New England Fishery Management Council
50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116
E.F. "Terry" Stockwell III, *Chairman* | Thomas A. Nies, *Executive Director*

Amendment 8 to the Atlantic Herring FMP
Scoping Webinar – Hearing Summary

Webinar Hearing
April 6, 2015

Hearing Officer: Doug 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 1985. 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.