.

One advisor noted that MRIP intercept surveys do not ask anglers about discards of species for which the season is closed; they ask only about targeted and landed species. Some advisors thought this posed challenges for understanding discards. Many advisors saw a need to reduce discards and increase utilization.

### ***Research Needs***

One advisor recommended a study of how sea bass may be replacing the ecosystem role of other species, such as cod.

Some advisors expressed a desire that the next stock assessment take place this year, rather than next year; however, the group mostly agreed that more work needs to be done to get the assessment done right so it passes peer review and can lead to a change in management that is beneficial to the fishery.



## Summer Flounder Fishery Information Document

June 2015

This document provides a brief overview of the biology, stock condition, management system, and fishery performance for summer flounder with an emphasis on 2014, the most recent complete fishing year.

### 1. Biology

Summer flounder (*Paralichthys dentatus*) spawn during the fall and winter over the open ocean areas of the continental shelf. From October to May, larvae and postlarvae migrate inshore, entering coastal and estuarine nursery areas. Juveniles are distributed inshore and in many estuaries throughout the range of the species during spring, summer, and fall. Adult summer flounder exhibit strong seasonal inshore-offshore movements, normally inhabiting shallow coastal and estuarine waters during the warmer months of the year and remaining offshore during the colder months.

Summer flounder habitat includes pelagic waters, demersal waters, saltmarsh creeks, seagrass beds, mudflats, and open bay areas from the Gulf of Maine through North Carolina. Summer flounder are opportunistic feeders; their prey includes a variety of fish and crustaceans. While the natural predators of adult summer flounder are not fully documented, larger predators (e.g., large sharks, rays, and monkfish) probably include summer flounder in their diets.<sup>1</sup>

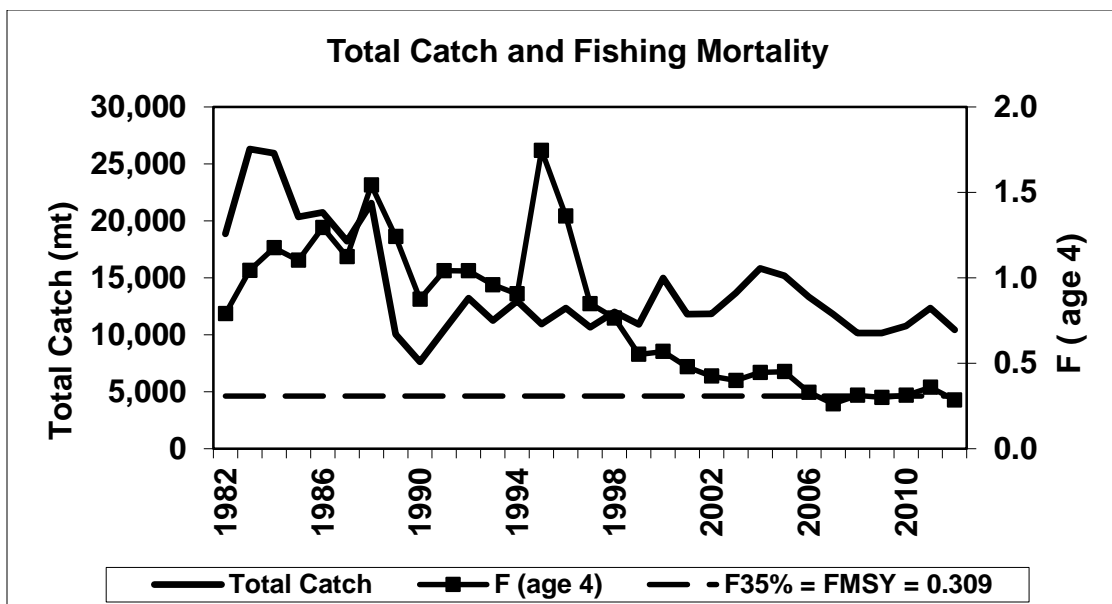
Male and female growth rates vary substantially, with males growing more slowly. Males rarely live longer than 10 years, whereas females may live for up to 20 years and attain weights of about 25 lb.<sup>2</sup> In the 2013 benchmark stock assessment for summer flounder, the median length at maturity was estimated as 26.0 cm (10.2 inches) for male summer flounder, 29.2 cm (11.5 inches) for female summer flounder, and 26.8 cm (10.5 inches) for the sexes combined. The median age of maturity for summer flounder was determined to be 1.1 years for males, 1.4 years for females, and 1.2 years for both sexes combined.<sup>3</sup>

### 2. Status of the Stock

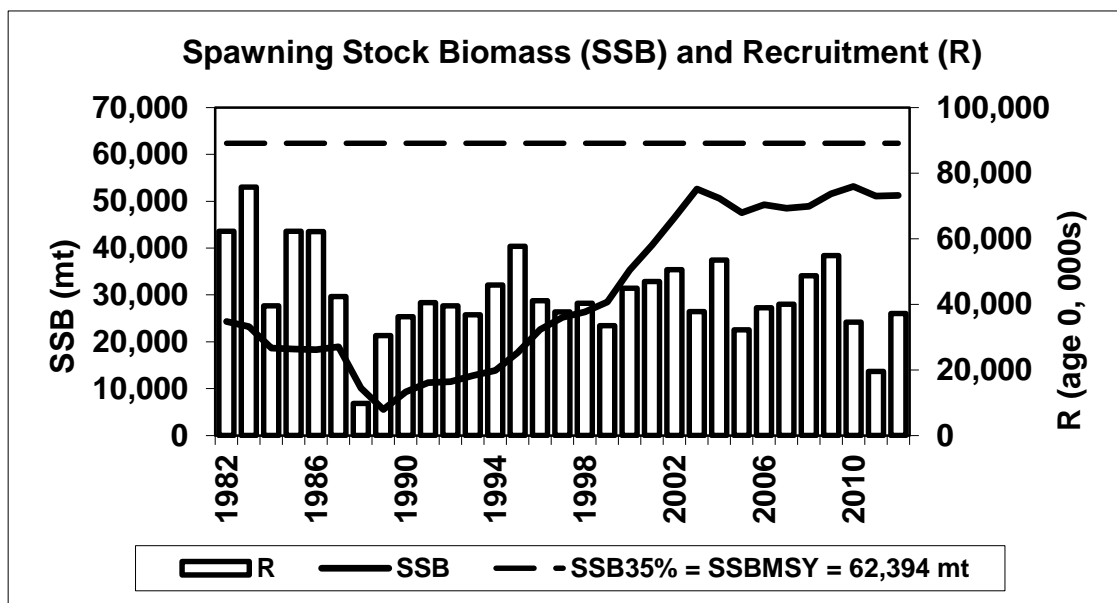
A statistical catch at age model (the age-structured assessment program, or “ASAP” model) was used in the 2013 peer-reviewed summer flounder benchmark stock assessment (57<sup>th</sup> Stock Assessment Workshop, or SAW 57).<sup>3</sup> The final report, as well as the Stock Assessment Review Committee (SARC) panelist reports, is available online at the Northeast Fisheries Science Center (NEFSC) website: <http://www.nefsc.noaa.gov/saw/reports.html>. Previous stock assessment reports, assessment updates, and peer review panelist reports are also available at this site.

The 2013 benchmark assessment indicated that the summer flounder stock was not overfished or subject to overfishing in 2012, relative to the new biological reference points derived from the SAW 57 assessment. The fishing mortality rate (F) was estimated to be 0.285 in 2012, below the

updated threshold fishing mortality reference point of  $F_{MSY} = 0.309$  (Figure 1). Spawning Stock Biomass (SSB) was estimated to be 113.0 million lb (51,238 mt) in 2012, 18% below the updated  $SSB_{MSY} = 137.6$  million lb (62,394 mt; Figure 2).<sup>3</sup>



**Figure 1:** Total fishery catch and fishing mortality rate (F) for summer flounder. The horizontal dashed line is the 2013 SAW/SARC57 fishing mortality reference point. Overfishing occurs when the fishing mortality rate exceeds this threshold.<sup>3</sup>



**Figure 2:** Summer flounder spawning stock biomass (SSB; solid line) and recruitment at age 0 (R; vertical bars) by calendar year. The horizontal dashed line is the 2013 SAW/SARC57 biomass target. The stock is considered overfished when biomass is below  $\frac{1}{2}$  of the biomass target (also known as the minimum stock size threshold).<sup>3</sup>

### **3. Management System and Overall Fishery Performance**

The Mid-Atlantic Fishery Management Council (MAFMC or Council) and the Atlantic States Marine Fisheries Commission (ASMFC or Commission) work cooperatively to develop fishery regulations for summer flounder off the east coast of the United States. The Council and Commission work in conjunction with the National Marine Fisheries Service (NMFS), which serves as the federal implementation and enforcement entity. This cooperative management endeavor was developed because a significant portion of the catch is taken from both state (0-3 miles offshore) and federal waters (3-200 miles offshore, also known as the Exclusive Economic Zone, or EEZ).

The Fishery Management Plan (FMP) for summer flounder became effective in 1988, and established the management unit for summer flounder as U.S. waters in the western Atlantic Ocean from the southern border of North Carolina northward to the U.S.-Canadian border. The FMP also established measures to ensure effective management of summer flounder fisheries.

There are large commercial and recreational fisheries for summer flounder. These fisheries are managed primarily using output controls (catch and landings limits), with 60 percent of the landings being allocated to the commercial fishery as a commercial quota and 40 percent allocated to the recreational fishery as a recreational harvest limit. Management also uses minimum fish sizes, gear regulations, permit requirements, and other provisions as prescribed by the FMP. Summer flounder was under a stock rebuilding strategy beginning in 2000 until it was declared rebuilt in 2011. The Summer Flounder FMP, including subsequent Amendments and Frameworks, are available on the Council website at: <http://www.mafmc.org/fisheries/fmp/sf-sbsb>.

The Council's Scientific and Statistical Committee (SSC) recommends annual Acceptable Biological Catch (ABC) levels for summer flounder, which are then approved by the Council and Commission and submitted to NMFS. The ABC is divided into commercial and recreational Annual Catch Limits (ACLs), based on the landings allocation prescribed in the FMP and the recent distribution of discards between the commercial and recreational fisheries. The Council first implemented recreational and commercial ACLs, with a system of overage accountability, in 2012. Both ABCs and ACLs include both projected landings and discards. Projected discards are subtracted to determine the commercial quota and recreational harvest limit, which are landings-based limits. Summer flounder catch and landings limits for the past ten years are shown in Table 1.

Total (commercial and recreational) summer flounder landings declined in the early 1980's, dropping to a low of 14.4 million lb in 1990, and in 2014 were about 18.3 million lb total (Figure 3).<sup>4,5</sup>

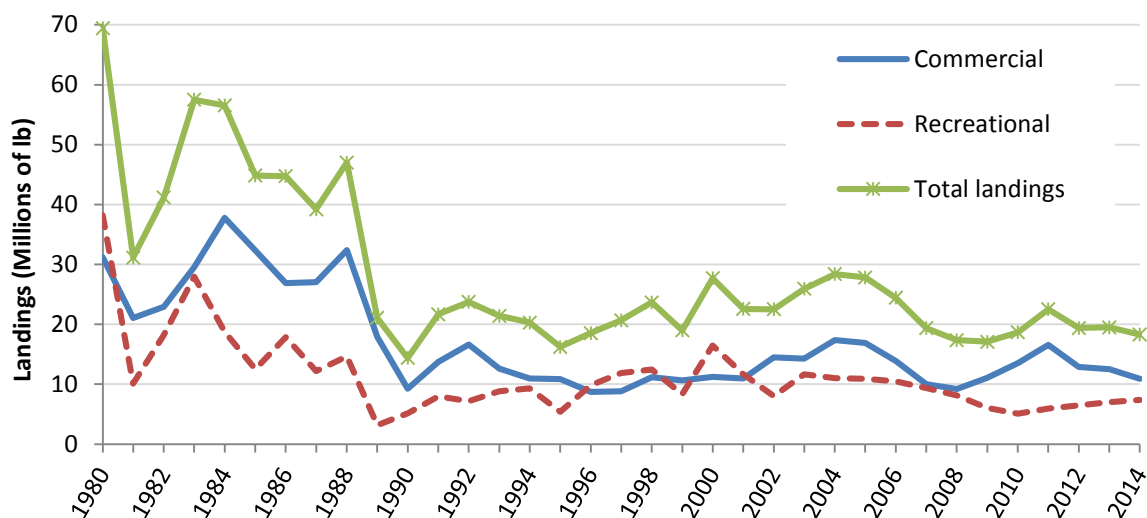
**Table 1:** Summary of catch limits, landings limits, and landings for commercial and recreational summer flounder fisheries from 2005 through 2015.

Management measures	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
ABC <sup>a</sup> (m lb)	--	--	--	--	21.50	25.5	33.95	25.58	22.34	21.94	22.57
Commercial ACL <sup>b</sup>	--	--	--	--	--	--	--	14.00	12.11	12.87	13.34
Commercial quota (millions of lb) <sup>c</sup>	17.90	13.94	9.79	9.32	10.74	12.79	17.38	12.73	11.44	10.51	11.07
Commercial landings (millions of lb)	16.91	13.92	10.02	9.21	11.05	13.55	16.57	12.91	12.49	10.91	--
% of commercial quota landed	94%	100%	102%	99%	103%	106%	95%	101%	109%	104%	--
Recreational ACL	--	--	--	--	--	--	--	11.58	10.23	9.07	9.44
Recreational harvest limit (m lb) <sup>c</sup>	11.98	9.29	6.68	6.21	7.16	8.59	11.58	8.49	7.63	7.01	7.38
Recreational landings (m lb)	10.92	10.51	9.34	8.15	6.03	5.11	5.96	6.49	7.12	7.39	--
% of recreational harvest limit landed	91%	113%	140%	131%	84%	59%	51%	76%	93%	105%	--

<sup>a</sup> The ABC is the Acceptable Biological Catch recommended by the Council's Scientific and Statistical Committee (SSC). The ABC is equivalent to the sum of the commercial and recreational Annual Catch Limits (ACLs), and includes both landings and discards.

<sup>b</sup> The ACLs are annual sector-specific catch limits for the commercial and recreational fisheries. The ACLs include both landings and discards.

<sup>c</sup> For 2005-2014, commercial quotas and recreational harvest limits are adjusted for both Research Set Aside (RSA) and projected discards. Quotas and harvest limits for 2015 do not reflect an adjustment for RSA, as the program was suspended for 2015.



**Figure 3:** Commercial and recreational summer flounder landings in millions of pounds, Maine-North Carolina, 1980-2014.<sup>4,5</sup>

#### 4. Commercial Summer Flounder Measures and Fishery Performance

Commercial landings of summer flounder peaked in 1984 at 37.77 million pounds, and reached a low of 8.80 million pounds in 1997 (Figure 3). In 2014, commercial fishermen landed approximately 10.91 million pounds of summer flounder (corresponding to 104% of the commercial quota).<sup>4</sup>

In federal waters, a moratorium permit is required to fish commercially for summer flounder. Permit data for 2014 indicate that 828 vessels held commercial permits for summer flounder.<sup>6</sup>

The commercial quota is divided among the states based on the allocation percentages given in Table 2, and each state sets measures to achieve their state-specific commercial quotas.

**Table 2:** State-by-state percent share of commercial summer flounder allocation.

State	Allocation (%)
ME	0.04756
NH	0.00046
MA	6.82046
RI	15.68298
CT	2.25708
NY	7.64699
NJ	16.72499
DE	0.01779
MD	2.03910
VA	21.31676
NC	27.44584
Total	100

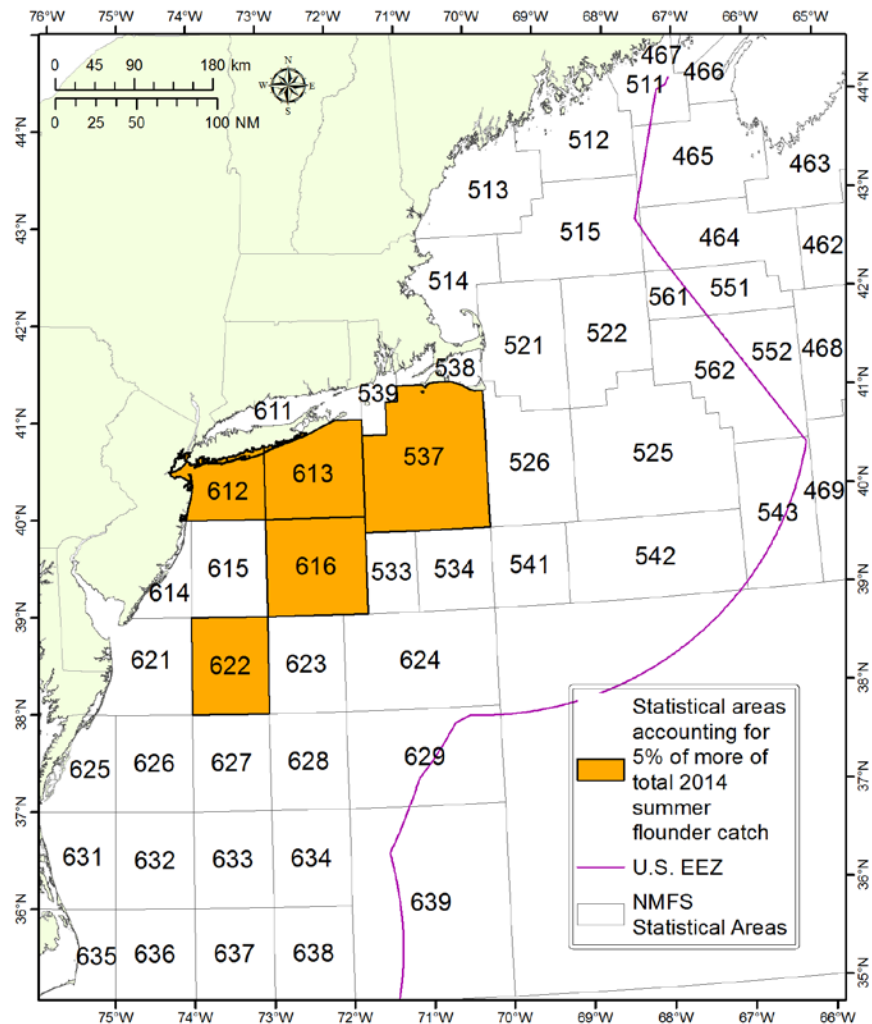


Vessel Trip Report (VTR) data for 2014 indicate that the bulk of the summer flounder landings were taken by bottom otter trawls (96 percent), with other gear types (e.g. scallop trawls, sink gill nets, hand lines, scallop dredges, and beam trawls) each accounting for 1 percent or less of landings.<sup>7</sup> Current regulations require a 14 inch total length minimum fish size in the commercial fishery. Trawl nets are required to have 5.5 inch diamond or 6 inch square minimum mesh in the entire net for vessels possessing more than the threshold amount of summer flounder (i.e., 200 lb in the winter and 100 lb in the summer).

VTR data were also used to identify all National Marine Fisheries Service statistical areas that accounted for more than 5 percent of the summer flounder catch in 2014 (Table 3; Figure 4). Statistical area 537 was responsible for the highest percentage of the catch, with statistical area 613 having the majority of trips that caught summer flounder (Table 3).<sup>7</sup>

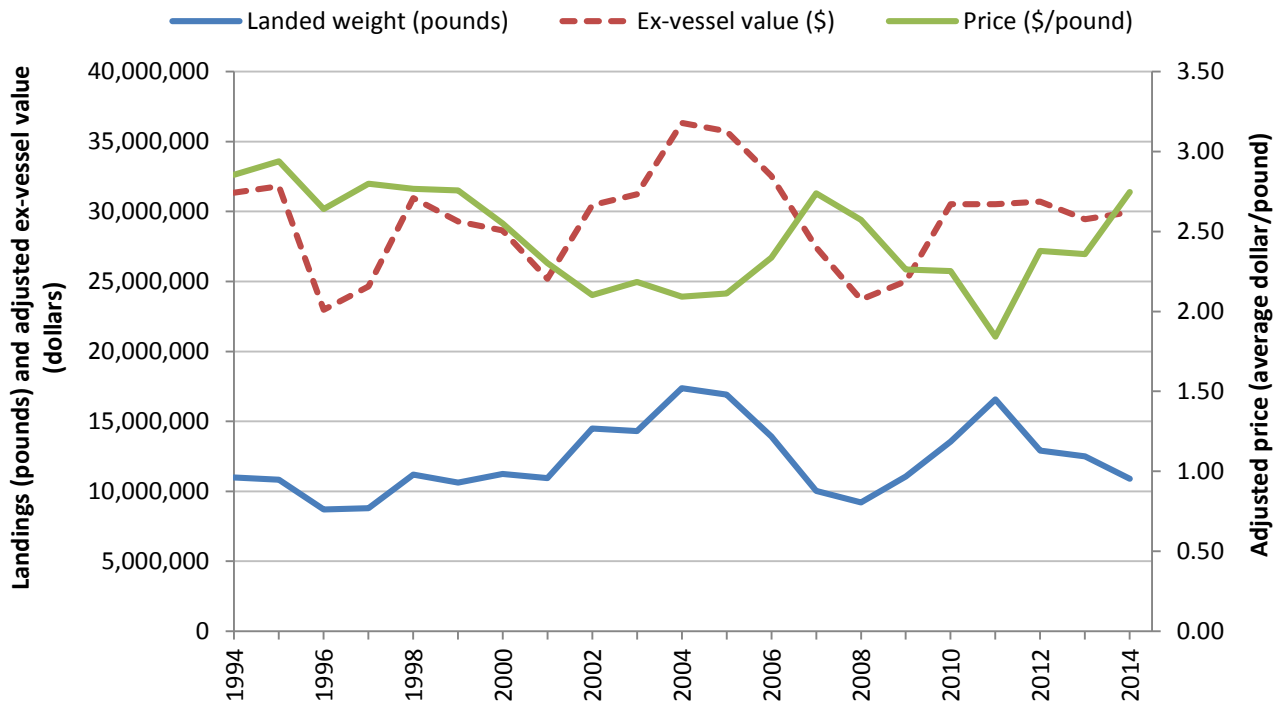
**Table 3:** Statistical areas that accounted for at least 5 percent of the total summer flounder catch in 2014, with associated number of trips.<sup>7</sup>

Statistical Area	Percent of 2014 Commercial Summer Flounder Catch	Number of Trips
537	24%	1,689
616	23%	565
622	11%	218
613	8%	1,697
612	7%	1,608



**Figure 4:** NMFS Statistical Areas, highlighting those that each accounted for more than 5% of the commercial summer flounder catch in 2014.<sup>7</sup>

For the years 1994 through 2014, NMFS dealer data indicate that summer flounder total ex-vessel revenue has ranged from a low of \$23.0 million in 1996 to a high of \$36.3 million in 2005 (adjusted to real 2014 dollars to account for inflation). The mean price per pound for summer flounder has ranged from a low of \$1.84 in 2011 to a high of \$2.94 in 1995 (adjusted to 2014 dollars; Figure 5). In 2014, 10.91 million pounds of summer flounder were landed generating \$30.0 million in total ex-vessel revenue (an average of \$2.75 per pound).<sup>4</sup>



**Figure 5:** Landings, ex-vessel value, and price per pound for summer flounder, Maine through North Carolina, 1994-2014. Ex-vessel value and price are adjusted to real 2014 dollars.<sup>4</sup>

At least 100,000 lb of summer flounder were landed by commercial fishermen at each of 20 ports in eight states in 2014. These 20 ports accounted for approximately 93% of all 2014 commercial summer flounder landings. Point Judith, RI was the leading port in 2014, both in terms of pounds of summer flounder landed and number of vessels landing summer flounder (Table 4).<sup>4</sup> The ports and communities that are dependent on summer flounder are fully described in Amendment 13 to the FMP (available at <http://www.mafmc.org/sf-s-bsb/>). Detailed community profiles developed by the Northeast Fisheries Science Center's Social Science Branch can be found at [www.mafmc.org/communities/](http://www.mafmc.org/communities/).

**Table 4:** Ports reporting at least 100,000 lb of summer flounder in 2014, and the corresponding percentage of total 2014 commercial summer flounder landings.<sup>4</sup>

Port	Summer Flounder Landings (lb)	% of total commercial summer flounder landings	Number of vessels
POINT JUDITH, RI	1,824,045	17%	129
WANCHESE, NC	848,648	8%	28
HAMPTON, VA	843,060	8%	40
PT. PLEASANT, NJ	821,659	8%	46
BEAUFORT, NC	806,150	7%	29
NEWPORT NEWS, VA	744,103	7%	37
CHINCOTEAGUE, VA	567,127	5%	36
ENGELHARD, NC	508,370	5%	12
MONTAUK, NY	492,440	5%	77
CAPE MAY, NJ	483,879	4%	56
BELFORD, NJ	323,379	3%	17
NEW BEDFORD, MA	292,116	3%	59
ORIENTAL, NC	273,929	3%	7
HOBUCKEN, NC	272,200	2%	10
STONINGTON, CT	169,898	2%	20
OCEAN CITY, MD	164,380	2%	19
LONG BEACH/BARNEGAT LIGHT, NJ	146,970	1%	24
HAMPTON BAYS, NY	128,076	1%	26
HYANNIS, MA	104,711	1%	12
OTHER CURRITUCK, NC	102,118	1%	7

Over 214 federally permitted dealers from Maine through North Carolina bought summer flounder in 2014. More dealers bought summer flounder in New York than in any other state (Table 5). All dealers bought approximately \$30.0 million worth of summer flounder in 2014.<sup>4</sup>

**Table 5:** Dealers reporting buying summer flounder, by state in 2014. Note: C = Confidential.<sup>4</sup>

State	MA	RI	CT	NY	NJ	DE	MD	VA	NC
Number Of Dealers	29	33	19	55	34	C	3	14	27

## 5. Recreational Summer Flounder Measures and Fishery Performance

There is a significant recreational fishery for summer flounder in state waters, which occurs seasonally when the fish migrate inshore during the warm summer months. The Council and Commission determine annually whether to manage the recreational fishery under coastwide measures or conservation equivalency. Under conservation equivalency, state- or region- specific measures are developed through the Commission's management process and submitted to NMFS. The combined state or regional measures must achieve the same level of conservation as

would a set of coastwide measures developed to adhere to the overall recreational harvest limit. If NMFS considers the combination of the state- or region- specific measures to be "equivalent" to the coastwide measures, they may then waive the coastwide regulation in federal waters. Anglers fishing in federal waters are then subject to the measures of the state in which they land summer flounder.

The recreational fishery has been managed using conservation equivalency each year since 2001. From 2001 through 2013, measures were developed under state-by-state conservation equivalency. In 2014 and 2015, a regional approach was used, under which the states within each region must have identical size limits, possession limits, and season length. 2015 regional conservation equivalency measures are given in Table 6.

**Table 6:** Summer flounder recreational fishing measures in 2015, by state, under regional conservation equivalency. 2015 regions include: 1) Massachusetts, 2) Rhode Island, 3) Connecticut, New York, and New Jersey, 4) Delaware, Maryland, The Potomac River Fisheries Commission, and Virginia, and 5) North Carolina.

State	Minimum Size (inches)	Possession Limit	Open Season
Massachusetts	16	5 fish	May 22-September 23
Rhode Island	18	8 fish	May 1-December 31
Connecticut	18	5 fish	May 17-September 21
CT Shore Program (46 designated shore sites)	16		
New York	18	5 fish	May 17-September 21
New Jersey	18	5 fish	May 22-September 26
NJ Shore Program (1 site)	16	2 fish	May 22-September 26
Delaware	16	4 fish	All year
Maryland	16	4 fish	All year
Potomac River Fish. Commission (PRFC)	16	4 fish	All year
Virginia	16	4 fish	All year
North Carolina	15	6 fish	All year

Recreational data for years 2004 and later are available from the Marine Recreational Information Program (MRIP). For years prior to 2004, recreational data were generated by the Marine Recreational Fishery Statistics Survey (MRFSS). Recreational catch and landings for summer flounder peaked in 1983 with 32.11 million fish caught and 21.00 million fish landed. Catch reached a low in 1989 with 2.69 million fish caught, while landings reached a low in 2010 with 1.50 million fish landed (Table 7).<sup>5</sup>

For-hire vessels carrying passengers in federal waters must obtain a federal party/charter permit. In 2014, there were 788 party and charter vessels that held summer flounder federal for-hire permits.<sup>6</sup> Many of these vessels also hold recreational permits for scup and black sea bass.

**Table 7:** Recreational summer flounder landings data from the NMFS recreational statistics databases, 1981-2014.<sup>5</sup>

<b>Year</b>	<b>Catch (thousands of fish)</b>	<b>Landings (thousands of fish)</b>	<b>Landings (thousands lb)</b>
1981	13,603	9,567	10,081
1982	23,591	15,473	18,233
1983	32,110	20,996	27,969
1984	29,900	17,475	18,765
1985	13,526	11,066	12,490
1986	25,308	11,621	17,861
1987	21,082	7,865	12,167
1988	17,223	9,960	14,624
1989	2,694	1,717	3,158
1990	9,114	3,794	5,134
1991	16,211	6,068	7,960
1992	11,918	5,002	7,148
1993	22,919	6,494	8,831
1994	17,741	6,703	9,328
1995	16,309	3,326	5,421
1996	19,044	6,997	9,820
1997	20,053	7,167	11,866
1998	22,114	6,979	12,477
1999	21,398	4,107	8,366
2000	25,414	7,801	16,468
2001	28,203	5,294	11,637
2002	16,698	3,262	8,008
2003	20,555	4,559	11,638
2004	20,450	4,316	11,022
2005	25,974	4,027	10,915
2006	21,546	3,950	10,505
2007	20,737	3,108	9,337
2008	22,910	2,350	8,151
2009	24,127	1,806	6,030
2010	23,737	1,501	5,108
2011	21,569	1,840	5,956
2012	16,534	2,272	6,490
2013	15,558	2,419	7,014
2014	19,448	2,456	7,394

On average, an estimated 88 percent of the landings (in numbers of fish) have occurred in state waters over the past ten years, and about 76 percent of landings came from state waters in 2014 (Table 8). Landings by state indicate that the majority of summer flounder were landed in New York and New Jersey in 2014 (Table 9).<sup>5</sup>

**Table 8:** Estimated percentage of summer flounder recreational landings in state vs. federal waters, Maine through North Carolina, 2005-2014.<sup>5</sup>

Year	State <= 3 mi	EEZ > 3 mi
2005	81.5%	18.5%
2006	90.2%	9.8%
2007	88.9%	11.1%
2008	96.5%	3.5%
2009	90.9%	9.1%
2010	92.4%	7.6%
2011	95.3%	4.7%
2012	87.8%	12.2%
2013	76.5%	23.5%
2014	76.4%	23.6%
<b>Avg. 2005 - 2014</b>	<b>87.6%</b>	<b>12.4%</b>
<b>Avg. 2012 - 2014</b>	<b>80.2%</b>	<b>19.8%</b>

**Table 9:** State contribution (as a percentage) to total recreational landings of summer flounder (in numbers of fish), from Maine through North Carolina, 2013 and 2014.<sup>5</sup>

State	2013	2014
Maine	0.0%	0.0%
New Hampshire	0.0%	0.0%
Massachusetts	1.2%	4.7%
Rhode Island	4.9%	7.5%
Connecticut	11.1%	4.9%
New York	18.3%	21.3%
New Jersey	50.5%	47.5%
Delaware	2.2%	3.6%
Maryland	2.1%	2.9%
Virginia	7.8%	5.7%
North Carolina	1.9%	1.9%
<b>Total</b>	<b>100%</b>	<b>100%</b>

Landings by recreational fishing mode indicate that anglers fishing from private or rental boats are responsible for the majority of summer flounder landings in number of fish (Table 10).<sup>5</sup>

**Table 10:** The number (in thousands of fish) of summer flounder landed by recreational fishing mode, Maine through North Carolina, 1981-2014.<sup>5</sup>

<b>Year</b>	<b>Shore (thousands of fish)</b>	<b>Party/Charter (thousands of fish)</b>	<b>Private/Rental (thousands of fish)</b>
1981	3,146	1,362	5,059
1982	1,121	5,936	8,416
1983	3,964	3,574	13,458
1984	1,356	2,496	13,624
1985	786	1,152	9,128
1986	1,237	1,609	8,775
1987	406	1,150	6,309
1988	946	1,134	7,879
1989	180	141	1,395
1990	262	413	3,118
1991	565	598	4,905
1992	275	375	4,351
1993	342	1,013	5,138
1994	447	836	5,419
1995	242	267	2,816
1996	207	660	6,130
1997	255	931	5,981
1998	316	361	6,302
1999	213	301	3,593
2000	570	649	6,583
2001	227	330	4,737
2002	155	262	2,846
2003	204	389	3,966
2004	200	464	3,652
2005	104	499	3,425
2006	154	316	3,480
2007	98	499	2,510
2008	79	172	2,099
2009	63	177	1,566
2010	60	160	1,282
2011	35	138	1,667
2012	106	169	1,996
2013	133	169	2,118
2014	79	412	1,931
<b>% of Total, 1981-2014</b>	9%	14%	78%
<b>% of Total, 2010-2014</b>	4%	10%	86%



## References

- <sup>1</sup> Packer, D. B, S. J. Griesbach, P. L. Berrien, C. A. Zetlin, D. L. Johnson, and W.W. Morse. 1999. Essential Fish Habitat Source Document: Summer Flounder, *Paralichthys dentatus*, Life History and Habitat Characteristics. NOAA Technical Memorandum NMFS-NE-151.
- <sup>2</sup> Bolz, G.R., J.P. Monaghan Jr., K.L. Land, R.W.Gregory, and J.M. Burnett, Proceedings of the summer flounder aging workshop, 1-2 February 1999, Woods Hole, Massachusetts. NOAA Tech. Mem. NMFS-NE-156, 15 p.
- <sup>3</sup> Northeast Fisheries Science Center. 2013. 57<sup>th</sup> Northeast Regional Stock Assessment Workshop (57<sup>th</sup> SAW) Assessment Summary Report. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 13-14; 39 p. Available from: National Marine Fisheries Service, 166 Water Street, Woods Hole, MA 02543-1026, or online at: <http://nefsc.noaa.gov/publications/>.
- <sup>4</sup> Unpublished NMFS dealer data.
- <sup>5</sup> Marine Recreational Information Program. 2015. Recreational catch estimates for summer flounder, 1981-2014. NMFS Office of Science and Technology. Available at: <http://www.st.nmfs.noaa.gov/recreational-fisheries/index>.
- <sup>6</sup> Unpublished NMFS permit data.
- <sup>7</sup> Unpublished NMFS Vessel Trip Report (VTR) data.