Amendment 8 to the Atlantic Herring FMP

Summary of Amendment 8 Scoping Meetings
March/April 2015

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<td>Friday, March 6, 2015</td>
<td>Samoset Resort Hotel</td>
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<tr>
<td>10:30 a.m. – 12:00 p.m.</td>
<td>Rockland Room</td>
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<td>220 Warrenton Street</td>
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<td>Rockport, ME 04856</td>
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<td>(207) 594-2511</td>
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<td>Thursday, March 26, 2015</td>
<td>Doubletree by Hilton</td>
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<td>6:00 – 8:00 p.m.</td>
<td>50 Ferncroft Road</td>
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<td>Danvers, MA 01923</td>
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<td>(978) 777-2500</td>
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<td>Monday, April 6, 2015</td>
<td>Webinar Hearing</td>
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<td>Monday, April 20, 2015</td>
<td>Hilton Hotel</td>
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<td>6:00 – 8:00 p.m.</td>
<td>20 Coogan Boulevard</td>
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<td>Mystic, CT 06355</td>
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<td>(860) 572-0731</td>
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Amendment 8 to the Atlantic Herring FMP
Scoping Hearing Summary

Samoset Hotel, Rockland, ME
March 6, 2015

Hearing Officer: Doug Grout, Herring Committee Chairman
Other Council Members: Terry Stockwell, Mary Beth Tooley, Jeff Kaelin (MAFMC)
Council Staff: Lori Steele, Rachel Feeney, Tom Nies, Jamie Cournane, Jonathon Peros
Attendance: Approximately 50 audience

Mr. Grout provided some opening comments about Amendment 8 to the Atlantic Herring Fishery Management Plan (FMP), which proposes to establish a control rule for specifying acceptable biological catch in the Atlantic herring fishery (ABC control rule). He introduced Ms. Steele, Herring FMP Coordinator. Ms. Steele briefed the audience on the Amendment 8 scoping document and summarized the process and timeline for developing the amendment. After an opportunity to ask questions for clarification, scoping comments were taken from the audience regarding the scope of issues to be addressed in the amendment.

Mary Beth Tooley, O’Hara Corporation (two vessels in the Atlantic herring fishery): I think the Scoping document has laid out the issue well. My comments only reiterate some of the information in the scoping document. I think it’s really important for the Council to have an ecosystem-based approach. The words are in the document, but forage seems to be the one that is highlighted by most people. But when you take an ecosystem approach, you consider herring’s role as forage, as a predator, as a competitor in a system. I think that is something that should be equally-balanced. And I think it’s extremely important to fully consider impacts to the fishery and most importantly, particularly when we are here in Maine, the impacts to the lobster fishery as users of the resource.

Dave Linney, tuna fisherman, Cape Nettick ME: In general, I’m very glad to see you are working ecosystem management into this. For a long time, ecosystem management hasn’t been used, and it looks like we are starting to use it legitimately. I take my hat off to that. It is obvious that herring is probably the largest biomass of prey material out there other than plankton and that sort of thing. I think it’s very important to show how all of the components work together so that all the fisheries that have something to do with herring get their fair share out of it.
Amendment 8 to the Atlantic Herring FMP

Scoping Hearing Summary

Doubletree Hotel, Danvers, MA
March 26, 2015

Hearing Officer: Doug Grout, Herring Committee Chairman
Other Council Members: None
Council Staff: Lori Steele, Andy Applegate
Attendance: Approximately 30 audience members

Mr. Grout provided some opening comments about Amendment 8 to the Atlantic Herring Fishery Management Plan (FMP), which proposes to establish a control rule for specifying acceptable biological catch in the Atlantic herring fishery (ABC control rule). He introduced Ms. Steele, Atlantic Herring FMP Coordinator. Ms. Steele briefed the audience on the Amendment 8 scoping document and summarized the process and timeline for developing the amendment. After several audience members asked questions for clarification, scoping comments were taken from the audience regarding the issues to be addressed in Amendment 8.

Jack van Long, Parker River Clean Water Association: Within the next month, we will be starting our 18th year of counting river herring spawning runs up the river. (Showed chart) As you can see, the first numbers here – 39,000 – were UMass Boston counting in the 1970s. Now, down here is where Parker River started it. We have 24 people that spend anywhere from 10 minutes to an hour to extrapolate what our run is. This year, we counted about 3,400 coming up. Division of Marine Fisheries has been active counting river herring also. This past year, they started video counting day and night. They came up with 7,189 fish last year, mostly river herring, with less than ½ bluebacks. It’s nice to know that there are more coming up, but it still doesn’t affect the trends we see in the graph.

We are asking that river herring, being a subset of Atlantic herring, that all things that can be done will be done to protect the river herring that are within the schools. I understand that observer feedback leads to suggestions for areas to be closed if there seems to be a lot of river herring within a catch. I would ask for something stronger than asking them to not fish in those areas. River herring is an important fabric of our ecosystem. We would certainly like to see them come back more. Division of Marine Fisheries has been putting in a lot of time helping with the count and restoring fish ladders. They have been transporting herring farther up the streams to ponds that they have historically spawned in but cannot reach because of beavers, etc..
We are continuing to work with them to get the reaches of Parker River watershed open to herring spawning, and hopefully success will come back for them. Thank you.

**Erica Fuller, EarthJustice:** Ms. Fuller read a written statement into the record (see attached).

**Steve Weiner, fisherman from Maine, Chairman of CHOIR:** I would like to reiterate what Erica said. I think it’s a good thing that the Council put this amendment forward. It’s going to be a while before anything really comes of it, but it starts to address the concern that got most of us involved in the herring issue in the first place. The reason that there is so much focus on herring is pretty obvious. You have an industry that depends on it and has built a business around it. You have a lobster fishery that depends on a portion of what they need for bait from the herring resource. But, you also have a lot of other fisheries that depend on it indirectly because the fish they go after eat herring. It’s the primary forage in GOM and GB for Bluefin, groundfish, and whales. It supports a lot of other economic activity and a lot of other resources. I have spent more time than I would probably want to admit following this subject in the last 5-6 years. I have attended assessments, SSC meetings, setting specifications, and I think it’s time that the Council needs to deliberate this issue and decide whether it wants to have more of an impact and give more advice to the SSC when it determines what the catch levels should be.

As someone who has spent many hours on the ocean chasing a fish around that pretty much chases herring around, I have always believed that there isn’t as much herring as people think there is. I think we set this new standard. We do it all the time as we move forward in time. We set a new standard and say this is a lot of herring. But I go back a lot of years, earlier than that standard, and there isn’t as much herring now. Secondly, I feel that you need more herring and more forage than you think you need to support the fish that we have in the Gulf of Maine and Georges Bank, and over the whole range that we manage. I fish from Downeast Maine to Cape Cod, not 50-60 miles. There are times when there is a little herring here and a little herring there. But when I was younger, there was a lot of herring in a lot of places at the same time. I think we need to take a good hard look at how important herring is as a forage fish in the ecosystem. And the Council needs to take that and put it in to some formula, which is this control rule, to advise the SSC. And it may mean that we take less fish. Thank you for looking at this. It’s not something that I really expected the Council to do. I think it’s a good thing, and there’s plenty of time to debate it.

**Sean Tibbets, charter captain and tuna fisherman:** Mr. Tibbets read a written statement into the record (see attached #2).

**Steve McNally, charterboat captain, Gloucester MA:** You have recognize herring as forage because you need it for the groundfish and for the tuna fish. We had a great fishery last year in October right off southern Jeffreys. It all got wiped out in two nights by the midwater boats. We need to keep the herring going. They were spawning there, and that was a great fishery. It was destroyed in two days.

**Jim Comosa, boat builder, commercial fisherman:** I want to second Steve’s comments because I was there for both of those days. You can watch it happen and watch the changes. It’s pretty obvious to see. I just want to back up his opinion on that.
Nathaniel Moody, concerned fisherman: I would like to reinforce what others have said. It is very encouraging that this step is being taken. I feel like the biological perspective of herring has long been ignored. I would also like to reinforce what they said about controls for the fishing effort being as important as regarding these fish in a biological perspective. The way the fishery is now, we see a group of herring get together and then immediately get removed. There needs to be some controls put into place that prevent that from happening all in one place at one time.

Don Swanson, recreational fisherman: I have been a recreational fisherman for over 50 years, and I know what it means to have bait out there for fish. I have seen the fishing going down to nothing basically. The organization I belong to is the Coastal Conservation Association. In years past, when they asked every year, what is the most important species that we should target in a year, it was always striped bass. Now, the top two things are menhaden and herring. Herring is very important. We haven't even been able to use any of the herring, yet they catch it and sell it. Down in Massachusetts, we have used it for bait for striped bass and stuff. But not for six years or so. Herring is for forage. As a conservation association, forage should come first, then the users second.

Chris Weiner, CHOIR, MBTA: I think it's good that we are doing this. Forage is incredibly important. When you watch how the assessment is done, it seems like one year they find a way to account for it, and the next year they won't. You need to have some kind of formal rule. And I think it can go both ways. Right now, recently, the assessment has been done in a way that I wouldn't say is pro-industry, but it is balanced for the industry in certain ways. As a tuna fisherman, I have watched how the assessment can go the other way. Every step of the way, we have scientists turning one way. If there is a positive way to go, they always find the negative way to go. A good control rule helps you find a way to make everyone happy. You can keep forage in the front of the process. At the same time, you can make it so that down the road, if things change at the Science Center, it doesn't go the other way. Watching tuna assessments be done, it can really really work against the industry. I don't expect the industry to be jumping for joy for a forage control rule, but I think could help. From our perspective, it's scary watching how the assessment is done. There needs to be more formal rules in it. We all rely on herring as much as anyone in the herring industry. I hope the Council takes this seriously.

Roger Brisson, handgear fisherman: I jig codfish for my bread and butter. I do charters and striped bass for years and years too. Every year, a huge body of herring comes in down by Cashes towards Gloucester to spawn. Before the trawlers came, the seiners always used to get a bunch of fish there. And then these fish move in all the way through Gloucester to Boston. That's the winter fishery. I have been fishing out of there for over 30 years. I have a handgear permit, and at one time, I would get 500 pounds most times by myself jigging for codfish. All you would do is look for the herring or the birds, and you would find the codfish. You wouldn't have to be a genius. It was a ritual, and we made a living at it for years. And then something changed. There were too many herring being caught. All of a sudden, it died. I used to go 3-4 miles off the breakwater, look for birds, and I used to always find codfish. Now, that stopped. Something happened. There's too many herring being caught. I have no problem with people catching herring, but if you are going to take money out of my pocket, then I have a problem. Get your share but leave something for me to make a living. We have to share this together. That hasn't happened in quite some time.
I have been going to meetings year after year, we always talk about it, and we are not getting anywhere. I think this is a good idea. We are not trying to take away the herring fishery. They want to make a living too, and there's nothing wrong with that. But when you have 60-70 guys in a 5-6 mile area fishing, getting a little fish to make a living. And then all of a sudden, all the herring is being caught. And then there is no bait, and with no bait, there is no fish, no money, no living. I think there should be a little more emphasis or consideration for all of the fishermen in one area so that everyone can make money. If you have one sector wiping out the bait for everyone else, that is ridiculous. We are hoping that this amendment will be helpful. This is not to hurt the herring seiners, but be considerate of leaving some the bait for the fish and for us to have a chance to make a living. There has to be a happy medium somewhere, and that hasn't happened in quite some time.

Ray Kane: Mr. Kane read a written statement into the record (see attached #3).

Pete Kaizer, Nantucket MA: I have been tuna fishing and cod fishing. I was also a spotter pilot. I have seen a lot of changes. Mr. Kaizer read a written statement into the record (see attached #4).

Robby Budds, tuna fisherman from Wells, Maine: I agree with everything that has been said here. I would like to add that we need to ensure that young fisherman like myself have a healthy herring population in the Gulf of Maine for future years. There's already too few young people involved, and without herring, it will be even worse. Please treat herring carefully during the assessment.

Gerry O'Neill, F/V Endeavor and Challenger, pair trawlers out of Gloucester, MA: I don't have a significant issue with considering herring as a forage fish. I just wish that we were doing a concrete operational or benchmark assessment for herring so that I wasn't looking at a situation where our quota could conceivably be half of what is now without the information about what the biomass is.

Jules Boudreau, charter captain and tuna fisherman: I think that in Amendment 8, the most important factor is the economic benefit to the surrounding communities. When you think about what we have heard tonight, about the abundance of forage food and how it supports the commercial fishermen in the groundfish fishery and in the charterboat business, the most important fact is the economic benefits for the surrounding communities that feed on these businesses.

Joseph Luccisano, tuna fisherman Newburyport, MA: Just like everyone has said, it's a simple fact that without herring, we don't really have a fishery. It goes hand in hand with every other fishery - groundfish, stripers, and the recreational guys. We appreciate what you are doing in Amendment 8. Hopefully, you can push this through the system and put it in place for us.

Tim Virgin, Perkin's Cove, Ogunquit, ME: Thank you to the Council for considering herring as a forage, it's something that is long overdue. I support the majority of the comments that were made here tonight.
Mitchell Napolitano, commercial fisherman, Portland, ME: I want to thank you for getting this done, hopefully sooner than later. It needs to happen and it is long overdue. Thanks to Steve and everyone else who has done so much work. It’s been decades to try to do this. I just really hope you understand that herring is a forage and needs to be managed a lot more seriously. There needs to be at least some type of better monitoring – when they offload the bycatch of these pair trawlers. Also, like last year when they were way over their quota and finally realized it 3-4 weeks later, it totally wiped everything out down south. Thank you for getting this started.

Meghan Lapp, SeaFreeze Ltd. Ms. Lapp read a written statement into the record (see attached #5).

Sean Joyce: I fish recreationally and commercially. I think this is great. As soon as I go out and see the big trawlers come in, we could be seeing birds and whales and marking herring and tunas. And then the big trawlers come in, and two days later, everything is gone, and the ocean is dead. I can’t agree with the fact that it’s all environmental. There is a big correlation between the bluefin tuna being there, and the birds and whales because the bait is there as well. In the last number of years, I fished heavy. Some days, I would run 120 miles in my regulator looking for herring and birds, and that’s where the fish were. In the last number of years, I run those miles maybe 20-30 days at a time, and I don’t find that anymore.

I believe there is a huge correlation between the amount of herring we have in our water and the amount of bluefin, bluefish, whales we have in the shearwaters and in the ocean. It is discouraging over the last few years working so hard and going out. I have no monetary interest in it. I catch some giants to pay for the cost of my boat. I’m mostly a recreational guy. In 2010, I put 30 recreational fish in the boat and released them. And there were lots of herring. But as soon as the fall came and the trawlers showed up, they all disappeared. Nothing was there in the ocean. I can’t believe that the environment alone and El Nino or whatever it may be can change water temperature. I just see that when there is herring there, I catch fish. I’m glad to see that someone is doing something about this. It needs to be done. Thank you.

Jim Comosa: Again, I just want to make a couple of points. You can sense the weight in the room based the amount of people in the room speaking on one side of this or the other. This represents the sustainability of the tuna fishery and the other small fisheries that depend on this fish. There’s a lot of boats and a lot of people. Every dollar I make comes from the ocean, one way or another. Fishing is a very good thing. But when you get too efficient and too good and too quick, everyone loses. The one – or the two boats – are catching all of the fish too quick. It affects everyone else. I have only heard two points on their side of the coin today. I’m also a black/white guy. Information can help you make decisions. We can all agree that our information at this point is slim to none. It’s not something that you can just drive home. We all know that more information would help everybody make an informed decision, whichever way that decision may be.

One of the comments was for some solid information about biomass before you guys make the decision. And that’s coming from one of the boats that if you turn around and look on the back deck, there are your answers. A lot of this is hearsay, but I got people in their back yards watching these boats decimate it. That’s why it got so much talk. They are right off the beach, they are doubling their quota, and they are asking for biomass numbers. Turn around.
I know we got this other speech about all of these animals that affect it, and that it’s not a predatory thing, it’s a climate thing. And that we are just in an 80 year cycle, so maybe our grandkids can have it. All of those predators that they listed, I think there were 30 of them, all of those animals that eat, but none of those things take as many fish as the boats do in one swipe. They are the ultimate predator. They are the transformer. It doesn’t work, and it’s not sustainable, and it’s not helping anyone except for a very select few, which seems like the way the world is going. Let’s step back, agree to get some real information, and at least for now, step back enough that we don’t wipe it out in just a couple years so we don’t have a chance to fix it then. Thank you for what you are doing. Hopefully we can at least nip this in the bud now before it’s too late.

Pete Kaizer, Nantucket: We appreciate you being here, and hopefully we can work this out at some point. If the Council is approached about a new fishery or new area to be fished, a thorough and practical scientific study should be requested, performed, and revisited in a timely manner so as to ensure that the harvesting or gear types is not having a negative impact on the ecosystem or the migrating fish in the area. Those fish are part of the healthy ecosystem. By not revisiting the rules and uncovering some of the negative impacts, this establishes a sense of entitlement, and it becomes much harder to correct the antiquated rules. Unfortunately, at this point in time, the Council is often blamed. Recognizing the fact that fish and mammal behavior evolves and changes with time and climate change, rules and gear types labeled as historic may not be sustainable in our quest for a futuristic healthy marine ecosystem. We all have to step outside of the box now and then, take an overall view of the current conditions, weigh in on the risk and reward outcome, and have the courage to make changes if need be, to maintain a healthy ecosystem for the future generations.
First, we want to thank the Council and staff for initiating this amendment. This is an important step towards EBFM and we appreciate the time and effort you’ve taken to respond to concerns raised by the SSC and the public.

For years, our clients in Flaherty v. Bryson have asked the Council to manage Atlantic herring differently because of its role as forage. In their own fishing grounds, they have seen the effects of managing herring using the traditional approach – one that manages single species for the benefit of the directed fishery without regard for other fisheries and marine animals that need herring left in the water. They know that Atlantic herring is not the only prey fish in the region, but river herring and menhaden are no longer significant prey after years of mismanagement, so there is a lot of pressure on Atlantic herring to fill the gap. Striped bass, tuna, whales, and other species leave the area when there isn’t enough food – when they leave our clients lose money and opportunities.

To appropriately manage herring consistent with the law we need: (1) a stock assessment that sufficiently accounts for all of the sources of uncertainty including natural mortality; AND (2) an appropriate control rule that can respond to a variety of changing fishing and environmental conditions to protect the marine ecosystem. Ultimately, we need a harvest policy that addresses some of the spatial and temporal concerns repeatedly raised by fishermen – make sure there are enough herring in the times and at the places that predators need them.

There is a large body of peer-reviewed science showing that forage species need to be managed differently than traditional stocks - they have a lot of predators, they are particularly vulnerable to over-exploitation due to schooling behavior, and they undergo substantial population shifts even without fishing. All of these make the risk of overfishing herring and the ecosystem even higher than the typical council managed species especially during down cycles.

An appropriate control rule for Atlantic herring should account for its role in the ecosystem:

- Leave a large buffer between the OFL and ABC to account for scientific uncertainty
- It should establish a target Biomass that is at or greater than 75% virgin biomass
- It should establish a cut-off biomass limit at or above 40% virgin biomass - like the one used for Antarctic krill, Alaska herring, and US West Coast sardine and mackerel.
- It should set a maximum fishing rate that corresponds to 50% Fmsy or 50% of natural mortality (m), whichever is smaller; and
- It should adjust catch annually as the estimated population size increases or decreases
- And, it should end fishing if the cut-off biomass limit is reached.

At a minimum, the Council should consider control rules used around the world and by other Councils for forage species, including the ones developed by the Lenfest Forage Fish Task Force and the Pacific Council for the Coastal Pelagic Species. Either of these could be modified to address the herring fishery. There is also a large body of science in New England related to food webs - our clients look forward to this information informing the decision-making process as you move forward.
Good Evening

As a charter captain and a commercial tuna fisherman, Herring are extremely important to me. Without forage we have no tuna, no sharks, no cod, no haddock. Having attended many meetings and fishing shows this winter, I spoke with numerous guides and rec fisherman from the cape area. All agree the bay was off this season. If my memory suits me, the midwater fleet hit the bay pretty hard last season. Once again, where there are no forage fish, there can be no game fish. Numerous times over the years we have fished areas with a plentiful herring population. Whether we were tuna fishing or cod fishing, day after day we would see abundant sea life, birds, fish, and mammals. Overnight, an entire area can be wiped out. Such was the case off Cutler, Maine on the Nubble last season. An entire area was wiped out. An entire mini ecosystem robbed of its forage by over harvesting of herring. For over a decade now, we have been witness to pair trawlers sing out forage fish. Its inconceivable during this day and age that such a critical forage stock like herring is not managed more carefully than other fish. Over fishing of this stock impacted all fisherman, commercial and recreational. The council needs to use this amendment to establish a control rule that takes the herring forage role into consideration. Herring are too valuable as forage to do anything short of protect them. Once gone in we won't.
have big fish without the little ones to feed them.

thank you!
Thank you for the opportunity to speak; first and foremost I ask the question; Who will be vetting these public comments?

In Nov. 2014, the NEFMC voted up amendment 8 to the Atlantic Herring Fishery Management Plan and what I comprehended is;

1. Manage this forage fish within an ecosystem context
2. Establish reference points within an Ecosystem Based Fisheries Management context.
3. Establish a control rule for the atlantic herring fishery that accounts for herring's role as forage in the ecosystem.

In years past, late 80's- 2000 we as commercial fishermen have seen an abundance of river herring, mackerel, menhaden and Atlantic sea herring, for the predator species to consume. Of the 4 species, only sea herring remain as the one biomass for the predator species.

Sea herring cannot be managed as a single stock species but must be managed throughout the entire food web or ecosystem, so when migratory species (bluefin tuna, striped bass, bluefish, whales) arrive, they may consume a highly nutritious FORAGE species.

At a very minimum, the control rule for sea herring should keep the overall biomass above the biomass normally considered necessary for MAXIMUM SUSTAINABLE YIELD, it should establish a MINIMUM STOCK BIOMASS THRESHOLD, and provide a formula for reducing fishing systematically, if the biomass falls below an ECOLOGICALLY established target. In this thought I question; "Who will establish this target".
The Council's motion of Nov. 2014 dictates a broad approach to managing herring as forage fish within the ecosystem, calling on its ECOSYSTEM BASE FISHERY MANAGEMENT technical advisors to guide the development of the amendment. The public expects the science center, the NEFMC and its contributing staff to fully engage in this amendment as an important step towards ECOSYSTEM BASED FISHERY MANAGEMENT.

In closing, it must be mentioned that the nation has lost out on a 35 million dollar a year commercial Blue fin tuna industry; these highly migratory fish now pass along our shoreline and summer over in Canadian waters due to the lack of the abundance of very nutritious Atlantic sea herring in American waters!

Thank you for your time,

Raymond Kane
MPA marine protected area/marine reserve-No Take Zones

Territorial waters -12 nm. /eez exclusive economic zone 200 nm

Contiguous zone -12to 24 nm

Meeting

Two things that cannot coexist! Mobil gear & a healthy flourishing Eco system!

We agree with the mind set of the west coast fisheries council that a thorough scientific review should be done before the approval of a fishery in any closed areas & or territorial & contiguous near coastal waters! We have Witnessed that The use of Mobil gear Especially small mesh gear which if used in shallow waters & or know historical migratory paths of larger prey fish can & has lead to the localized depletion of both the spring run of squid & the fall migration of herring around Nantucket! In recent years due to the small mesh Mobil gear fishery activity around cape cod & the islands this has at this point in time totally depleted & changed the historical migration path of both the forage food & the prey fish that have been historically a major part of the local healthy flourishing marine ecosystem! This all could have been prevented if there had been a cautionary approach taken & had a pre & post assessment done to expose any positive or neg impact to the historical marine ecosystems protocol could hopefully lead to the prevention of large bycatches & the desruption of healthy flourishing ecosystems& habitat which we have Witnessed in the past

It appears that the better way to manage these fisheries is proactively rather the reactivity

Become aware of the fact that localized depletion of a forage food can drastically change if not permanently alter the migration routes of prey fish who may have a important symbionic relationship with local marine ecosystems

Sent from my iPhone
Herring Amendment: Scoping Hearing Comments

1. The document addresses the non-legally binding language of National Standard 1 Guidelines which states that forage fish should be managed to a higher biomass than standard Bmsy to protect the greater ecosystem. What it does not, however, mention is that currently the herring stock assessment does just this. The 2012 herring assessment accounts for herring’s role as a forage fish using time varying natural mortality. Detailed consumption estimates of coexisting fish species\(^1\), marine mammals,\(^2\) highly migratory species,\(^3\) and seabirds\(^4\) have already been factored into the current level of stock biomass, Bmsy and projected catch for the fishery. These estimates vary with the biomass of other species to ensure that as the predator species grows in biomass, more herring is accounted for as their respective prey.\(^5\) Therefore, enough of the herring biomass necessary to ensure the proper forage of these species has already been accounted for in the estimate of sustainable catch for the fishery. To duplicate this exercise in the form of a “forage fish” control rule would be to account for consumption estimates twice. National Standard 7 of the MSA states that “conservation and management measures shall where practicable...avoid unnecessary duplication” in order to minimize research, management, administrative and other costs.

2. Many comments have been made as to the necessity of high herring abundance to increase the biomass of other predator species such as bluefin tuna. However, science does not support this theory. In fact, according to spawning stock biomass charts from both the 2012 herring assessment and 2014 ICCAT bluefin tuna assessment, there is no correlation between herring abundance and bluefin tuna abundance.\(^6\) Simply feeding a species more does not mean that it will increase in numbers.

3. Vigorous scientific analysis of forage fish has shown that climate and temperature changes affect forage species behavior and abundance more than pure predator dynamics, and vice versa. According to the International Council for the Exploration of the Seas (ICES) Symposium on Forage Fish Interactions, “trophodynamic and climate driven processes cannot be

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\(^1\) Cod, Pollock, Fluke, Striped Bass, Bluefish, Winter and Thorny Skate, Silver and Red Hake, Sea Raven, Monkfish.
\(^2\) Humpback, Fin, Minke, Sei, Right and Pilot Whales; Bottlenose, Atlantic White-sided, and Common Dolphins; Harbor Porpoise; Grey and Harbor Seals.
\(^3\) Bluefin Tuna, Blue Shark.
\(^4\) Northern Fulmar, Black-legged Kittiwake, Northern Gannet, Herring Gull, Great Black-backed Gull, Great Shearwater, Sooty Shearwater, Cory’s Shearwater.
\(^5\) See attached chart.
\(^6\) See attached charts.
viewed/evaluated in isolation." In fact, a recent Baltic Sea study showed that climate-induced sea changes in the hydrography of the area caused an ecosystem regime shift “with changes at all trophic levels”, effecting a change in dominance from cod to sprat due to varying climate related reproductive success. In this case study the success of cod (a predator) was not determined by the biomass of sprat (a “forage” species), but by the suitability of climate for reproduction.

4. Studies on other “forage” species, such as California sardine, have shown historic stock declines and rebounds to be “because of environmental factors only”. Reproductive success and recruitment of Pacific sardine depends on El Nino/La Nina conditions, not fishing, with warm water temperatures and upwellings determining productivity. The study also noted that sardine production varies over decades and appears to revolve around 60 year temperature cycles. Presence/absence of Atlantic species such as anchovy and sardine has been similarly determined over centuries by climate- most importantly the Atlantic Multidecadal Oscillation (AMO) and North Atlantic Oscillation (NAO). These species therefore invaded the North Sea in the late 1800s and early 1900s, disappeared, then recurred again in large numbers in the 1990s. Recently, Atlantic menhaden recruitment was also found to have recruitment success correlated with the AMO, which appears to have natural temperature cycles ranging from 65-70 years. Stock size of “forage” species is primarily determined not by fishing pressure but by long term environmental factors.

We do not currently have the scientific data to conduct an in depth analysis of Atlantic herring, or its predators, in this way within the timeframe of this Amendment. Therefore, a simple control rule accounting for scientific uncertainty alone would be the best approach.

5. Currently, the operational herring assessment update is undergoing review and encountering difficulty. It would not be prudent to establish a control rule until the operational update itself has been completed/underway.

6. Decisions on a control rule should be based on demonstrated performance for meeting management objectives, i.e. high, stable, long term yield. The Lenfest forage fish control rule approach is untested for efficacy and is overly conservative. For example, some control rules have a low stock size threshold that triggers a catch reduction. For most control rules, this is 25% of the unfished stock size. For the Lenfest control rule it is 75% of the unfished stock size. Essentially, this type of scientific extremism would serve only to jeopardize optimum yield and the existence of current herring fishing operations for an untested hypothesis while abandoning more standard and proven approaches.

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10 Ibid.
11 Peck (n. 7), 37, 39.
12 ASMFC Menhaden Technical Committee Meeting, March 25, 2015.
Figure A6-5. Total herring consumption by fish predator (non-HMS predators) using a moving average for striped bass for some years (left) and without using a moving average for striped bass (right). The left panel was used to inform the assessment.
Figure A5-28. Spawning stock biomass time series estimated from the ASAP base run.
**Figure 32. Western BFT:** Median (solid line) estimates of spawning stock biomass, abundance of spawners (Age 9+), apical fishing mortality, and recruitment for the base model. Dashed lines indicate the 80% confidence interval.
Amendment 8 to the Atlantic Herring FMP
Scoping Webinar – Hearing Summary

Webinar Hearing
April 6, 2015

Hearing Officer: Dug Grout, Herring Committee Chairman
Other Council Members: None.
Council Staff: Lori Steele, Maria Jacob, Lou Goodreau, Andy Applegate (webinar)
Attendance: Approximately 10 on the webinar

Mr. Grout provided some opening comments about Amendment 8 to the Atlantic Herring Fishery Management Plan (FMP), which proposes to establish a control rule for specifying acceptable biological catch in the Atlantic herring fishery (ABC control rule). He introduced Ms. Steele, Atlantic Herring FMP Coordinator. Ms. Steele briefed the audience on the Amendment 8 scoping document and summarized the process and timeline for developing the amendment. After an opportunity to ask questions for clarification (no questions were raised), scoping comments were taken from the audience regarding the scope of issues to be addressed in the amendment.

Rob Moir, Director, Ocean River Institute: The Ocean River Institute is one of the three plaintiffs in Flaherty v. Bryson. First, we want to thank the Council and staff for initiating this amendment. This is an important step towards Ecosystem Based Fisheries Management, and we appreciate the time and effort you’ve taken to respond to concerns raised by the SSC and the public.

For years, we have asked the Council to manage Atlantic herring differently because of its role as forage fish. We have seen the effects of managing herring using the traditional approach—one that manages single species for the benefit of the directed fishery without regard for other fisheries and marine animals that need herring left in the water. We know that Atlantic herring is not the only prey fish in the region. However, Atlantic herring are today under more fishing pressure than ever before because the river herring: alewives, blueback and shad, have declined by over 90% since 1585. It’s nearly all Atlantic herring now.

Striped bass, bluefish, tuna, whales, birds and other marine life leave our waters when there are insufficient herring. I have been involved with the whale watch industry since its beginning. I can assure you the humpback whales, fin, minke and bryde’s whales come to Massachusetts, not
for the whale watchers, they come for the forage fish particularly herring and sand lance. For the whales, Atlantic herring are more dependable year to year while sand lance populations vary from year to year. In July the arrival of herring turns Stellwagen Bank into Chuckwagen Bank. Feeding whales and plunge-diving gannets means happier whale watchers, resulting in better fed more robust local economies, From whales bubble-netting herring to net financial gains for area businesses.

To appropriately manage herring consistent with the law we need: (1) a stock assessment that sufficiently accounts for all of the sources of uncertainty including natural mortality; AND (2) an appropriate control rule that can respond to a variety of changing fishing and environmental conditions and protect the marine ecosystem. Ultimately, we need a harvest policy that addresses some of the spatial and temporal concerns repeatedly raised by fishermen – make sure there are enough herring in the times and at the places that predators need them.

There is a large body of peer-reviewed science showing that forage species need to be managed differently than groundfish stocks. Forage fish are particularly vulnerable to over-exploitation due to schooling behavior, and they undergo substantial population shifts even without fishing. For example warming waters caused a shift in currents. As a result, herring changed where in the Gulf of Maine they were abundant.

An appropriate control rule for Atlantic herring should:

- Leave a large buffer between the OFL and ABC to account for scientific uncertainty
- It should establish a target biomass that is at or greater than 75% virgin biomass
- It should establish a cut-off biomass limit at or above 40% virgin biomass - like the one used for Antarctic krill, Alaska herring, and US West Coast sardine and mackerel.
- It should set a maximum fishing rate that corresponds to 50% F_{MSY} or 50% of natural mortality (m), whichever is smaller; and
- It should adjust catch annually as the estimated population size increases or decreases
- And, it should end fishing if the cut-off biomass limit is reached.

There is also a burgeoning body of science in the Gulf of Maine related to food webs - we look forward to this information informing the decision-making process as you move forward.

Thank you.

**Pamela Lyons Gromen, Executive Director, Wild Oceans:** Wild Oceans (formerly National Coalition for Marine Conservation), is the nation’s oldest conservation group dedicated to marine fish. Our mission is to promote a broad, ecosystems approach to fisheries management that reflects our expanding circle of concern for all marine life and the future of fishing. Conserving prey species that we fish for according to precautionary standards is a key objective of our programs and an initiative that unites us with 100 other organization members of the Herring Alliance.
The New England Council has long recognized the importance of Atlantic herring as a forage species. Amendment 1 to the herring plan, finalized in 2006, revised the management plan’s objectives giving emphasis to, “maintenance of a (herring) biomass that supports the ocean ecosystem, predator consumption of herring, and biologically sustainable human harvest.” Amendment 8 has the potential to make significant advances toward achieving this plan objective by implementing management strategies (reference points and control rules) designed to explicitly account for and protect the critically-important ecological role of herring as prey.

The Amendment 8 Scoping Document requests input on potential goals and objectives for the amendment. Wild Oceans provides the following recommendations.

**Goal of Amendment 8**

To design and implement a strategy for managing Atlantic herring in an ecosystems context that accounts for and protects its ecological role as forage.

**Objectives of Amendment 8**

Objective 1. Establish ecological reference points, targets and thresholds, that maintain herring biomass significantly above B_{MSY}, in accordance with a consensus that has emerged from the scientific community and consistent with the NS1 guidance referenced in the scoping document:

Discussion: The first principle of conserving forage species should be to adequately meet the needs of the ecosystem, that is, natural predators, before determining the allocation of fish to fishing. Fish populations do have limits and thresholds that cannot be exceeded without causing harm at the ecosystem or community level. For important prey or forage species, the scientific and fishery management communities are arriving at a consensus as to what these limits should be, and equally important, on what the target population should be for forage species. The emerging standards in fishery policy suggest the populations of forage species should be maintained at a level approximating 75% of the un-fished population and that fishing mortality should never exceed but should preferably be significantly lower than natural mortality.

Objective 2. Develop and implement a control rule that protects the role of Atlantic herring in the ecosystem while providing for the biological needs of the herring resource and sustainable levels of fishing.

Discussion: In order to adequately account for forage needs, an ABC control rule should:

- Work on conjunction with the overfishing definition to maintain biomass at a target level significantly above B_{MSY} “to enhance and protect the marine ecosystem,” as the NS1 guidelines advise. The ABC control rule could serve as an effective tool for maintaining biomass at a level above B_{MSY} by linearly reducing fishing mortality as biomass declines and establishing a cutoff below which fishing would be prohibited
- Be able to be applied consistently to various stock assessment models and results.
- Compensate for the limitations of the stock assessment’s natural mortality estimate to address forage adequacy. At best, natural mortality estimates can only reveal what portion of the herring population is expected to be removed by predators or other natural causes. These
estimates cannot ensure predator needs are satisfied adequately, nor can they tell you if herring is available to predators in the times and places they need it.

- Be based on the risk policy determined by the Council. The guidelines emphasize that, while the probability of overfishing cannot exceed 50%, it must be less in most cases. Given the importance of herring to the New England region, we would recommend that the risk policy not exceed 30%, which is consistent with precautionary standards in scientific literature. The individual four management area sub-ACLs, which are informed by a risk analysis of overfishing the individual stock components, should also conform to the risk policy.

**Control Rule Criteria**

Evaluation and selection of a final control rule should be based on a suite of pre-established performance metrics such as average and mean biomass, mean and average catch, percent of years with no catch and variability in year-to-year catch. The Pacific sardine control rule used by the Pacific Fishery Management Council was selected based on its performance relative to a suite of characteristics deemed important by the Council, and this control rule would be a good example to investigate.

Objective 3. Facilitate the use of climate science to create a strategy that is robust and responsive to changing climate conditions. (Consistent with Objectives of NOAA Fisheries’ draft Climate Science Strategy, which is intended to be implemented over the next 5 years)

Objective 4. Provide managers with the necessary tools and information to prevent localized depletion of population components in order to protect the spatial and temporal availability of prey. This is especially important considering climate change impacts are driving herring away from traditional predator feeding grounds. The Council needs the tools to make spatial and temporal adjustments in catch patterns to protect predator/prey relationships.

**Conclusion**

Raising our standards for conserving important forage species means changing our management goal from maximizing yields to fisheries to sharing the resource, in a way that recognizes the vital ecological role of these species as prey while still providing for reasonable fishing opportunities. The concept of resource sharing is based on the best available science, it is ecologically sustainable, and it is fair to all marine predators, including humans.

Thank you.
Amendment 8 to the Atlantic Herring FMP

Scoping Hearing Summary

Hilton, Mystic, CT
April 20, 2015

Hearing Officer: Doug Grout, Herring Committee Chairman
Other Council Members: Matt McKenzie, Mary Beth Tooley, Jeff Kaelin (MAFMC)
Council Staff: Lori Steele, Lou Goodreau
Attendance: Approximately 10 audience members

Mr. Grout provided some opening comments about Amendment 8 to the Atlantic Herring Fishery Management Plan (FMP), which proposes to establish a control rule for specifying acceptable biological catch in the Atlantic herring fishery (ABC control rule). He introduced Ms. Steele, Herring FMP Coordinator. Ms. Steele briefed the audience on the Amendment 8 scoping document and summarized the process and timeline for developing the amendment. After an opportunity to ask questions for clarification, scoping comments were taken from the audience regarding the scope of issues to be addressed in the amendment.

Jud Crawford, Pew Charitable Trust: I am going to make comments about the control rule specifically, as well as some other things including what I think fall out of the Council motion that precipitated this amendment in terms of the goals and important things the amendment should do. The amendment and the Council motion that launched this amendment is more about improving the FMP through a control rule. The control rule is obviously a very important part of this, but I think this amendment is very important because it is a significant initiation of EBFM. EBFM is something that the Council has been struggling with for years. We have prioritized it over and over again. This is at least one of the first times that a major fishery has engaged the EBFM crowd and worked together – the people involved with herring management plans and the people working on EBFM – and that’s an important milestone for the Council.

Mr. Crawford read a written statement into the record (see attached #1).

One of the things that can come out of this process is that the Council will have a leg up on how to develop a policy about forage fish in general. Atlantic herring is the most important one that we have a fishery for that we manage, but there are others. The amendment should pave the way for the introduction of EBFM and models that are based on multispecies or ecosystem models because I think that’s where the Council is going. It would make sense to think about some language in this amendment that would facilitate the uptake of those models.
Dave Gelfman, commercial fisherman, Chatham MA: I’ve been arguing for ecosystem-based management for twenty years, since the beginning of my experience with herring fishing. I hope you hurry up. How you are going to ascertain stock assessment numbers to set the thresholds for the ABC control rule – I don’t know how you are going to do that. I don’t think that if you took average catch for the past ten years or that kind of data – I don’t think the numbers are accurate. I would urge you to carefully and conservatively set those numbers and maybe reduce greatly your expectation of what the actual herring population is and how much the ecosystem requires. It is the basic nutrients of the entire northeast system. As the previous speaker mentioned, migrating tuna, striped bass, codfish, dogfish, haddock – so many things rely on herring. To extract them from the ecosystem and use them for bait, fish pellets, whatever, is to disregard the impact on everything else and is a shame. You are going to have to very carefully think about that ABC number. How are you going to know how much the ecosystem needs? We have certainly seen that when the fishing is redirected away from an area, and in the Gulf of Maine, the herring come back in the summertime, and the ecosystem benefits heavily. But I don’t know how you quantify what the actual number of fish required to do that is.

It concerns me that the overall management scheme is too optimistic already. It needs to be much more conservative and assume that there isn’t anything else out there for a lot of these species to eat. It needs to be considered as the foundation of the whole system. The idea also that a conservative approach to the management could lead to further improvements in fish conservation overall in the ecosystem because of lower effort and lower bycatch would be beneficial. I’ve argued for years that since we don’t really have much information about the actual level of bycatch, we don’t know what is going on. We don’t know the forage and how important it is. I would really be extremely conservative and try to take into account the fact that everything out there is eating herring when they can. The average striped bass seem to be smaller. Anecdotally, probably they are less nourished, maybe because of herring, maybe not. But it’s a fairly complicated mixture between the forage and what’s eating it. I urge caution, and at the same time, the faster you can do it, the better.

Chris Weiner, ABTA: I would follow-up on what Dave said. I have been all of the meetings in the last few weeks or month or so. You hear that there are all these other fish that can fill the gap, but anyone who fishes the Gulf of Maine knows that that’s not true. There are sand eels off of Cape Cod sometimes, but sand eels dry up for years on end. If tuna has a choice, they will eat herring every time. That’s what makes them fat. They don’t get fat off sand eels. If you talk to Walt at GMRI, they will tell you that they almost lose weight and quality from sand eels. If you lose herring in the Gulf of Maine, there is nothing to fill that gap. It is very important to remember this. I keep hearing about looking at a forage-wide rule for the whole coast. The Gulf of Maine isn’t what’s off New Jersey and off of Virginia. You need to look at the Gulf of Maine. And I would say even more local that that. Local matters with this issue. The assessment is shaky, but there is a retrospective that is severe, but they say it’s just not bad enough to throw out the assessment. Keep that in mind.

Even if there is enough herring out there, that doesn’t mean anything for Jeffrey’s or Platt’s, or even the Gulf of Maine in general. Herring is what matters. There is not what I would like to see. Somehow, you have to look at the local and spatial aspects of everything. As any fisherman on any side of this issue knows, the ocean is not one big area of fish. There are a lot of little important areas that make up the fisheries. You can’t just look coastwide. There are some mackerel that pass through at times, but tuna are the best predators we have in the Gulf of Maine,
and they rarely eat mackerel, it’s so hard for them to catch. So, I don’t know how cod or pollock or anything else is going to find a way to get high up in the water column and eat mackerel. Even though we have some mackerel passing through, and there are some shad and some squid, but herring is all that matters—even a small amount of herring. We were looking at consumption data the other day—which I’m not sure I would be relying much on that because who knows how or where it was collected—but one of the scientists was saying that a small percentage of the diet is herring. That 20% of herring could make a lot of difference in terms of fat. A small amount of herring could be all of their nutrition for the year. Herring is what drives everything in this region.

We hear a lot about the value of the herring fishery. In my opinion, herring is a lot more valuable for the other predators. Every fishery relies on it. Lobster bait is important, but I think there is going to be plenty of lobster bait no matter how you go down this road. The more important thing is recognizing how important forage is. I don’t know what that means in terms of the control rule, but be careful with it. This isn’t just any other stock. If there is no herring, all of the work that we have done for groundfish and tuna is useless. I don’t know what to do, but I would be careful. I have heard talk at a Committee meeting about maybe we should act as if herring biomass has no impact on the health of other species. Anyone that is a fisherman will laugh at that. I hope that this was a joke because of course the food base matters for the predators. The good fishermen know how to find where the food is because that’s where the predators are. I hope that you recognize the fact that the main purpose of herring in this ecosystem is food. Even if what you do doesn’t change the numbers much, start by recognizing that. Hopefully you will be more conservative because we all rely on this.

Patrick Paquette, recreational fishing advocate from MA: I am also a partner in a business called Striper Tackle. We make rubber baits and own two charter boats that fish in Nantucket and Vineyard Sound. We market our bait to pretty much all of the waters that this Council addresses. We market rubber bait that mimics herring and sand lance. Between my advocacy and these other business interests, there are two specific stories or reasons that I feel show why this amendment needs to move forward. The first is a story of Stellwagen Bank and the western Gulf of Maine. The recent assessment shows that menhaden used to be present, but not anymore in the western Gulf of Maine. Plants have disappeared as recently as 1993. ASMFC isn’t even using NH, Massachusetts, and Maine surveys in their assessment. That was one of our bait fish and key forage species. There isn’t a fisherman or an employee of the State of Massachusetts who deals with fishing that would not stand before this microphone and swear that when we put the outfall pipe that was needed in Boston to process sewerage, the sand eels on Stellwagen were cut by orders of magnitude to the point where when there is an aggregation that it becomes an event that we speak of in meeting rooms. Herring is our last major prevalent bait.

Last year, under the guise of the mackerel fishery, and with herring set-aside, we saw the herring fleet expand up on to the Bank. It was the mackerel fleet, but they were also fishing herring. Anglers are concerned about what happens if yet another forage species that is key to that vibrant area is fished down. The same thing happens except years later, we are far more along in the process, anywhere from Hyannis to Monomoy, we have a robust fishery in the Spring. It begins with squid and krill, and then the herring comes in, and the striped bass fishery is busy. We book two trips a day up until the herring fleet goes to work. At that corner where 1B, 2, and 3 meet—when the fleet comes in and works that corner—when the fleet is done fishing, our striped bass move up past P-Town or down to Block Island. We lose them because our forage has been
broken up. I really hope that the control rule will consider spatial effects – not just about how many there are, but where we are harvesting them. That is important. I know what localized depletion is when we have forage and we have predators, and then we have the industry hit the area hard, and our predators move. And we follow them, but it changes. It’s one thing to be someone who can get someone to pay you to take them fishing. But if you are a recreational angler or tourist who is renting a house or going to a beach – the tourist in Chatham or Hyannis is not going to want to go to Block Island to go stripper fishing. They are not going to want to go up to Plymouth to go fish in a different area. We are hoping that the spatial component can be addressed.

Another thing that I am hoping the control rule considers is age and size structure of the fishery. It has been discussed openly that this assessment has been relying on one and maybe now a second year class. And this could be one of the reasons for this retrospective pattern re-emerging, because we are basing this on one year class. We know that some of the market in the industry has shifted to a lot more fish being trucked up to the Canadian sardine plants. We know that we have a lot smaller herring in the bait catch. I am hoping that this control rule will help management go back to having a healthy spread of year classes in the fishery and that we protect these big year classes when they come through so that we can be feeding this fishery for all of us, not just one part of the industry.

Another thing that I hope this does is that I hope we elevate the discussion when it comes to tradeoffs of values. The way we are managing the fishery currently, it’s just about harvest by one industry. I do believe that forage and the value as it relates recreational fishing and feeding the predators, as it relates to the whale watch boats is important. We have 16 whale watch boats on Cape Cod. Just today, NMFS made an announcement about humpback whales, and I think that eight of those DPSs are around Cape Cod. They feed on herring. We need to have some solid accounting for their ecological role, and not just have it be an afterthought. We should designate or allocate an amount of fish, not an uncertainty buffer, but an actual amount of fish to be left in the water for those other reasons, based on some assumption of value. We will submit longer written comments.

Erica Fuller, Earth Justice: Without repeating the comments we made in Danvers, I have a few additional points to make. Ms. Fuller read a written statement into the record (see attached #2).

Tyler Archer, Fisheries Program Lead, CT Fund for the Environment, Save the Sound: We have about 7,000 members in the Long Island Sound region. Without repeating what has been said, I would like to say that I agree with the general sentiment that we need to protect the forage fish and that herring are essential for the diet of most of the big fish that we go after – stripers, whales, tuna, endangered species, and marine and ocean birds. I would like to touch on a few things that I don’t think have been mentioned yet. One, there has been fairly recent precedent for success under a program like this. A couple years ago, the ASMFC set a total allowable catch for menhaden. And since then, we have seen the menhaden reduction industry, principally Omega, experience record profits under the system. And there has been 300 billion more fish left in the ocean for these predators to eat. This is good conservation and stewardship. We are getting good economic benefits out of this, and also the ecological importance of these forage fish.
Second, I would also agree with the fisherman who was saying that we need to be cautious and conservative with these stock assessments. Stock assessments need to be credible and well-defined. We need to have a good understanding of where the fish are, where they are located and how many there are, so that the predators have enough to eat when and where they need them. Again, the ASMFC lowered the limit for striped bass. In CT, we can only take one, when we used to be able to take two. That's a 50% cut, that hurts recreational fishing and commercial fishing. We just need to make sure that we understand where the herring are and how many there are and what we can do to protect them as best we can. I would also definitely agree that we need to set an ABC control rule that is well above the MSY so that there is a buffer between what the industry needs and what the ecosystem needs. And as stock assessments start to decline, we get into a position where we can regulate the industry more so that the whole ecosystem as a whole does not collapse.
Herring A8 Hearing

This Amendment, and the Council motion that launched it, is about much more than improving the herring FMP with a new control rule. The control rule is important but the contribution that this amendment can make to launching EBFM in New England is also very important.

The Amended FMP must ensure that catches are managed so that herring are maintained at higher biomass making them available as a food source for predators throughout the range of Atlantic herring and at times and in places where predators use them.

Managing Atlantic herring must:
1. Protect the herring stock
2. Protect stocks that depend upon herring
3. Getting M right is important for a reliable stock assessment – but does not deal with this issue of dependent predators and herring population levels needed for them.

Overarching goals for the amendment:
1. Establish a control rule for the Atlantic herring fishery that accounts for herring’s role as forage in the ecosystem;
2. Establish reference points within an Ecosystem Based Fisheries Management (EBFM) context;
3. Manage Atlantic herring as forage fish within an ecosystem context;
4. Develop ecological guidance on managing forage fish in general;

Ecological tradeoffs to consider – consequences of over-harvesting herring
- Decreased food for depleted groundfish that are under federal rebuilding programs (e.g., cod)
- Decreased food for marine mammals protected by federal laws and managed for population recovery (e.g., humpback and fin whales, Harbor porpoise and Atlantic White-Sided dolphins)
- Depletion of herring forage for seabirds including threatened and endangered species (e.g., roseate and common terns, and Atlantic puffins)
• Depletion of food for long-distance migrants such as bluefin tuna hunting seasonally in the Gulf of Maine for herring and other forage fish.

Control rule – SS Assessment Available
1. Target: maintain the stock biomass at or above a target biomass \( B_{\text{target}} \) appropriate for Atlantic herring as a key forage species within the Northeast US Continental Shelf Large Marine Ecosystem:

\[
B_{\text{target}} = 75\% \, B_0 \quad \text{\{substantially above } B_{\text{MSY}}\}\]

2. Cutoff: temporarily suspend fishing when or if the stock biomass falls below an appropriate cut-off biomass \( B_{\text{cutoff}} \):

\[
B_{\text{cutoff}} = 40\% B_0
\]

3. Biomass-dependent catch rate: adjusts catch rate \( F \) systematically as the stock biomass falls below the target; thus, the overfishing definition should be conditioned on stock biomass;

Backstop Control Rule – no acceptable SS Stock Assessment

Data poor rule: \( \frac{1}{2} \) Median Catch – most recent 10 years.

NOAA Technical Memorandum NMFS-SEFSC-616

EBFM and New Models – A8 should pave the way for adopting updated reference points and control rules based on
• Multi-species models
• Ecosystem models

#1 Jud Crawford
Erica Fuller speaking obo Earthjustice

First, I want to thank the Council again for initiating Amendment 8 and Staff for the work they’ve already done. Without repeating the comments made in Danvers on behalf of our clients in Flaherty v. Bryson, I have a few additional points to make.

Last year, the Council passed a motion that shows a commitment to several important and interrelated goals:

1. Developing ecological guidance on managing forage fish;
2. Managing Atlantic herring as forage fish within an ecosystem context;
3. Establishing reference points within an Ecosystem Based Fisheries Management context; and
4. Establishing a control rule for the Atlantic herring fishery that accounts for herring’s role as forage in the ecosystem.

These commitments should be formally adopted as goals of Amendment 8. Not only do they improve protections for Atlantic herring but they ensure abundant food for the other species that depend upon herring as prey. They are particularly important as part of Amendment 8 because the New England Council doesn’t have a Forage Fish Policy and the RPWG expressly rejected addressing forage considerations in the Council’s Risk Policy.

In the last 5 months, the Herring and EBFM PDTs have done a great deal of work to provide ecological guidance on herring’s role as forage to the Council in June as part of Amendment 8. Recognizing that science is not perfect and that data gaps remain, certain basic ecological principles should be considered when developing a long term control rule for herring especially in the face of changing ocean conditions and increased demand for forage species:

- Atlantic herring play a crucial role in our regions food web transferring energy from plankton to larger predators;
- Their schooling behavior and response to environmental conditions can cause large shifts in abundance, distribution or both;
- Certain predators are opportunistic and feed on a variety of lower trophic level species, however, others are selective and increased abundance will help to ensure that herring of the right size and age, are in the right places and at the right times, for these predators;
- Even for non-selective predators, herring has a higher nutritional value than other prey species - meaning less distance traveled to feed, increased fecundity, increased recruitment, and increased biomass; and finally
- It’s risky to assume that even if herring populations crash, that another prey species (like sand lance) will necessarily fill the void.

New England has made more than its share of short-term economic decisions with catastrophic results for groundfish. All indications are that Atlantic herring is not overfished and that biomass is in good shape right now - making this the best time to adopt a long term control rule with the least economic
impact on the fishery and communities that depend upon its removal. However, to increase resiliency in the ecosystem, catch limits for herring should be set in a precautionary manner that accounts the high degree of variability in populations and its importance to the ecosystem, other fisheries, and other businesses, that all depend upon leaving sufficient biomass in the water for predators. To provide the greatest overall benefit to the Nation, a long term control rule for herring should both: (1) maintain sufficient biomass to protect the marine ecosystem; and (2) implement an effective cutoff that closes the fishery immediately when biomass dips too low.

Finally, although the degree of the retrospective pattern in the most recent herring stock assessment update was significant enough that Staff expected it to be rejected, it wasn’t ultimately rejected by the review panel and a new benchmark has not been scheduled. This means that instead of short term catch advice while waiting an expedited benchmark, the SSC will be asked to provide an ABC recommendation, once again using an interim control rule for potentially the next three years. The SSC must account for this increased scientific uncertainty when it makes its ABC recommendation for herring later this summer. Earthjustice also urges the Council to take advantage of the ecological guidance provided by the PDTs in conjunction with Amendment 8 and account for herring’s role as forage when it sets catch limits for the 2016-2018 specifications.