

Mid-Atlantic Fishery Management Council

800 North State Street, Suite 201, Dover, DE 19901 Phone: 302-674-2331 | FAX: 302-674-5399 | www.mafmc.org Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: November 28, 2016

To: Council

From: Kiley Dancy, Staff

Subject: Summer Flounder Recreational Measures for 2017

The Council and the Atlantic States Marine Fisheries Commission's Summer Flounder, Scup, and Black Sea Bass Board (Board) will consider recreational measures for summer flounder in 2017. The following materials are enclosed for Council and Board consideration of this subject:

- 1) Advisory Panel meeting summary for summer flounder from November 17 webinar
- 2) Email comments relevant to summer flounder
- 3) Monitoring Committee recommendations for summer flounder from November 9-10 meeting
- 4) Summer flounder staff memo dated November 3, 2016

The Council and Board must recommend that the 2017 recreational fishery be managed either under conservation equivalency (state-by-state or regional) or with coastwide measures. If recommending coastwide measures, the Council and Board will need to specify a bag limit, size limit, and season to be implemented in all states and federal waters. If recommending conservation equivalency, the Council and Board must recommend a set of non-preferred coastwide measures and a set of precautionary default measures. If conservation equivalency is adopted, the Commission's Technical Committee will develop proposals for specific state or regional measures in early 2017.

The Board has also initiated an addendum to consider regional options for conservation equivalency in 2017. The Board will need to consider approving the draft Addendum XXVIII for public comment.

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¹ An explanation of these measures can be found in the staff memo and the Monitoring Committee recommendation summary.



Summer Flounder, Scup, and Black Sea Bass Advisory Panel Webinar November 18, 2016

Council Advisory Panel members present: Carl Benson, Skip Feller, James Fletcher, Jeff Gutman, Gregory Hueth, Jan McDowell, Ross Pearsall, Michael Plaia*, Bob Pride, Paul Risi, Steve Witthuhn, Harvey Yenkinson,

Commission Advisory Panel members present: Jack Conway, Marc Hoffman, Ken Neill, Michael Plaia*, Art Smith, Buddy Seigel, James Tietje

*Serves on both Council and Commission Advisory Panels.

Others present: Julia Beaty (Council staff), Joe Cimino (VMRC), Kiley Dancy (Council staff), Tony DiLernia (Council member), Emily Gilbert (GARFO), Katie May Laumann (Monitoring Committee member, VMRC), Brandon Muffley (Council staff), Kirby Rootes-Murdy (ASMFC staff), Wes Townsend (Council member)

Summary

The Council and Commission's Summer Flounder, Scup, and Black Sea Bass Advisory Panels met via webinar to discuss recreational management measures for the three species in 2017. Comments on summer flounder are summarized below.

Summer Flounder Comments

Data Concerns

Four advisors voiced concerns about the data on which management recommendations are based. They were especially skeptical of the data from the Marine Recreational Information Program (MRIP) due to issues including low precision of some estimates, estimates based on low sample sizes, and estimates which do not agree with what advisors are seeing in their local areas. A few advisors also expressed concerns that data from the state and federal fishery-independent trawl surveys are inaccurate as they show lower abundances of summer flounder than what advisors are seeing on the water and at the docks.

One advisor said that landings in southern New Jersey were very low in 2016. He thought the biomass of summer flounder off New Jersey and farther south had decreased.

One advisor said recreational landings in New York were lower than normal in 2015 due to a late, cold winter. By the time the summer flounder arrived in mid-June, anglers were pursuing

other species. This advisor recommended that 2015 landings not be used to inform management decisions for this reason.

A comparison of projected 2016 recreational landings to the 2017 recreational harvest limit (RHL) indicates that landings will need to be reduced by approximately 40% to prevent an overage of the RHL. Many advisors said a reduction of this magnitude would have severe negative impacts for recreational fisheries. Two advisors said a 40% reduction would cause businesses to close. They argued that, given their concerns about the science and data used in the assessment and their skepticism of the MRIP landings data, there should be no further restrictions on recreational fishing until after a new peer-reviewed stock assessment is available. One advisor noted that new information is being developed, including a sex-specific assessment model.

Management Measures

One advisor thanked the Commission for allowing New Jersey to implement different regulations in Delaware Bay, compared to other areas of New Jersey, in 2016. This advisor said MRIP data suggest that less than 1% of New Jersey's recreational summer flounder landings came from Delaware Bay in 2016, so the change in regulations likely had minimal impacts on the stock, but it helped local businesses.

Two advisors recommended that the Commission return to state-by-state conservation equivalency, rather than regional conservation equivalency. One advisor opposed inclusion of New Jersey in a region with New York and other northern states, as the abundance and size of summer flounder are smaller in New Jersey than in neighboring states to the north.

The Acceptable Biological Catch (ABC) for summer flounder in 2018 is slightly higher than the 2017 ABC. One advisor recommended that the Council and Commission base 2017 management measures on the 2018 ABC, rather than on the 2017 ABC, to reduce the magnitude of the needed catch reductions.

One advisor said the regulations are currently so strict that there is a lot of illegal activity and undocumented harvest. He said making the regulations even more restrictive in 2017 would only exacerbate this problem. Another advisor agreed that there will be less compliance with more restrictive regulations.

<u>Strategies to Reduce Discards</u>

Four advisors said that discards should be reduced or eliminated in the recreational summer flounder fishery. Suggestions to achieve this goal included use of barbless hooks or certain hook sizes, as well as educational products, such as YouTube videos on handling and release techniques.

Two advisors recommended that all discards be prohibited. One advisor thought this prohibition should be coupled with a restriction on the number of fish that could be kept, regardless of the size of the fish. Another advisor thought this should be coupled with a restriction on the total cumulative length of the retained fish. For example, the combined length of all kept fish could not exceed 40 or 50 inches.

Two advisors expressed support of a slot limit (i.e., a combination of a minimum and a maximum size) to reduce mortality of large females, though they had some concerns. For example, one advisor said that, given the reduction in catch needed for 2017, a slot limit would likely have to be quite narrow to be effective. One advisor said slot limits could help anglers catch fish which they could keep, which would be beneficial even if they could only keep one fish.

Two advisors thought the actual discard mortality rate in the recreational fishery is probably higher than the 10% rate used in the assessment.

From: Vetcraft Sportfishing <vetcraft@aol.com>
Sent: Tuesday, November 15, 2016 1:07 PM

To: Dancy, Kiley

Subject: comments for advisory panel meeting Nov 17, 2016

Kiley......I would like to submit the following comments regarding our summer flounder situation

This year was a very poor year for fluke fishing in south to central New Jersey based on my personal experience fishing every week of the season and experiences related to me by dock mates, fellow charter captains, and other fishing friends. This year was not an aberrant year but a continuing spiralling down in the fluke population in my area. Not only were the number of keeper size fish down but also the total number of undersized fish was way down again this year. Many of the charter captains gave up on fluke fishing toward the end of the season due to the lack of fish. Some charter captains ventured 30 plus miles to offshore wrecks trying to put together a decent catch for their patrons. One NJ captain even resorted to offloading his fluke in Delaware so as to fish under reduced size limits.

Many private boaters came back with no or few fish in the box, some traveling as many as 60 miles to various spots to try to find fish. On many weekends boaters who usually went out didn't go due to the poor results. Seeing a near vacant parking lot on open season fluke days was quite a shock. The economic loss to all businesses tied to fluke fishing in my area is quite apparent talking to marina owners, tackle shops, boat dealers, and others. With the lack of stripers, weakfish, porgies, and bluefish in our area, fluke is by far the mainstay of the economic fishing engine and the loss of this fishery would be devastating to the local fishery related businesses.

Of even greater alarm to me was seeing boats from my neighboring state of Delaware fishing along side of me at distances of 20-30 miles from their home ports trying to find fluke for their patrons. With Delaware having a minimum size of 16 inches, their inability to find fish this size closer to their home ports is of great concern. For example an area called the Old Grounds, ten miles off the coast of Delaware, was for many years a fluke haven with a massive quantity of fish in this 1.5 mile by 6 mile rocky-coral laden area. Now do to stock depletion and commercial dragging of this site, what once hosted many hundreds of boaters on any given day, now is host to a dozen or so boats at best.

Table 4 shows us Delaware, New Jersey, New York, and Connecticut all caught less fluke in 2015 then 2014. The same chart says that in 2016 (projected), the state catches in 2016 compared to 2015:

Delaware caught 88% more fish New Jersey caught 30% more fish New York caught 62% more fish Connecticut caught 157% more fish

It seems to defy logic that the catch would improve so much in a state of declining biomass, particularly in the southern range of the stock. Certainly the catch, based on my observances and contacts was far less in southern and central NJ in 2016 than it was in 2015. I think MRIP data continues to be unreliable and needs massive revision, some comments to which, I have previously sent.

I know there is a push for a new stock assessment, but for sure the fluke population is in a clear state of decline. I know too that commercial fishermen are pushing for using professional commercial captains to pilot stock trawl data vessels to show adequate fluke stocks, and I am sure they will catch better, but for sure, all of the declining trawl stock data we currently have can not be erroneous.

I am certain if we continue on the same path we are on, both commercial and recreational entities will continue to suffer under reduced quotas, which may well worsen as we approach an overfished status, possibly as soon as next year.

While it is easy to point out problems, I would suggest the following solutions to help improve on total biomass, spawning stock biomass, and recruitment index, which are thel keys to improving the health of our summer flounder population. With both entities fishing under a MSR (minimal size requirement) system of management, we surely tend to destroy too many of our potential spawners in both sectors. We are lucky that fluke are capable of reproducing in their second year of life, yet we do little to take advantage of this. One of the three hallmarks of fishery management is to preserve enough individuals in a spawning stock biomass, something we are doing a very poor job at.

I feel the burden is on both sectors to do what we can to improve our spawning stock biomass and recruitment index.

Recreational:

- 1. Hopefully a slot limit will be allowed under the 2017 FMP for fluke to allow this as a federal option for future use (I know the states can do this under conservation equivalency).
- 2. A vast majority of recreational fishermen are terrible at releasing undersized fish unharmed. Little money would be needed to produce a you tube segment on proper fish handling to better educate our anglers. With social media being as pervasive as it is, this info could be disseminated at very little cost.
- 3. Reduce fish mortality. A 10% or greater fish mortality is wasteful and not acceptable for the fluke stock, especially in its status where overfishing is occurring.
- a .Look at mandating a minimum hook size (5/0) to reduce deep hooking fish. Look at mandating circle hooks for "dragging type" rigs. Gut hooking fish is a major cause of mortality and we should make use of a hook size study done by one of our AP members a couple years ago. This is not without precedent as hook style was mandated for tournament marlin fishermen. This mandate must be applied in state waters as well, as simply requiring it in federal waters will be to little avail.
- b. It is common practice (illegal) for fishermen to cut up small fluke for bait. Myself and a fellow captain presented to the NJMFC a plan to allow "ribbons" (the outside portion of the filet) from previous catches (these could be harvested commercially as well to provide extra income for the fish processors) to be used as bait. The council okayed the idea but was turned down by law enforcement. Use of these strips would cut down on this common practice. This too must be implemented in state waters to be useful.
- 4 .Improve law enforcement practices. Per a previous conversation I had with Dr. Bill Hogarth, director emeritus of NMFS, he mentioned if we make the regulations too tough, anglers won't abide by them. Our monitoring committee and SSC are well aware, as mentioned in our memorandum, that there is a substantial quantity of unreported, underreported, and misreported landings fluke being retained. The more we stiffen regulations and reduce quotas, the worse this problem becomes, one

which I witness to be quite substantial. It is quite likely that this is a substantial reason our fluke fisheries plans do not keep the stock adequate.

Commercial:

Let me insert this first. I personally have great respect for our commercial fishing comrades and admire their hard work in a dangerous environment.

1. One mistake we make in fluke management is a problem we have with all of our E-W migrating species under management. When a population migrates N-S like stripers, weakfish, bluefish, etc, it matters little whether a fish is harvested north or south, but such is not the case with fish like fluke, sea bass, and tog, where the species seasonally migrates inshore and offshore.

The progression of the epicenter of the fluke population to the north is quickly blamed on oceanic warming and ocean acidification. Whether one is a believer in ocean warming or not, it is clear that the few tenths of a degree of ocean warming that has occurred over the last several decades is not enough to explain the degree of northern shift of our fluke population. Recent studies are showing that the reason we have larger and more numerous fluke to our north is more because of less fishing pressure then it is to stock migration patterns.

Our commercial boats from North Carolina and Virginia (which have about 50% of the commercial fluke quota) have to travel many hundred of miles north to catch up to the fluke, a distance much greater then they did a decade or two ago. When we have unequal state quotas, overfishing will occur in regions closest to the home ports of these vessels.

I believe this northern shift is because we don't pay attention to stock spatial dynamics in a E-W migrating fishery like fluke. Fluke, like sea bass and tautog, have been shown to exhibit site and area fidelity in the migratory patterns. In other words, a fluke that migrates offshore in the winter in the <u>northern</u> most part of the stock range will return inshore in the spring in the <u>northern</u> most portion of the stock range. The <u>same is true for the southern most fish</u> in the stock. I believe historically we have put too much pressure on the stock in the southern region and have essentially "forced" the stock northward and depleted the stock to the south, relative to the north. I believe we should periodically **temporarily** close certain offshore fishing grounds to allow regional spawning stocks to recover. This is not unpresendented as this process is done, for example, in the scallop fishery by closing areas such as the Elephant Trunk to allow the stock to replenish. I know it is not the intention or mandate of the council to cause regionalized depletion of fluke stocks, but by not paying attention to harvesting parameters in this species, we are causing a loss of an inshore recreational fishery in the southern states of the summer flounder's range.

2. Pressure on the spawning grouping. We have very accurate data on the sectors where commercial landings come from and the timing of those catches. We also have data (much I have read about from the late 80's and early 90's) that shows the prime spawning time of fluke in their overwintering time frame. Fecundity status of fluke landed can easily be studied at fish processors establishments if further studies are allowed and funded.

I think we have little hope of rebuilding our summer fluke population if we don't do a better job of reducing pressure on the fluke when they are spawning. Many other species have this type of protection. For example, we close the rivers so the striped bass can spawn. In NJ we close tog fishing when they are spawning. In NJ also, sea bass catch limits during their spawning season is low. Even blue claw crabs have protected spawning areas in the Chesapeake. As a fluke can spawn in its

second year of life, we should be able to quickly replenish the stock and see improvements in the recruitment index by paying attention to this parameter.

Currently approx 60% of the 34 million dollar commercial fluke quota, is caught during the serial spawning offshore time frame. I would suggest some of this quota, particularly to the south, be **temporarily** shifted to other time frames and areas. Allowing the commercial fleet to offload their catch where caught would help to offset costs related to further distances to travel.

In the winter of 1981, the commercial harvest of fluke on the winter spawning grounds began and we quickly saw recreational stocks decline. The recreational catch went from 27.97 million fish in 1983 to 3.16 million fish in 1989. Clearly the harvesting of fluke during these spawning aggregations can quickly deplete a stock! Fish density per square foot is highest during spawning periods and makes for an easy catch, and will be the last bastion to show a reduced biomass.

I would ask council to consider an amendment or framework with addendum to implement changes to reduce pressure on the spawning stock and also address spatial shortages caused by overharvests in certain (southern) stocks.

3. As with the recreational fishery, a 10% dead discard rate is wasteful and unnecessary. The present system of dumping the net on the deck and shoveling over dead discards is wasteful and antiquated. Landing nets in water based areas or troughs could allow harvest of fish while greatly reducing death in discards. I would also look at continuing to mandate mesh size but not MSR so any size fluke could be retained as part of the quota.

NOAA fishery independent data

As part of our fishery data base, NOAA performs trawl data to assess our fisheries stocks. While this information is helpful if not mandated and vital, it should be done in a less draconian fashion. Here too, nets are dumped onboard and more of the fishery is depleted in the process. Good science dictates that a parameter should be measured with as little detriment to the subject matter as possible. We should not add to the depletion of a stock by our monitoring methodology. I believe money would be better spent on marine mechanical engineers designing better trawl harvesting methods, then on asking individuals to come up with bycatch reduction methodologies, as is currently done. Such knowledge gained could be implemented and shared or mandated to the commercial sector.

Conclusion

1. I am ashamed we have done such a terrible job of managing our fluke fishery and let the stock lapse where we are overfishing the biomass. As a representative of NJ, I continue to oppose Regionalized fluke management. In the years, 2011 to 2016, NJ has seen their catch decline 9%, whereas NY catch has gone up 217% and CT up 500%. Since regionalized management went into effect in 2014, NJ catch went down 55%, whereas NY has gone up 156%, and CT has gone up 199%. This management system, along with not protecting the southern portion of the spawning fluke stock, has created much economic devastation to the recreational NJ communities. I would suggest we reconsider the grouping of these three states, or abandoning regionalized management altogether.

In my opinion, state quotas should be based on number of anglers fishing for that species, data which could be collected from our MRIP system.

The economic hardship of the proposed non preferred coastwide measure of 3 fish at 19" is a devastating drop from 5 fish at 18" and will surely result in continued loss of fishery related businesses in NJ. Such a strict quota allows little use of a slot limit under conservation equivalency if NJ were to go that route. Clearly we need better stock measuring parameters and more accurate recreational catch data so as not to have such drastic miscalculations of stock size causing such restrictive catches for both recreational and commercial entities.

- 2. As the 2018 ABC is slightly higher then the 2017 ABC, perhaps the monitoring committee and SSC could reconsider evening out the ABC's to allow slightly more fish for 2017.
- 3. I would ask that the 2016 recreational harvest data, particulary for Delaware and New Jersey, be reexamined as the figures defy common sense. I would also ask for a more open process whereby advisors can see data that MRIP accumulates to make their calculations.

Capt Harv Vetcraft Sportfishing Cape May, New Jersey Call or Text 610-742-3891 Email: yetcraft@aol.com

From: Kirby Rootes-Murdy krootes-murdy@asmfc.org

Sent: Monday, November 21, 2016 11:19 AM

To: Dancy, Kiley **Subject:** FW: AP Webinar

Part 1 of 2

From: captain [mailto:rbusby@optonline.net] **Sent:** Tuesday, November 15, 2016 9:06 AM

To: Kirby Rootes-Murdy < krootes-murdy@asmfc.org>

Subject: AP Webinar

Hi Kirby,

Hope all is well with you folks. I had a meeting last evening with my fellow captains to get their input. They unanimously supported the idea of a slot size option for summer flounder providing they were of a reasonable size. The feeling this would allow customers to at least bring home a fish or two.

We also fully support the continuation of adaptive Regional Management.

We also seriously question the belief that New York overfished for summer flounder. It is our belief that most ports other than Montauk did not have a productive season. we would like to know how that data was obtained. Hopefully not estimates again.

I will be on the webinar as much as I can between classes. As you know I teach at the College Tuesday and thursday afternoons.

Be well and I will talk to you soon.

Regards,

Bob Busby

New York

From: Kirby Rootes-Murdy <krootes-murdy@asmfc.org>

Sent: Monday, November 21, 2016 11:20 AM

To: Dancy, Kiley **Subject:** FW: AP Meeting

Part 2 of 2

From: captain [mailto:rbusby@optonline.net] **Sent:** Thursday, November 17, 2016 9:42 AM

To: Kirby Rootes-Murdy < krootes-murdy@asmfc.org>

Subject: AP Meeting

Hi,

Just some further thoughts regarding Summer Flounder in no particular order.

- 1- Before we went to and agreed to Regional management we were told that the states in our region could each choose it's own 128 days. That didn't happen. Would you know why not?
- 2- We are being told in NY that days in wave 3 have the same catch rate value as days in wave 4. Quite frankly we do not believe that. I don't believe the effort is the same nor do I believe the catch is the same. I would love to see the actual data that supports that. Would that be available?
- 3- As a result of that fantasy we have implemented the ubiquitous "45 day rule" which precludes much of the May fishery which is vital to certain areas.
- 4- In 2016 NY is said to have overfished while NJ underfished. same rules. NY fishermen must have improved their game considerably and NJ did not. Going back to that "magical year" of 1998 when the rules were the same NJ ended up with the major share of the coastwide quota while NY had 1/2 of that. Interesting that there could be such a variation.

Regards, Bob Busby NY

From: Brady Lybarger <jettyhunter@icloud.com>
Sent: Tuesday, November 22, 2016 10:24 AM

To: Dancy, Kiley

Cc: Advisors - SFSBSB; Kirby Rootes-Murdy; Beaty, Julia; Muffley, Brandon; Luisi, Michael; O'Reilly, Robert;

DiLernia, Tony

Subject: Re: comments for advisory panel meeting Nov 17, 2016

Good morning Advisors,

I started working as a 2nd mate on the Nada Jane in Cape May, NJ at 9 years old crazy to think that was 27yrs ago. Now being on the other side of things, I've seen a ton of changes in my commercial fishing career.

Capt Harv has a lot of good points. A couple things we need to consider:

The historical commercial effort has shifted a lot. The fishing in the mouth of the Delaware Bay, off the beach in southern nj, and yes the old grounds is almost next to nothing.

Is it water temp, pollution, lack of bait, predators, poor fishing practices???

My concern in asking for a southern fluke area closure like a scallop access area is a delicate issue because I think if adopted you would see more harm than good for the recreational/commercial fleet in the short term. Because if there was a southern closure that would extend west to east as well. That would mean Zero to very low landings of recreational and commercial limits to see the effect of the closure for many years.

Also, having a closure will shift fishing efforts to other areas. By having closures it makes fishing more heavily concentrated in open areas.

NJ definitely has some hurdles to overcome and I wish I had a quick and easy answer but reliable data is our best way to help us with this very important issue.

Capt Brady Lybarger

From: James Fletcher <unfa34@gmail.com>
Sent: Sunday, November 27, 2016 9:06 PM

To: Dancy, Kiley **Subject:** Summer Flounder

Summer Flounder recreational must be managed with a total allowed 45

inch possession length & no discards,

The discard mortality of 10% is a JOKE. Place discarded flounders in a

aquarium with sharks that have been feed & watch what happens.

The Council MUST USE SMART PHONES FRO RECREATIONAL REPORTING! 80% of recreational fishermen go to private docks & are never checked!

Council & SSC members go to private docks this is why the SSC does not want data from smart phones! Smart Phone data will show recreational fishermen exceeding the limit by 300% to 500%.

Council is allowing the 1% rich with private boats; 80% landing at private dock landings to avoid reporting.

NMFS employees land at private docks & have known the avoidance of reporting for years {DIRTY SECRETE} .

The SSC "{ same stupid conclusion }' does not want smart phone reporting because smart phone reporting will show how incorrect the SSC & Science Center have been.

Dogfish have desecrate to the SSC {smart phone reporting being required for recreational private boat reporting will show the SSC as a total failure}.

APP for smart phone, MUST CHECK IN PRIOR TO LEAVING DOCK {like commercial fishermen} must report landings prior to returning to dock.

Being at sea with out checking in on app is \$1000.00 fine, {GIVE

COAST GUARD SOMETHING TO DO returning to dock without reporting

\$1000.00 fine. require a permit on all recreational vessels fishing in the EEZ. [have same fines & requirements on recreational as commercial fishermen have.

ASK SSC TO EXPLAIN WHY A TOTAL LENGTH OF 45 INCHES ON SUMMER FLOUNDER WITH NO DISCARDS OF ANY FISH WILL NOT STOP DISCARDS.

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

From: flukeman@aol.com

Sent: Monday, November 28, 2016 11:04 AM

To: Dancy, Kiley; Advisors - SFSBSB

Cc: Beaty, Julia; krootes-murdy@asmfc.org; Luisi, Michael; O'Reilly, Robert; DiLernia, Tony; Muffley,

Brandon

Subject: Re: Reminder and Materials for Tomorrow's AP Webinar, 2-5 PM

Kiley,

In my opinion, the advisor's role is not clear or of little value to management. Every meeting, the same issues, concerns, observations and solutions are discussed and management inaction continues. When will management address the issues?

Fisheries catch data is not reflective of observations.

Proper handling techniques should be defined and demonstrated.

Biomass is not reflective of observations.

Requiring recreational catch to focus on the female population defies logic.

Discards are not acceptable and the method of elimination was included in the Vision.

Management has lost credibility with the public.

Unreported and illegal harvest is common.

A DIFFERENT APPROACH TO ATTAINING THE SUMMER FLOUNDER 40% RHL REDUCTION

Historically, there are three variables to limit the RHL: size, bag and season.

- -Increasing the minimum size will increase discards. The current system does not address discards based on size increase, but on catch weight. The SSC has indicated that increasing the size differential between the recreational and commercial fisheries increases animosity. Increasing the minimum size should not be an option. It puts more pressure on female fish and increases discards.
- -Reducing the bag to 3 summer flounder will harm many businesses. This harm may not be reversible.
- -Reducing the season length reduces the catch and discards, but may harm businesses. The NJ, NY, and CT region had a 128 day season in 2015 and 2016. A 40% reduction, equals 51 days lost, or a 77 day season. Summer flounder businesses need to have a season the includes both Memorial Day weekend and Labor Day weekend or a 101 day season.

One way to extend the season to 101 days is to close all inshore recreational fishing on Wednesdays and Thursdays during June, July and August. NOTE: any two days will work.

I understand that other fisheries like Striped Bass. Black Sea Bass, Bluefish, Blackfish, Scup and Ling would be impacted. Offshore Tuna would be open. If only summer flounder is closed, then enforcement will be an issue. As stated above, unreported and illegal harvest is an increasing problem. You are in violation, if you are fishing inshore waters on Wednesday and Thursday. This approach allows for 5 summer flounder at 18" and a season including all major summer holidays. Hard choices need to be made to reduce the catch. For 2018, the same approach can be followed.

Carl Benson

Dancy, Kiley

From: Jim Beirnes <j.beirnes@verizon.net>
Sent: Monday, November 28, 2016 11:47 AM

To: Benson, Carl L.; Dancy, Kiley; Advisors - SFSBSB

Cc: Beaty, Julia; krootes-murdy@asmfc.org; Luisi, Michael; O'Reilly, Robert; DiLernia, Tony; Muffley,

Brandon

Subject: Re: Reminder and Materials for Tomorrow's AP Webinar, 2-5 PM

Morning,

Concur with flukeman's comments and they should be taken seriously. Something is not working and maybe its time for a change.

"The true theory of our Constitution is surely the wisest and best, that the states are independent as to everything within themselves, and united as to everything respecting foreign nations. Let the general government be reduced to foreign concerns only, and let our affairs be disentangled from those of all other nations, except as to commerce, which the merchants will manage the better the more they are left free to manage for themselves, and our general government may be reduced to a very simple organization, and a very inexpensive one — a few plain duties to be performed by a few servants." — Thomas Jefferson, letter to Gideon Granger, 1800

From: Greg Hueth <ghueth@gmail.com>
Sent: Monday, November 28, 2016 11:54 AM

To: Benson, Carl L.

Cc: Dancy, Kiley; Advisors - SFSBSB; Beaty, Julia; krootes-murdy@asmfc.org; Luisi, Michael; O'Reilly,

Robert; DiLernia, Tony; Muffley, Brandon

Subject: Re: Reminder and Materials for Tomorrow's AP Webinar, 2-5 PM

Carl,

I agree with a lot of what you said, but closing the season during the week will be very confusing and even costly. We should simple stay status quo until next full stock assessment in 2018.

The science and management they currently use to implement the season are simply terrible. It may have been the right idea 10 yrs ago, but there is new science coming out that needs to be looked at before such radicle reductions to the fishing community is made. The management and proposal for the 2017-18 season are the ones that got us into this mess to begin with and they continue down the path. Recreational boating business, the for hire fleet, tackle stores and all the local businesses that feed off the fluke will be devastated. This should not even be a consideration until everything has been looked at.

You are right, it is time for tough decisions, but why is it the fishermen always have to pay for it. Let's explore the new science and come up with new management ideas to deal with the problem. The old way simply is not working and we continue to use the system. It is called insanity!!!!!!

Greg Hueth

From: bob pride <bobpride@gmail.com>
Sent: bob pride <bobpride@gmail.com>
Monday, November 28, 2016 1:17 PM

To: Dancy, Kiley

Cc: Advisors - SFSBSB; Kirby Rootes-Murdy; Beaty, Julia; Muffley, Brandon; Luisi, Michael; O'Reilly, Robert;

DiLernia, Tony

Subject: Re: FW: comments for advisory panel meeting Nov 17, 2016

Kiley,

Capt Harv (and others before him) have pointed out the disconnect between MRIP results and the real world experience that fishery managers call "anecdotal". The credibility of MRIP and its predecessor MRFSS is pretty close to zero. When people tell managers about inconsistencies and are continually ignored it lessens any possibility of confidence in the system. The National Academy of Sciences reviewed MRFSS and the NMFS result was to essentially perpetuate the same disconnected calculations while supposedly improving the process. It is a flawed approach that should not be the basis for year to year changes..

How about tempering MRIP results with a "Delphi technique" survey of active fishermen? That is part of what the adviser process is supposed to do, but it has been denigrated to a checklist item without impact.

You have received many good suggestions from advisers. How do you propose to bring them forward for consideration? Shouldn't we agree upon adviser recommendations and bring them forward for action? Just putting comments in a book seems to lead to little or no action or serious consideration.

Bob Pride

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Bob Pride

Technology Evangelist

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Re: AP meeting summary - please review by 5pm Nov 28

bob pride

Sun 11/27/2016 10:16 AM

To: Beaty, Julia < jbeaty@mafmc.org >;

Julia

I believe the paragraph at the end of the summer flounder Management Measures section should be reworded. I have pasted the paragraph at the end of this message. The phrase "illegal activity" is pretty strong. Something like "ignoring the regulations" or "rebelling against regulations" might be more apt. Also, since recreational harvest is not required to be reported, "unreported harvest" is an inaccurate characterization.

I do agree there is a growing tendency for recreational anglers to keep undersized fish and a highly restrictive change will increase non-compliance. But, at the same time, overall effort will drop far more than any "protest" harvest will increase. After years of not being able to take fish home to eat, the frustration is growing, especially with these absurd MRIP estimates and with the continual addition of harsher restrictions. After 24 years of "management" and a supposedly recovered stock, summer flounder fishing success for the average angler is worse than in 1992 when we started on this journey. We all know that getting back to 10 fish at 14" year around is highly unlikely. And that was what everyone though a recovered stock meant. The questionable data, flawed and obsolete summer flounder management plan, poor marketing of the actual results of management, and reactionary short term changes to regulations have all combined to make fishery management, especially of summer flounder, an oxymoron.

As far as MRIP, it has the same big flaw as the MRFSS survey before it. The expansion of intercept data is still based upon an estimate of effort that is absurdly high. Something changed in expansion calculations for recreational effort in 2000 that the MRFSS statisticians steadfastly refused to disclose. That change resulted in a doubling of the effort over 1999. That increased effort baseline persisted for over a decade as fuel prices rose, the economy stagnated, and many other factors negatively impacted effort. MRIP has apparently adjusted the time series so it is less pronounced, but it is still a 50% increase in effort year over year from 1999 to 2000. These effort estimates are just laughable. I see recreational fishing effort that is 30-40% of what we had in Virginia in the 1990s. Yet MRIP says effort (trips) have increased. No one believes the results and as long as the expansion is flawed, the accuracy of the intercept data is moot. Bob

Prideoson,

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Two advisors said the regulations are currently so strict that there is a lot of illegal activity and unreported harvest and that making the regulations even more restrictive in 2017 would only exacerbate this problem.

From: Michael Plaia <makomike3333@yahoo.com>
Sent: Monday, November 28, 2016 1:29 PM

To: Pride, Robert; Dancy, Kiley

Cc: Advisors - SFSBSB; Kirby Rootes-Murdy; Beaty, Julia; Muffley, Brandon; Luisi, Michael; O'Reilly, Robert;

DiLernia, Tony

Subject: Re: FW: comments for advisory panel meeting Nov 17, 2016

Guys,

Not to be negative Nelly, but you do realize that almost all of these "proposals" would require a legislative revision to the Mangesson-Stevens act, right?

Mike

From: Jim Beirnes <j.beirnes@verizon.net>
Sent: Tuesday, November 29, 2016 12:13 PM
To: Plaia, Michael; Pride, Robert; Dancy, Kiley

Cc: Advisors - SFSBSB; Kirby Rootes-Murdy; Beaty, Julia; Muffley, Brandon; Luisi, Michael; O'Reilly, Robert;

DiLernia, Tony

Subject: Re: comments for advisory panel meeting Nov 17, 2016

As a relative newbie on here it seems apparent there is a major disconnect with what needs to be done, how it is to be done, and how to get to the goal. If the numbers are as bad as they seem, for both sides, meaning what we think is happening and what is happening and the system does not support us, then the system needs to be changed. After 30 years in the military for every regulation there will be another taking the opposite position. Instead of everyone ignoring each other and either blindly following legislation that does not work, or people being frustrated by incorrect numbers, we need to find a way to move forward. Can tell you that if a 40% reduction is put on the flounder for next year, there will be a huge outcry by both commercial and recreational people. And each will be able to cite flawed numbers or methodology as the issue. And we will be in a no win position either way.

Will be tied up in a court case this PM. I wish everyone a good call. A 40% reduction is not right as is leaving it alone not right. Especially when no one can agree on numbers to make intelligent decisions.

My point is, this is a no win until there are believable numbers. So if legislation changes need to be made, lets get on it. Or find ways around existing legislation.

"The true theory of our Constitution is surely the wisest and best, that the states are independent as to everything within themselves, and united as to everything respecting foreign nations. Let the general government be reduced to foreign concerns only, and let our affairs be disentangled from those of all other nations, except as to commerce, which the merchants will manage the better the more they are left free to manage for themselves, and our general government may be reduced to a very simple organization, and a very inexpensive one — a few plain duties to be performed by a few servants." — Thomas Jefferson, letter to Gideon Granger, 1800



Summer Flounder, Scup, and Black Sea Bass Monitoring Committee 2017 Recreational Measures Recommendations

Monitoring Committee Attendees: Greg Wojcik (CT DEEP), John Maniscalco (NY DEC; via webinar), Peter Clarke (NJ F&W), Rich Wong (DNREC), Steve Doctor (MD DNR), Katie May Laumann (VMRC), T.D. VanMiddlesworth (NC DMF), Kiley Dancy (MAFMC Staff), Julia Beaty (MAFMC Staff), Kirby Rootes-Murdy (ASMFC Staff), Emily Gilbert (NMFS GARFO; via webinar), Mark Terceiro (NEFSC; via webinar), Jason McNamee (RI DEM; via webinar 11/9 only)

Other Attendees (all via webinar): Alex Aspinwall (VMRC, 11/9 only), Joe Cimino (VMRC, 11/10 only), Bonnie Brady (Long Island Commercial Fishermen's Association), Rob O'Reilly (VMRC, 11/9 only), Carl Benson (11/9 only)

The Monitoring Committee met on Wednesday, November 9 and Thursday, November 10, 2016 in Baltimore, MD to recommend 2017 recreational management measures for summer flounder, scup, and black sea bass.

General Comments

The Monitoring Committee agreed that recent end-of-year adjustments to the MRIP data to account for low sample sizes are a source of uncertainty. This was done for the first time in August 2016 (for 2013-2015 data), and it is not known if or how such adjustments will impact the final 2016 estimates.

The Monitoring Committee agreed that if the recreational fishery for any of these three species is open during wave 1 (January 1 – February 28), there should be recreational data sampling in place to produce comparable MRIP estimates. It is important to document removals occurring from the fisheries, and wave 1 recreational catch (for states other than North Carolina) is currently not incorporated into final catch estimates or the stock assessments.

Summer Flounder

The Monitoring Committee agrees with the staff recommendation for conservation equivalency in 2017, and recommends continuing the regional approach. The Commission's Summer Flounder, Scup, and Black Sea Bass Board is developing an addendum to consider options for regional and state-by-state conservation equivalency in 2017. The Board has established a working group of Board and Technical Committee members to develop and refine addendum options, which will be presented at the December 2016 joint Council/Board meeting.

Given the required 40% coastwide reduction in recreational landings, the Monitoring Committee recommends that the burden of this reduction be dispersed across all regions (though not necessarily equally). This applies the true nature of the regional approach to summer flounder management and conservation equivalency. The Committee recommends that options pursued through the addendum process minimize dramatic differences in measures between neighboring regions or states.

Conservation equivalency requires the specification of a set of non-preferred coastwide measures, as well as a set of precautionary default measures.² The Committee agrees with the staff recommendation that these measures be modified for 2017 given the substantial decrease in the harvest limit. The Committee agrees with the staff-recommended non-preferred coastwide measures for 2017, including a 19-inch minimum size, 3 fish possession limit, and an open season of June 1-September 15. The Committee evaluated the potential coastwide reduction associated with these measures and agreed that they were appropriate for 2017. Compared to the non-preferred coastwide measures adopted for 2016, this recommendation represents a 1-inch increase in the size limit, a 1-fish decrease in the possession limit, and a 46-day decrease in the non-preferred coastwide season.

Similarly, the Committee recommends adjusting the previously used precautionary default measures, which are intended to be more conservative than any individual state or region might implement. The Committee recommends precautionary default measures that include a minimum size of 20 inches, a possession limit of 2 fish, and an open season of July 1-August 31.

Regarding the staff recommendation to analyze slot limits, the Monitoring Committee notes that it has explored such options in the past. In past analyses, the Committee has determined that a slot range that would adequately constrain landings would need to be very narrow to compensate for an expected increase in landings. This slot limit would also likely need to be combined with a very restrictive bag limit and season that would be unappealing to most anglers. The Committee anticipates similar challenges in developing slot limit options for 2017 given the historically low harvest limit of 3.77 million pounds.

While the Monitoring Committee shares concerns about high size limits and discard rates for summer flounder, the Committee has reservations about slot limits for 2017 given the overfishing status of the stock and the below-average recruitment of summer flounder observed for the past six years. A slot limit typically results in an increased number of total removals, increasing the fishing mortality rate. The Committee recognizes that it would be helpful to provide additional

² As described in the staff memo, the non-preferred coastwide measures are a set of measures that would be expected to constrain harvest to the RHL if implemented on a coastwide basis. The combination of state or regional measures under conservation equivalency is designed to be "equivalent" to these coastwide measures. The non-preferred coastwide measures are included in the federal regulations but waived in favor of state- or region-specific measures. The precautionary default measures are a conservative set of measures that would only be implemented in any state or region that failed to develop measures consistent with the conservation equivalency guidelines.

¹ The currently projected reduction required on a coastwide basis; calculated by comparing the projected 2016 recreational landings (6.28 million lb) to the 2017 recreational harvest limit (3.77 million lb).

information to the Council and Board, and could revisit previous analyses of slot limits (e.g., Wiedenmann et al. 2013³; Wong 2009⁴).

³ Wiedenmann, J.; Wilberg, M.; Bochenek, E; Boreman, J.; Freeman, B.; Morson, J; Powell, E.; Rothschild, B., and P. Sullivan. 2013. Report to the MAFMC: Evaluation of Management and Regulatory Options for the Summer Flounder Recreational Fishery. http://www.mafmc.org/s/Wiedenmann_et_al_Fluke_MSE_Report-t0ec.pdf.

⁴Wong, R. April 2009. White paper: Slot limit management for recreational summer flounder harvest. https://mafmc.squarespace.com/s/Slot_limit_guidance_Wong_2009-002.pdf.



Mid-Atlantic Fishery Management Council

800 North State Street, Suite 201, Dover, DE 19901 Phone: 302-674-2331 | FAX: 302-674-5399 | www.mafmc.org Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: November 3, 2016

To: Chris Moore, Executive Director

From: Kiley Dancy and Julia Beaty, Staff

Subject: Summer Flounder Recreational Management Measures for 2017

In August 2015, the Council and the Atlantic States Marine Fisheries Commission's (Commission's) Summer Flounder, Scup, and Black Sea Bass Board (Board) recommended multi-year commercial quotas and recreational harvest limits for summer flounder for the 2016-2018 fishing years, based on the advice of the Scientific and Statistical Committee (SSC) and Monitoring Committee. In August 2016, the previously implemented catch and landings limits for 2017 and 2018 were revised by the Council and Board in light of new recommendations from the SSC, which were based on an updated stock assessment for summer flounder.

The July 2016 summer flounder stock assessment update¹ from the Northeast Fisheries Science Center (NEFSC) indicated that the stock was not overfished, but overfishing was occurring in 2015. Summer flounder spawning stock biomass estimates continue to trend downward. Given the revised biomass projections and overfishing limits (OFLs) provided in the assessment update for 2017 and 2018, it is clear that the previously implemented 2017 and 2018 catch limits would not be reasonably expected to prevent overfishing. Thus, in August 2016, the Council and Board adopted revised 2017 and 2018 specifications, based on revised advice from the Council's SSC and Monitoring Committee. ²

The final rule implementing the revised 2017 commercial quota and recreational harvest limit (RHL) has not yet published, but is expected to include a 2017 RHL for summer flounder of 3.77 million lb (a reduction of approximately 30% from the 2016 RHL of 5.42 million lb).

The Monitoring Committee must recommend recreational management measures for 2017 that will constrain landings to the recreational harvest limit. The following is a review of recreational catch and landings data for the summer flounder fishery, as well as a staff recommendation.

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¹ NEFSC (Northeast Fisheries Science Center). 2016. Summer Flounder Stock Assessment Update for 2016. Available at: http://www.mafmc.org/briefing/august-2016.

² Additional information available in the August 2016 meeting materials at: http://www.mafmc.org/briefing/august-2016.

Recreational Catch and Landings

Recreational catch of summer flounder has fluctuated since 1981, from a peak of 32.06 million fish in 1983 to a time series low of 2.68 million fish in 1989. Landings have fluctuated from a peak of 27.97 million lb in 1983 to a low of 3.16 million lb in 1989. Landings were estimated to be 4.72 million lb in 2015 (Table 1), approximately 36% below the 2015 RHL of 7.38 million lb.

Marine Recreational Information Program (MRIP) data for 2016 are incomplete and preliminary. To date, only the first four waves (January through August) of catch and landings data for the current year are available. The Monitoring Committee reviews the MRIP data once wave 4 data are available because the Council and Commission agreed that recommendations need to be made late in the current year (i.e., 2016) to give the states enough time to enact changes in their regulations for the upcoming year (i.e., 2017).

Preliminary data indicate that 12.57 million summer flounder have been caught and 1.87 million summer flounder have been landed through wave 4 in 2016. By weight, landings through wave 4 were 5.69 million lb, with the mean weight at approximately 3.04 lb per fish (Table 2).

Preliminary wave 1-4 data for 2016 can be used to project catch and landings for the entire year by assuming the same proportion of catch and landings by wave in the previous year. These projections are typically assumed to be overestimates for states with more restrictive seasonal measures in the current year, and underestimates for those with less restrictive seasonal measures. However, because state measures under regional conservation equivalency remained largely *status quo* between 2015 and 2016, the proportions by wave in 2015 and 2016 are not expected to differ substantially as a result of changes in regulations.

Total projected catch for 2016 is 14.35 million fish, and projected landings are 6.28 million lb or 2.07 million fish (Table 1). Landings by state in recent years, in thousands of fish, are shown in Table 4 and Table 6 (for waves 1-4 and all waves, respectively). Projected 2016 landings by state (in numbers of fish) are shown in Table 4 and Table 7.

Past Harvest Limits and Management Measures

RHLs for summer flounder were first implemented in 1993. Since that time they have varied from a high of 11.98 million lb in 2005 to a low of 3.77 million lb proposed for 2017 (Table 6). The 2017 proposed harvest limit is a time series low as the result of the biomass projections from the 2016 stock assessment update and the subsequent application of the Council's risk policy to derive overall catch limits. For a summary of why these harvest limit reductions are proposed, see the 2017-2018 summer flounder fact sheet at: http://www.mafmc.org/s/2016-08-24-Summer-Flounder-Fact-Sheet-2017-2018-Update.pdf.

From 1993-2001, coastwide measures were in place for all states and federal waters, with possession limits ranging from 3-10 fish and size limits ranging from 14.0-15.5 inches. Starting in 2002, conservation equivalency was implemented, and has been used as the preferred management system each year since. Under conservation equivalency, individual states or multi-state regions set measures that collectively are designed to constrain landings to the coastwide harvest limit. Federal regulations are waived and all anglers are subject to the summer flounder regulations of the state in which they land. State level conservation equivalency was adopted each year from 2002 through 2013, with each state implementing different sets of management measures. Each year from 2014 through 2016, the Commission's Board has approved the use of regional conservation equivalency, where the combination of regional measures is expected to constrain the coastwide harvest to the RHL.

Last December, the Council and Board adopted regional conservation equivalency for the summer flounder recreational fishery in 2016. Region-specific possession limits ranged from 2-8 fish with size limits ranging from 15.0-18.0 inches, with various seasons (Table 7).

Under conservation equivalency, the Council and Board must adopt two associated sets of measures: the non-preferred coastwide measures, and the precautionary default measures. The <u>non-preferred coastwide measures</u> are a set of measures that would be expected to constrain harvest to the RHL if implemented on a coastwide basis. The combination of state or regional measures under conservation equivalency is theoretically designed to be "equivalent" to this set of non-preferred coastwide measures. These coastwide measures are included in the federal regulations, but waived in favor of state- or region-specific measures. The non-preferred coastwide measures adopted in 2016 include a 4-fish possession limit, an 18-inch total length (TL) minimum size, and an open season from May 1 to September 30.

The <u>precautionary default measures</u> would be implemented in any state or region that failed to develop adequate measures to constrain or reduce landings as required by the conservation equivalency guidelines. The precautionary default measures in 2016 include a 2-fish possession limit with a 20-inch TL minimum fish size and an open season from May 1 to September 30.

Accountability Measures

In 2013, the Council modified the recreational accountability measures (AMs) for Mid-Atlantic species via the Omnibus Recreational Accountability Measures Amendment. This amendment removed the inseason closure authority for the summer flounder recreational fishery that was previously held by the NMFS Regional Administrator. Additionally, in the event of a recreational Annual Catch Limit (ACL) overage, recreational accountability measures no longer necessarily include a direct pound-for-pound payback of the overage amount in a subsequent fishing year. Instead, accountability measures are tied to stock status, and though poundage paybacks may be required in some circumstances, any potential payback amounts would be scaled relative to biomass, as described below.

The modified recreational AMs are as follows: the 3-year recreational sector ACL is evaluated against a 3-year moving average of total catch. Both landings and dead discards are evaluated in determining if the 3-year average recreational sector ACL has been exceeded. If the recreational ACL is exceeded, the appropriate AM will be determined based on the following criteria:

- 1. If the stock is overfished (B < $\frac{1}{2}$ B_{MSY}), under a rebuilding plan, or the stock status is unknown: The exact amount, in pounds, by which the most recent year's recreational ACL has been exceeded, will be deducted in the following fishing year, or as soon as possible once catch data are available.
- 2. If biomass is above the threshold, but below the target ($\frac{1}{2}$ B_{MSY} < B < B_{MSY}), and the stock is not under a rebuilding plan:
 - a. If only the recreational ACL has been exceeded, then adjustments to the recreational management measures (bag, size, and seasonal limits) would be made in the following year, or as soon as possible once catch data are available. These adjustments would take into account the performance of the measures and the conditions that precipitated the overage.
 - b. If the Acceptable Biological Catch (ABC = recreational ACL + commercial ACL) is exceeded in addition to the recreational ACL, then a single year deduction will be made as

- a payback, scaled based on stock biomass. The calculation for the payback amount in this case is: (overage amount) * $(B_{msy}-B)/\frac{1}{2}B_{msy}$.
- 3. <u>If biomass is above the target (B > B_{MSY}):</u> Adjustments to the recreational management measures (bag, size, and seasonal limits) would be made in the following year, or as soon as possible once catch data are available. These adjustments would take into account the performance of the measures and the conditions that precipitated the overage.

Accountability measures have not been triggered for the recreational summer flounder fishery based on a comparison of average 2013-2015 catch to the 2013-2015 average ACL. Although there was a slight (4%) overage of the recreational ACL in 2014, recreational catch was below the recreational ACL in 2013 (11%) and 2015 (35%), resulting in a 3-year average of catch that is below the 3-year average ACL. Recreational performance relative to the 2016 ACL will be evaluated in 2017, once final 2016 catch estimates are available, and will be taken into account in next year's recreational specifications process if necessary.

Methodology

The Monitoring Committee must consider and recommend whether coastwide measures or conservation equivalency (state-by-state or voluntary regional) are appropriate for 2017 (Table 8). Specifically, the Committee must recommend measures that will ensure the recreational harvest limit is not exceeded in 2017. Based on the projected landings estimate of 6.28 million lb for 2016, landings would have to be reduced by approximately 40% to achieve the 2017 harvest limit of 3.77 million lb.

In February 2016, the Board approved Addendum XXVII, which allowed for continued use of regional conservation equivalency, with the regions slightly modified compared to 2015 to allow New Jersey to implement different regulations within the New Jersey side of Delaware Bay. Other than in Delaware Bay, each's state's summer flounder measures remained *status quo* between 2015 and 2016. The Board recently initiated another Addendum to consider continuing regional conservation equivalency, or modified state-by-state conservation equivalency, in 2017. If conservation equivalency (state-by-state or regional) is adopted at the December 2016 Council and Board joint meeting, the Commission's staff will update the 2016 landings projections based on MRIP wave 5 data, which may result in a modified reduction percentage. States and/or regions would then develop proposals for recreational measures that would be reviewed by the Board in February 2017.

The Monitoring Committee must make recommendations for non-preferred coastwide measures and precautionary default measures that would be applied under conservation equivalency in the event that this strategy is selected by the Council and Board. The methodology detailed in Framework 2 (Addendum III) to the Summer Flounder, Scup and Black Sea Bass FMP and Framework 6 to the FMP (Addendum XVII) can be used to develop state-specific or regional regulations to meet the state-specific or region-specific targets (Table 8).

Because of the long-term implementation of state-specific regulations, the use of a coastwide reduction table (for minimum size and possession limits) to analyze coastwide regulations is no longer feasible. Staff note that the level of precision of annual harvest estimates from MRIP data depend on the survey sample sizes, the frequency of sampled angler trips that caught the species, and the variability of numbers caught among those trips. Harvest estimates are always progressively less precise at lower levels of stratification; annual estimates are more precise than bimonthly estimates, coastal estimates are more precise than regional estimates, and regional estimates are more precise than state estimates. For the

development of 2016 measures, states used a variety of data sources to analyze the effects of adjustments at the state and regional levels, including state-specific data sources. It is increasingly difficult to quantitatively analyze the expected effects of a coastwide set of measures.

Fishing Trips and Year Class Effects

Table 9 provides an overview of coastwide recreational fishery performance and estimates of the number of trips where summer flounder was reported as the primary target. A comparison of summer flounder directed trips to total trips suggests that summer flounder trips continue to be a substantial component of total angler trips, ranging from about 13-20 percent of total trips from 1996-2016 (Table 9). Predicting the number of summer flounder trips that might be taken in 2017 is complicated because many factors affect the demand for angler fishing trips. Changes in angler behavior are also complex and difficult to predict, and may violate the assumptions associated with specific sets of regulations and their anticipated results.

Year-class effects, in terms of fish availability, can influence the expected impacts of management measures and should be considered. The stock assessment update for 2016³ indicates that several consecutive years of poor recruitment have been observed for summer flounder (2010-2015), resulting in a decline in biomass over the past several years. Despite constant recreational measures between 2014 and 2015, a substantial decrease in both catch and landings was observed in 2015. Although total stock biomass is projected to increase slightly in 2017, summer flounder year classes expected to become available to the fishery in 2017 are estimated to be below average.

2017 Staff Recommendation

A number of concerns related to the recreational fishery have been increasingly expressed in recent years by Council and Board members, advisors, and other stakeholders. There is increasing concern that higher size limits are placing high fishing pressure on large female summer flounder, exacerbating the trends of declining spawning stock biomass and poor recruitment. Many anglers have expressed frustration with the very high discarded to kept fish ratio. The high rate of discards has decreased angler satisfaction and angler ability to keep fish for personal consumption. In addition, there is increasing concern regarding perceived waste in the fishery and the mortality associated with discards. A 10% recreational discard mortality rate is assumed in the stock assessment; however, many stakeholders believe that actual discard mortality rates may be higher, and that managers should take steps to reduce recreational discards to reverse the trend of declining biomass.

For several years, many stakeholders have requested that the Council and Board consider recreational management strategies that provide alternatives to the single minimum size requirements typically implemented as part of the bag, size, and season combination. Specifically, some have requested slot limits (i.e., specifying both a minimum and a maximum size) to reduce discards, increase angler opportunities to take fish home, and ease fishing pressure on larger summer flounder. Other suggestions have included strategies such as cumulative length limits (keep any number of fish up to a total number of inches).

The NMFS Greater Atlantic Regional Fisheries Office has advised Council staff that adopting a coastwide slot limit is not feasible under the current FMP, as the current FMP and federal regulations allow for the use of only minimum size limits and not maximum size limits.⁴ However, GARFO staff have also indicated that states could likely develop slot limits under conservation equivalency. Such approaches

³ http://www.mafmc.org/s/Summer flounder 2016 Assess Update.pdf.

⁴ This could be modified in the FMP, for example, through the ongoing summer flounder amendment.

could be considered via the Addendum for 2017 summer flounder management initiated by the Commission's Board in October 2016.⁵

Given the above information, staff recommend continued use of regional conservation equivalency in 2017, and additionally recommend that states or regions analyze options for alternative size and possession limit strategies. Specifically, staff recommend analysis of regional split slot limits that would allow possession of a small amount of summer flounder over two or more size slots. An example would be: 2 fish between 14-18 inches and 1 fish above 18 inches, in combination with sufficiently restrictive seasons to ensure that the coastwide RHL is not exceeded. Staff recommend that the Monitoring and Technical Committees explicitly analyze such approaches and their feasibility, for consideration by the Council and Board.

If conservation equivalency is selected by the Council and Board, a set of non-preferred coastwide measures must be identified, along with a set of precautionary default measures. The non-preferred coastwide measures must consist of a minimum fish size, possession limit, and season for 2017 that if implemented on a coastwide basis, would be expected to constrain harvest to the harvest limit in 2017. Under conservation equivalency, these measures are written into the federal regulations, but waived in favor of the state- or region-specific measures. The same set of non-preferred coastwide measures have been approved for the last several years, and included an 18-inch minimum size, a 4-fish possession limit, and an open season from May 1-September 30. Given the 30% reduction in the harvest limit between 2016 and 2017, and the 40% reduction required between the projected 2016 landings and 2017 harvest limit, staff do not believe that these measures, if implemented on a coastwide basis, would constrain landings to the 3.77 million lb RHL in 2017. Staff considered options to restrict the previously used non-preferred coastwide measures. As described above, there are very limited data and methods available to quantitatively analyze an appropriate coastwide alternative. Table 5 provides the 2014-2015 percentage of annual landings by state and wave; however, this table does not account for seasonal regulatory differences by state and therefore should not be used to draw conclusions about adjustments to individual state measures. However, this information provides some general basis for adjusting the non-preferred coastwide measures. Based on this information, staff recommend non-preferred coastwide measures that include a 19-inch minimum fish size, 3 fish bag limit, and open season from June 1-September 15.

The **precautionary default measures** are a set of measures that are intended to be more restrictive than measures any state would need to implement to achieve a necessary reduction, to deter states from deviating from the conservation equivalency guidelines. The Commission would require adoption of the precautionary default measures by any state that either does not submit a summer flounder management proposal to the Commission's Summer Flounder Technical Committee, or submits measures that are inconsistent with the conservation equivalency guidelines. For the past several years, the precautionary default measures have consisted of a 20-inch minimum size, a 2-fish possession limit, and an open season of May 1-September 30. Staff recommend that the precautionary default measures be adjusted for 2017 in order to sufficiently deter states from not addressing the required reductions. Staff recommend that the precautionary default measures consist of a 21-inch TL minimum size, a 2-fish possession limit, and a coastwide season from June 1-August 31, 2017. This default is likely to be more restrictive than any measure an individual state would implement in 2017.

In summary, staff recommend that the summer flounder recreational fishery be managed under regional conservation equivalency in 2017, and that states analyze options for alternative size and bag limit options,

 $^{^{5}\ \}underline{http://asmfc.org/uploads/file/58124e65pr33SummerFlounderDraftAddendumXVIII\ Initiation.pdf}.$

specifically the use of split slot limits. Staff recommend non-preferred coastwide measures that include a 19-inch TL size limit, a 3-fish possession limit, and an open season from June 1-September 15, 2017, as well as precautionary default measures that include a 21-inch TL minimum size, 2 fish possession limit, and open season from June 1-August 31, 2017. Staff requests comments from the Monitoring Committee on the appropriateness of the recommended non-preferred coastwide and precautionary default measures.

Table 1: Summer flounder recreational catch and landings by year, Maine through North Carolina, 1981-2016, all waves. The number of fish released is presented as a proportion of the total catch (% Released).^a

Year	Catch ('000 fish)	Landings ('000 fish)	Landings ('000 lb)	% Released	Mean weight of landed fish (lb)
1981	13,579	9,567	10,081	30%	1.05
1982	23,562	15,473	18,233	34%	1.18
1983	32,062	20,996	27,969	35%	1.33
1984	29,785	17,475	18,765	41%	1.07
1985	13,526	11,066	12,490	18%	1.13
1986	25,292	11,621	17,861	54%	1.54
1987	21,023	7,865	12,167	63%	1.55
1988	17,171	9,960	14,624	42%	1.47
1989	2,677	1,717	3,158	36%	1.84
1990	9,101	3,794	5,134	58%	1.35
1991	16,075	6,068	7,960	62%	1.31
1992	11,910	5,002	7,148	58%	1.43
1993	22,904	6,494	8,831	72%	1.36
1994	17,725	6,703	9,328	62%	1.39
1995	16,308	3,326	5,421	80%	1.63
1996	18,994	6,997	9,820	63%	1.40
1997	20,027	7,167	11,866	64%	1.66
1998	22,086	6,979	12,477	68%	1.79
1999	21,378	4,107	8,366	81%	2.04
2000	25,384	7,801	16,468	69%	2.11
2001	28,187	5,294	11,637	81%	2.20
2002	16,674	3,262	8,008	80%	2.45
2003	20,532	4,559	11,638	78%	2.55
2004	20,336	4,316	11,022	79%	2.55
2005	25,806	4,027	10,915	84%	2.71
2006	21,400	3,950	10,505	82%	2.66
2007	20,732	3,108	9,337	85%	3.00
2008	22,897	2,350	8,151	90%	3.47
2009	24,085	1,806	6,030	93%	3.34
2010	23,722	1,501	5,108	94%	3.40
2011	21,559	1,840	5,956	91%	3.24
2012	16,528	2,272	6,490	86%	2.86
2013	16,105	2,521	7,355	84%	2.92
2014	18,969	2,458	7,389	87%	3.01
2015	12,153	1,621	4,721	87%	2.91
2016 (proj.) ^b	14,350	2,065	6,279	86%	3.04

^a Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 13, 2016 and October 18, 2016. 1981-2003 data are from MRFSS, 2004-2016 data are from MRIP.

^b Projected using proportion by wave from 2015 MRIP data and 2016 MRIP wave 1-4 data.

Table 2: Summer flounder recreational catch and landings for waves 1-4 (January-August), Maine through North Carolina, 1981-2016.^a

Year	Catch ('000 fish)	Landings ('000 fish)	Landings ('000 lb)	Mean Weight of landed fish (lb)
1981	11,774	8,071	8,899	1.10
1982	20,108	12,599	15,289	1.21
1983	26,979	17,128	22,523	1.31
1984	26,355	14,614	15,245	1.04
1985	10,626	8,535	9,691	1.14
1986	21,321	8,885	13,274	1.49
1987	18,749	6,656	10,393	1.56
1988	13,906	7,918	11,728	1.48
1989	2,120	1,465	2,715	1.85
1990	7,277	3,025	4,125	1.36
1991	13,977	5,186	6,796	1.31
1992	9,830	3,992	5,688	1.42
1993	17,636	4,750	6,553	1.38
1994	15,052	5,499	7,603	1.38
1995	14,315	2,765	4,629	1.67
1996	17,206	6,175	8,685	1.41
1997	14,466	4,657	7,636	1.64
1998	19,015	5,944	10,568	1.78
1999	19,113	3,629	7,441	2.05
2000	22,131	6,867	14,148	2.06
2001	25,661	4,810	10,651	2.21
2002	14,442	2,842	7,008	2.47
2003	18,177	4,123	10,615	2.57
2004	17,998	3,931	10,088	2.57
2005	22,874	3,630	9,800	2.70
2006	20,515	3,685	9,813	2.66
2007	18,659	2,898	8,803	3.04
2008	21,792	2,277	7,951	3.49
2009	23,482	1,758	5,905	3.36
2010	22,725	1,428	4,902	3.43
2011	19,347	1,708	5,511	3.23
2012	14,390	1,968	5,680	2.89
2013	14,641	2,304	6,758	2.93
2014	16,691	2,202	6,684	3.04
2015	10,633	1,463	4,291	2.93
2016	12,573	1,869	5,691	3.04

^a Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 28, 2016. 1981-2003 data are from MRFSS, 2004-2016 data are from MRIP.

Table 3: Summer flounder recreational landings (in thousands of fish) by state for waves 1-4 (January-August), 2007-2016.^a

State	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ME	-	-	-	-	-	-	-	-	-	-
NH	-	<1	-	-	-	<1	-	-	-	-
MA	138	232	50	45	33	74	29	113	66	53
RI	173	203	71	118	152	103	126 ^b	184	160	90
CT	111	146	45	35	47	62	268 b	115 b	81 ^b	218
NY	844	609	298	331	349	482	501	491 ^b	366 b	713
NJ	1,040	752	817	551	719	905	1,095 b	1,046	462	610
DE	101	33	78	50	56	44	49	86	44	82
MD	44	34	64	14	10	19	36	27	43	19
VA	342	243	275	235	301	249	171	118 ^b	131	75
NC	104	25	59	50	40	31	30	25	29	10

^a Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 18, 2016.

Table 4: Summer flounder recreational landings (in thousands of fish) by state for all waves (January-December), 2007-2016.^a

State	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016 (proj) ^b
ME	-	-	-	-	-	-	-	-	-	-
NH	-	<1	-	-	-	<1	-	-	-	-
MA	138	232	50	45	58	76	31	113	79	64
RI	176	204	72	118	161	103	128	185	164	92
CT	112	146	45	35	47	63	270	120	93	239
NY	866	609	299	334	376	509	518	508	492	796
NJ	1,067	762	825	552	737	1,130	1,232	1,175	497	656
DE	108	35	87	54	67	45	58	93	51	96
MD	104	58	65	25	15	23	53	80	44	19
VA	397	260	289	260	318	260	186	139	159	89
NC	139	44	75	77	60	63	45	46	46	14

^a Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 14, 2016 and October 28, 2016.

^b In August 2016 MRIP revised some estimates to address small sample size issues. Revised estimates are only available at the annual level. Thus, some landings are excluded from the following wave/mode/state results due to insufficient sample sizes, including: 2013 CT, NJ, and RI charter, 2014 CT, NY, and VA charter, 2015 CT and NY charter.

^b Projected using proportion by wave from 2015 MRIP data and 2016 MRIP wave 1-4 data.

Table 5: Percentage of landings (in number of fish) by wave and state, 2014 and 2015 combined. This table does not account for seasonal regulation differences and is provided as additional context for the recommended non-preferred coastwide and precautionary default measures.

	Wave 2 (Mar-Apr)	Wave 3 (May-June)	Wave 4 (Jul-Aug)	Wave 5 (Sept-Oct)	Wave 6 (Nov-Dec)
MA	0.00%	8.00%	85.20%	6.81%	0.00%
RI	0.00%	59.59%	39.18%	1.24%	0.00%
CT	0.00%	40.00%	54.21%	5.79%	0.00%
NY	0.00%	38.41%	53.75%	7.84%	0.00%
NJ	0.00%	18.03%	72.15%	9.82%	0.00%
DE	0.18%	19.72%	70.34%	9.67%	0.08%
MD	0.00%	19.38%	37.08%	43.45%	0.09%
VA	2.79%	45.92%	35.32%	15.27%	0.69%
NC	0.00%	21.37%	40.44%	37.07%	1.13%
Coast	0.21%	29.08%	60.30%	10.32%	0.08%

Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 14, 2016 and October 28, 2016.

Table 6: Summary of federal management measures for the summer flounder recreational fishery, 1993-2017.

Measure	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
ABC (m lb)	-	-	-	-	-	-	-	-	-	-	-	-	-
Recreational ACL (land+disc; m lb)	-	-	-	-	-	-	-	-	-	-	-	-	-
Harvest Limit (m lb)	8.38	10.67	7.76	7.41	7.41	7.41	7.41	7.41	7.16	9.72	9.28	11.21	11.98
Landings (m lb)	8.83	9.33	5.42	9.82	11.87	12.48	8.37	16.47	11.64	8.01	11.64	11.02	10.92
Possession Limit	6	8	6/8	10	8	8	8	8	3	a	a	a	a
Size Limit (TL in)	14	14	14	14	14.5	15	15	15.5	15.5	a	a	a	a
Open Season	5/15 - 9/30	4/15 - 10/15	1/1 - 12/31	1/1 - 12/31	1/1 - 12/31	1/1 - 12/31	5/29 - 9/11	5/10 - 10/2	4/15 - 10/15	a	a	a	a
Measure	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017 °	
ABC (m lb)	-	-	-	21.50	25.50	33.95	25.58	22.34	21.94	22.57	16.26	11.30	
Recreational ACL (land+disc; m lb)	-	-	-	-	-	-	11.58	10.23	9.07	9.44	6.83	4.72	
Harvest Limit (m lb) - landings only	9.29	6.68	6.22	7.16	8.59	11.58	8.49	7.63	7.01	7.38	5.42	3.77	
Landings (m lb)	10.51	9.34	8.15	6.03	5.11	5.96	6.49	7.01	7.40	4.72	6.28 ^d	-	
Possession Limit	a	a	a	a	a	a	a	a	b	b	b	-	
Size Limit (TL in)	a	a	a	a	a	a	a	a	b	b	b	-	
Open Season	a	a	a	a	a	a	a	a	b	b	b	-	

^a State-specific conservation equivalency measures.
^b Region-specific conservation equivalency measures.

^c Proposed.
^d Projected

Table 7: Summer flounder recreational management measures and landings (in number of fish; 2016 projected) by state and region, 2015 and 2016.

				2015		2016					
Region	State	Min. Size (in)	Poss. Limit	Open Season	Landings ('000 fish)	State	Min. Size (inches)	Poss. Limit	Open Season	Proj. Landings ('000 fish)	
1	MA	16	5 fish	May 22-Sept. 23	79	MA	16	5 fish	May 22-Sept. 23	64	
2	RI	18	8 fish	May 1-Dec. 31	164	RI	18	8 fish	May 1-Dec. 31	92	
	СТ	18 16 (41 designated shore sites)	5 fish	May 17- Sept. 21	93	CT	18 16 (41 designated shore sites)	5 fish	May 17- Sept. 21	239	
	NY	18	5 fish	May 17- Sept. 21	492	NY	18	5 fish	May 17- Sept. 21	796	
3		18	5 fish	Mars 22 Sant 26	497	NJ	18	5 fish	May 21-Sept. 25	656	
	NJ	16 (1 -1					16 (1 shore site)	2 fish			
	113	site)	16 (1 shore site) 2 fish	May 22-Sept. 26		149	17 (NJ Delaware Bay)	4 fish	Wiay 21-Sept. 25	030	
	DE	16	4 fish	Jan. 1- Dec. 31	51	DE	16	4 fish	Jan. 1- Dec. 31	96	
4	MD	16	4 fish	Jan. 1- Dec.31	44	MD	16	4 fish	Jan. 1- Dec.31	19	
4	PRFC	16	4 fish	Jan. 1- Dec.31		PRFC	16	4 fish	Jan. 1- Dec.31		
	VA	16	4 fish	Jan. 1- Dec. 31	159	VA	16	4 fish	Jan. 1- Dec. 31	89	
5	NC	15	6 fish	Jan. 1- Dec. 31	41	NC	15	6 fish	Jan. 1- Dec. 31	14	

Table 8: Procedures for establishing summer flounder recreational management measures.

August

Council/Commission's Board recommend recreational harvest limit.

October

MRIP data available for current year through wave 4.

November

Monitoring Committee meeting to develop recommendations to Council:

Overall % reduction required.

Use of coastwide measures or state conservation equivalency.

*Precautionary default measures.

**Coastwide measures.

December

Council/Board meeting to make recommendation to NMFS State Conservation Equivalency OR Coastwide measures

State Conservation Equivalency Measures

Late December

Commission staff summarizes and distributes <u>state-specific and</u> multi-state conservation equivalency guidelines to states.

Early January

Council staff submits recreational measure package to NMFS. Package includes:

- Overall % reduction required.
- Recommendation to implement conservation equivalency and precautionary default measures (Preferred Alternative).
- -Coastwide measures (Non-preferred Alternative).

States submit conservation equivalency proposals to ASMFC.

January 15

ASMFC distributes <u>state-specific or multi-state conservation</u> equivalency proposals to Technical Committee.

Late January

ASMFC Technical Committee meeting:

- -Evaluation of proposals.
- -ASMFC staff summarizes Technical Committee recommendations and distributes to Board.

February

Board meeting to approve/disapprove proposals and submits to NMFS within two weeks, but no later than end of February.

March 1 (on or around)

NMFS publishes proposed rule for recreational measures announcing the overall % reduction required, <u>state-specific or multi-state conservation equivalency</u> measures and precautionary default measures (as the preferred alternative), and coastwide measures as the non-preferred alternative.

March 15

During comment period, Board submits comment to inform whether conservation equivalency proposals are approved.

April

NMFS publishes final rule announcing overall % reduction required and one of the following scenarios: -State-specific or multi-state conservation equivalency measures with precautionary default measures, or -Coastwide measures.

Coastwide Measures Early January

Council staff submits recreational measure package to NMFS. Package includes:

- -Overall % reduction required.
- -Coastwide measures.

February 15

NMFS publishes proposed rule for recreational measures announcing the overall % reduction required and Coastwide measures.

April

NMFS publishes final rule announcing overall % reduction required and Coastwide measures.

*Precautionary default measures - measures to achieve at least the % required reduction in each state, e.g., one fish possession limit and 15.5 inch bag limit would have achieved at least a 41% reduction in landings for each state in 1999.

**Coastwide measures - measure to achieve % reduction coastwide.

Table 9: Number of summer flounder recreational fishing trips, harvest limit, landings, and fishery performance (i.e., percent overage or underage) from Maine through North Carolina, 1996 to 2017.

Year	Number of Summer Flounder Directed Trips (millions) ^a	Percentage of Directed Trips Relative to Total Trips ^{a,b}	Recreational Harvest Limit (million lb) ^c	Recreational Landings of Summer Flounder (million lb) ^d	Percentage Overage (+)/ Underage(-)
1996	4.89	17.9%	7.41	9.82	+33%
1997	5.60	18.8%	7.41	11.87	+60%
1998	5.27	20.5%	7.41	12.48	+68%
1999	4.22	16.8%	7.41	8.37	+13%
2000	5.80	16.7%	7.41	16.47	+122%
2001	6.13	16.6%	7.16	11.64	+63%
2002	4.56	14.8%	9.72	8.01	-18%
2003	5.62	16.0%	9.28	11.64	+25%
2004	4.86	14.3%	11.21	11.02	-2%
2005	5.85	16.0%	11.98	10.92	-9%
2006	4.99	13.6%	9.29	10.51	+13%
2007	5.49	14.5%	6.68	9.34	+40%
2008	4.93	13.4%	6.21	8.15	+31%
2009	4.60	15.6%	7.16	6.03	-16%
2010	4.45	15.1%	8.59	5.11	-41%
2011	4.50	16.8%	11.58	5.96	-49%
2012	4.24	16.4%	8.59	6.49	-24%
2013	3.73	14.6%	7.63	7.36	-4%
2014	4.06	15.6%	7.01	7.39	+5%
2015	3.39	15.4%	7.38	NA	-36%
2016	NA	NA	5.42	NA	NA
2017	NA	NA	3.77	NA	NA

^a Estimated number of recreational fishing trips (expanded) where the primary target species was summer flounder, Maine through North Carolina. Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 14, 2016.

^b Source of total trips for all species combined: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 14, 2016.

^c RHLs for 2003 through 2014 are adjusted for research set-aside; this program was suspended starting in 2015.

^d Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 14, 2016. NA = Data not available.

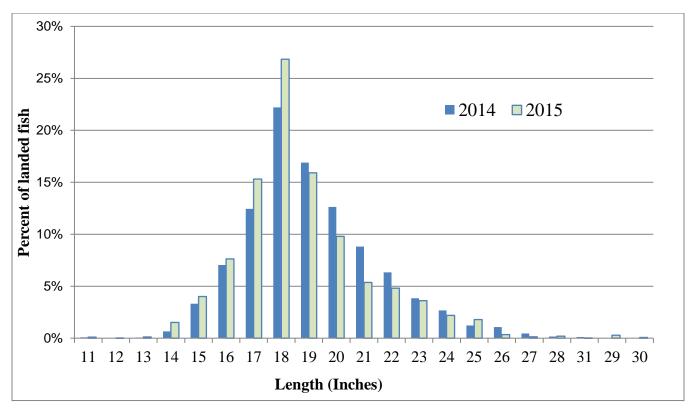


Figure 1: Expanded length frequencies of landed summer flounder from 2014 and 2015 MRIP data, as a percentage of total landed fish. Each length bin contains fish from X.0 to X.99 inches. Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 14, 2016.