



New England Fishery Management Council

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C.M. "Rip" Cunningham, Jr., *Chairman* | Paul J. Howard, *Executive Director*

Written Comments received  
for Draft Amendment 5 to the Herring FMP

*These are comments received during the NEPA comment period  
(April 20, 2012 – June 4, 2012)*



Anthony LiCausi  
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Melrose, Ma 02176  
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May 14<sup>th</sup>, 2012

Ms. Carrie Nordeen  
National Marine Fisheries Service  
55 Great Republic Drive  
Gloucester, MA 01930

Re: Herring Amendment 5 DEIS

Dear Carrie,

I am writing today to offer my comments on the Draft Environmental Impact Statement (DEIS) for Herring Amendment 5.

As a fisherman for over 40 years, I have seen firsthand the negative impacts on fish that prey on herring created by the large mid-water trawlers. These boats have been able to fish with rules that are totally inadequate to sustain the fishery given the size and fishing power of the fleet. The Council must ensure that these problems are finally addressed when decisions are made for Amendment 5.

At minimum, the following actions should be approved:

- 100% observer coverage on Category A and B herring vessels in order to provide reliable estimates of all catch, including by catch of river herring, cod, haddock, Bluefin tuna, and other marine life (Section 3.2.1.2 Alternative 2).
- Closed Area I (CAI) provisions with trip termination after 10 dumping events in order to reduce dumping on Category A and B vessels. Given the nature of the gear being used in the fishery, it is critical that rules are put in place to make sure that un-sampled dumping is not occurring. (Section 3.2.3.4 Alternative 4C)
- Prohibit herring mid-water trawl vessels from fishing in ground fish Closed Areas. These boats should have never been allowed in to begin with. (Section 3.4.4 Alternative 5)
- Implement measures to require weighing of catch across the fishery so that managers have accurate data on how much herring is being landed in the fishery. (Section 3.5.1 Option 2)

By taking these steps, the Council will be able to fix many of the most pressing problems in this fishery. Please do what is right and approve these measures.

Thanks for your consideration,

Anthony LiCausi

**Joan O'Leary**

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**From:** HER Amendment5 <heramendment5@noaa.gov>  
**Sent:** Wednesday, May 23, 2012 2:07 PM  
**To:** Rachel A. Neild  
**Subject:** Fwd: Comments on Herring amendments  
**Attachments:** May 14th Herring Comment.docx

----- Forwarded message -----

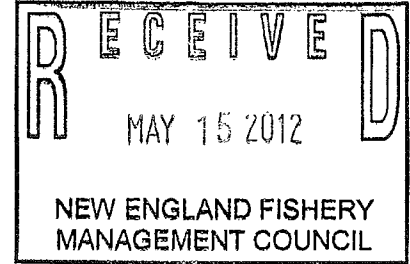
**From:** **Cody Hallett** <cody-1012@hotmail.com>  
**Date:** Mon, May 14, 2012 at 7:35 AM  
**Subject:** Comments on Herring amendments  
**To:** [heramendment5@noaa.gov](mailto:heramendment5@noaa.gov)

Attached is a file regarding the herring amendments

# Alewife Harvesters of Maine



“Conserving to preserve Maine’s heritage



Captain Paul Howard, Executive Director  
New England Fishery Management Council  
50 Water Street, Mill 2  
Newburyport, MA 01950

April 30, 2012

Re: Amendment 5 to the Atlantic Herring FMP

Dear Capt. Howard,

I am writing to submit comments on Amendment 5 to the Atlantic Herring Fishery Management Plan from the Alewife Harvesters of Maine (AHM). AHM is a 501(c)(6) organization dedicated to preserving river herring (alewife primarily, but also blueback herring) runs and the heritage of alewife fisheries across the state of Maine. Amendment 5 is of great interest to our organization as it represents the first significant attempt to manage interactions between the oceanic fishery for Atlantic herring and the in-river fisheries for river herring. AHM has a philosophy of partnership and willingness to work with any stakeholder interested in sustainable fisheries. We believe that the Atlantic herring fishery is important in the region, both for herring fishermen and lobstermen (who are also the primary customers of our harvesters), and that the two herring fisheries can sustainably co-exist.

River herring fisheries are now held to a high standard of sustainability following passage of Amendment 2 to the ASMFC’s Shad and River Herring Interstate Management Plan. The burden of proof for sustainability has shifted to river herring harvesters along the coast, and we must now demonstrate adequate stock status, monitoring and management in order for harvest to persist. Conversely, harvest of river herring by the Atlantic herring fleet is unmanaged, and Amendment 5 presents our first opportunity to rectify that imbalance.

Accordingly, AHM particularly supports the following two alternatives in the amendment:

Section 3.2 – Catch monitoring at sea

Support Alternative 2 in section 3.2.1.2 (100% coverage) with funding Option 2 (federal + industry).

The debate over bycatch impacts on river herring populations has been hampered by limited and noisy data collected to summarize the volume of bycatch. Improving the quantity and quality of data can allow both better understanding of impacts and development of more effective solutions. Ongoing work to map genetic profiles of alewives along the coast will allow bycatch impacts to be linked to particular geographic regions if biological samples are collected as part of the monitoring program. The volume of the Atlantic herring fishery coupled with

the dire status of many river herring populations outside of Maine means complete monitoring is essential to finding a balance between the two fisheries.

Section 3.3 – Measures to address river herring bycatch

Support Alternative 3 (protection areas) with Option 2 (triggered closures).

Ideally, we would implement a river herring bycatch cap. However, that is probably impractical in the near term until we can determine a number that is not so low as to be meaningless and so high as to be economically devastating for the herring fleet. The increased monitoring supported above will help us arrive at appropriate catch cap levels. In the meantime, closing known bycatch hotspots when a threshold is reached seems to find the right balance between minimizing economic impacts on the herring fleet, and by extension the lobster fishery, and achieving meaningful and lasting reductions.

Also, we note that the fleet communication and avoidance system being developed and tested by the Sustainable Fisheries Coalition, SMAST and Massachusetts DMF has tremendous potential to help the fleet avoid triggered closures, as well as avoiding a bycatch cap, if management moves in that direction eventually. However, that program alone is inadequate because there are no actions required by the fleet in response to hitting threshold bycatch levels. Until regulatory action or a legally binding contract within the fleet creates the needed requirements, this program will best serve as a prototype for controlling bycatch, best employed within the framework of other regulations.

Thank you for considering the views of AHM. We look forward to working with NEFMC in continuing to improve sustainable management for New England fishermen.

Sincerely,



Jeffrey Pierce  
Executive Director and Founder



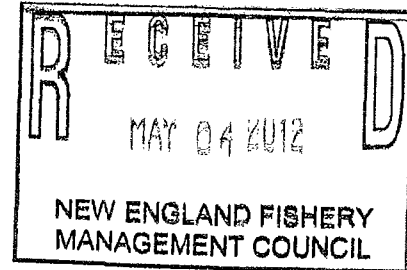
**EARTHJUSTICE**

ALASKA CALIFORNIA FLORIDA MID-PACIFIC NORTHEAST NORTHERN ROCKIES  
NORTHWEST ROCKY MOUNTAIN WASHINGTON, DC INTERNATIONAL

May 4, 2012

Mr. Daniel Morris, Acting NMFS Regional Administrator  
Northeast Regional Office  
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Gloucester, MA 01930  
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Paul Howard, Executive Director  
New England Fishery Management Council  
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Re: Public Comment on Draft Amendment 5 to the Atlantic Herring Fishery Management Plan and its Draft EIS No. 20120104. *See* Notice Of Availability, 77 Fed. Reg. 23713 (Apr. 20, 2012).

Dear Mr. Morris and Mr. Howard,

On behalf of Michael S. Flaherty, Captain Alan Hastbacka, and the Ocean River Institute (together “Mr. Flaherty”) please accept these comments on Amendment 5 and its DEIS. It is Mr. Flaherty’s view that blueback herring, alewife, American shad, and hickory shad (together “River Herring”) must be added to the Atlantic herring FMP because these stocks are without question involved in the fishery and in need of conservation and management. *See Flaherty v. Bryson*, 2012 WL 752323 (D.D.C. Mar. 9, 2012), 16 U.S.C. § 1852(h)(1), and 50 C.F.R. § 600.310(d)(1). The “river herring catch cap in a future” alternative, *see* Amendment 5 DEIS, § 3.3.5 at p. 76, should be modified to add these species to the FMP as stocks in the fishery, and a trailing action should be initiated immediately to set the actual ACLs, AMs, and other required management measures, similar to Alternative set 9b-9e currently contained in the Mid-Atlantic Fishery Management Council’s Amendment 14 to the Squid, Mackerel, Butterfish FMP DEIS, attached as Exhibit 1.

The documents listed below and either included as attachments to this letter, or provided through citation because their file size is too large to easily transmit, support the requested action. Please include all of these documents in the Amendment 5 administrative record and ensure that they are considered as part of your deliberations on Amendment 5:

1. The NMFS finding that a listing of river herring under the Endangered Species Act as a “threatened” species may be warranted. See 76 Fed. Reg. 67652 (Nov. 2, 2011), attached as Exhibit 2.
2. The ASMFC’s American Shad Stock Assessment Report No. 07-01, entitled *American Shad Stock Assessment Report for Peer Review – Volume I* (Stock Assessment Overview (August 2007)), Volume II (State-Specific Assessments for Maine to Delaware River and Bay (August 2007)), and Volume III (State-Specific Assessments for Maryland to Florida (August 2007)), all available at: <http://www.asmfc.org/> (follow link to Managed Species, follow link to Shad and River Herring, see Stock Assessment Reports).
3. The ASMFC’s American Shad Peer Review Report of the American Shad Stock Assessment Report No. 07-01, entitled *Terms of Reference & Advisory Report to the American Shad Stock Assessment Peer Review*, attached as Exhibit 3 and also available at: <http://www.asmfc.org/> (follow link to Managed Species, follow link to Shad and River Herring, see Stock Assessment Reports).
4. The ASMFC’s River Herring Stock Assessment Report No. 12-02, available at: <http://www.asmfc.org/meetings/2012SpringMtg/ShadandRiverHerringManagementBoard2.pdf>.
5. The ASMFC’s River Herring Peer Review of Stock Assessment Report No. 12-02, entitled *Terms of Reference & Advisory Report of the River Herring Stock Assessment Peer Review*, attached as Exhibit 4 and also available at: <http://www.asmfc.org/> (follow link to Meetings, follow link to ASMFC Spring Meeting, follow link to Shad and River herring Management Board Materials #2, pp. 1-36. The Stock Assessment Report and the Peer Review Report were accepted for management use by the ASMFC on May 1, 2012.
6. The MAFMC’s Alternative Set 9 to the MAFMC’s Draft EIS for Amendment 14 to the Atlantic Mackerel, Squid, and Butterfish Fishery Management Plan, attached as Exhibit 1 and also available at: [http://www.mafmc.org/fmp/msb\\_files/msbAm14current.htm](http://www.mafmc.org/fmp/msb_files/msbAm14current.htm) pp. 82-88, 189-195.
7. The MAFMC’s Amendment 14 to the Atlantic Mackerel, Squid, and Butterfish (MSB) Fishery Management Plan (FMP), available at: [http://www.mafmc.org/fmp/msb\\_files/msbAm14current.htm](http://www.mafmc.org/fmp/msb_files/msbAm14current.htm) (follow link to Full Amendment 14 Draft Environmental Impact Statement is available: Click Here).
8. Judge Kessler’s Opinion in the United States District Court for the District of Columbia, *Flaherty v. Bryson*, 2012 WL 752323 (D.D.C. Mar. 9, 2012), attached as Exhibit 5.

Thank you for considering these comments. Mr. Flaherty, Mr. Hastbacka, and the Ocean River Institute intend to comment further on Amendment 5 as part of CHOIR or the Herring Alliance, and may also supplement these comments individually as well.

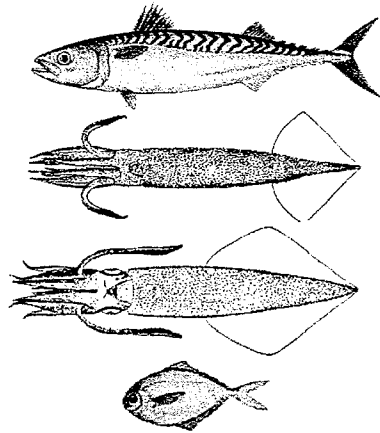


Sincerely,

/s/ Roger Fleming  
Roger Fleming, Attorney  
Erica Fuller, Attorney  
Earthjustice  
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[efuller@earthjustice.org](mailto:efuller@earthjustice.org)

**AMENDMENT 14 TO THE  
ATLANTIC MACKEREL, SQUID, AND BUTTERFISH (MSB)  
FISHERY MANAGEMENT PLAN (FMP)**

**Draft Environmental Impact Statement**  
**The Executive Summary will serve as the Public Hearing Document**



-----April 2012-----

**Mid Atlantic Fishery Management Council  
in cooperation with  
the National Marine Fisheries Service (NOAA Fisheries)**

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## ***5.9 Alternative Set 9 - Add RH/S Stocks as "Stocks in the Fishery" within the MSB FMP***

### **5.9.1 Statement of Problem/Need for Action**

The overall existing federal/state/regional management framework may be insufficient to adequately conserve RH/S stocks (see Section 6.2 for a summary of RH/S stock statuses). Adding RH/S stocks as "stocks in the fishery" in the MSB FMP would not fix every problem but would bring some additional resources to bear on RH/S problems, though that may mean that other management priorities receive less resources.

Note: It is not possible to develop all of the measures (especially essential fish habitat or EFH) that would be necessary for the FMP not to be deficient if any RH/S species were officially added as stocks in the fishery in this document. Instead, selection of an Alternative Set 9 action alternative would "kick off" another Amendment to fully add stocks to the MSB FMP in a manner that would keep the plan in compliance with the Magnuson Stevens Act. The Act's required provisions for management plans are included below.

### **5.9.2 General Rationale & Background**

#### **Current Management**

The Atlantic States Marine Fisheries Commission (Commission) manages RH/S with its Interstate Fishery Management Plan for Shad and River Herring (FMP) under the authority of the Atlantic Coastal Fisheries Cooperative Management Act (ACFCMA). Shad and river herring management authority lies with the coastal states and is coordinated through the Commission. Responsibility for compatible management action in the Exclusive Economic Zone (EEZ) from 3-200 miles from shore lies with the Secretary of Commerce through ACFCMA in the absence of a federal fishery management plan. Comprehensive assessments are not currently available for RH/S but most indications point to depressed runs in most river systems.

The ASMFC implemented river herring moratoria for all states on Jan 1, 2012 except those states (e.g. Maine which landed over 1,000,000 pounds of river herring in 2010) that have approved sustainable fishing plans. The ASMFC will have implemented shad moratoria for all states by Jan 1, 2013 except those states have approved sustainable fishing plans. Ocean shad fisheries have been phased out for all states but some in-river fisheries still exists.

The ASMFC defines a sustainable fishery as "a commercial and/or recreational fishery that will not diminish the potential future stock reproduction and recruitment." Submitted plans must clearly demonstrate that the state's or jurisdiction's fisheries meet this definition of sustainability through the development of sustainability targets which must be achieved and maintained. All river systems are allowed to maintain a catch and release recreational fishery. States and jurisdictions are also required to identify local significant threats to shad critical habitat and develop a plan for mitigation and restoration. Recommendations for river herring habitat improvement have also been approved by the ASMFC.

Approved sustainable fishing plans vary by state and are available by contacting the ASMFC ([asmfc.org](http://asmfc.org)), but the main point is that by 2013, any state landings of RH/S should be sustainable (ASMFC 2011).

Habitat restoration efforts have focused on improved fish passages around dams and dam removal with 100s of projects completed in that last 25 years. Each project opens up varying additional river miles to anadromous fish passage and spawning (Pers Com Kate Taylor, ASMFC). These are often joint state-federal projects with cooperation between the states, NOAA, U.S. Fish and Wildlife (U.S. F&WS), and private organizations such as American Rivers. Hundreds of millions of dollars have been spent on such activities over the last 25 years (pers com, Larry Miller, U.S. F&WS). Additional information on current RH/S stock status is available in Section 6.2 and detailed information on the RH/S stocks and fisheries is available in the ASMFC's annual RH/S status update, available at: <http://www.asmfc.org/shadRiverHerring.htm>.

While states cannot make regulations in federal waters (beyond three miles), state requirements can have impacts on federal vessels since vessels must transit state waters to land their fish. It is not entirely clear how impending state moratoria will impact federal vessels since some are just coming online and they may differ between the states. However, some states like Virginia are prohibiting all possession of any river herring in addition. This means that a vessel with incidental river herring catch onboard from fishing in federal waters would be in violation once it entered state waters. Other states, may prohibit retention of river herring caught in state waters but allow transiting. Once the Final EIS is written there should be additional clarity on the various state regulations for 2012.

### Magnuson Stevens Act

The Magnuson Stevens Act (MSA) states the following regarding Council responsibilities: "...Each Council shall...for each fishery under its authority that requires conservation and management, prepare and submit to the Secretary (A) a fishery management plan..."

Regarding Councils' authorities, MSA states: "The Mid-Atlantic Fishery Management Council shall consist of the States of New York, New Jersey, Delaware, Pennsylvania, Maryland, Virginia, and North Carolina and shall have authority over the fisheries in the Atlantic Ocean seaward of such States..."

NMFS has published guidelines (available at: <http://www.nmfs.noaa.gov/msa2007/catchlimits.htm>) in the Federal Register regarding MSA's National Standard 1 (NS1) which states: "Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry."

The NS1 Final Rule states: "The relevant Council determines which specific target stocks and/or non-target stocks to include in a fishery." Regarding non-target species like RH/S, the rule states "They may or may not be retained for sale or personal use. Non-target species may be included in a fishery and, if so, they should be identified at the stock level." The rule also describes a concept called ecosystem component species but it is not clear what obligations that would trigger other than standard MSA provisions to reduce bycatch under National Standard 9. Regardless, guidance that ecosystem component species should "Not be likely to become subject to overfishing or overfished... in the absence of conservation and management measures" and "Not generally be retained for sale or personal use" would seem to preclude designation of RH/S as ecosystem component species.

Given the preceding paragraph, it would seem to be at the discretion of the Council whether to adopt RH/S as “stocks” in the fishery within the MSB FMP. Doing so essentially would add RH/S as managed resources just like the squids, mackerel, and butterfish and would trigger requirements including status determination criteria, ACLs/AMs, EFH designations, and rebuilding if necessary.

Given that the Atlantic States Marine Fisheries Commission (ASMFC) already has a plan to manage RH/S, it would appear viable to either continue to address the RH/S incidental catch that occurs in the Councils’ existing managed fisheries cooperatively with the ASMFC or to add one or more of the RH/S species to the MSB FMP depending on the Council’s judgment about which route will provide for optimal management.

One question that has surfaced repeatedly has been could the Council add river herring or shad as stocks in the fishery but use the ACL/AM flexibility provisions of the NS1 guidance to defer to ASMFC for primary management as the NPFMC is considering for salmon and deferring to Alaska? This could theoretically allow the designation of EFH and result in greater federal resources without having to deal with ACLs for these currently data-poor stocks. There are several key issues however, which become evident when reviewing analysis for updating the NPFMC's salmon plan (<http://www.fakr.noaa.gov/npfmc/>), where Alaska has primary authority even though it is a federally managed species. First, Alaska has a long history of well-documented successful/sustainable management with salmon. Second, the salmon situation is different in that RH/S landings, and certainly discards, appear not nearly as well documented (especially at the species level) as salmon. Existing or pending ASMFC moratoriums will likely address most of the landings control, but not address discarding in state or Federal fisheries. For these reasons it currently seems likely that the establishment ACLs and AMs would be necessary. This is at least the viewpoint of the Amendment 14 FMAT and NOAA GC, though the Council looks forward to getting additional perspectives on this topic during the public input process.

The ACL flexibility guidelines also still require consistency with Magnuson (alternatives to ACLs/AMs would have to essentially achieve the same results). So even if primary management could be ceded to the ASMFC, the Council’s suite of management measures would still have to function as ACLs/AMs. Thus the Council would still have to implement hard caps on its other managed species to control overall catch. Further, even if ASMFC had primary responsibility, the Council would still have to limit incidental catch in its directed fisheries based on the best available science about what catch level is consistent with sustainability and/or rebuilding as well as accounting upfront for whatever catch (landings and/or discards) occurs in state waters. Thus while there might not be ACLs/AMs on paper, the caps on incidental catch in Council-managed fisheries would need to have the same function as ACLs/AMs in order to be consistent with the Magnuson Act and the National Standard One final rule guidelines. Again however, this is the viewpoint of the Amendment 14 FMAT and NOAA GC and the Council looks forward to getting additional perspectives on this topic during the public input process.

If RH/S were added to the MSB FMP, the Magnuson Act states that fishery management plans shall:

- (1) contain the conservation and management measures, applicable to foreign fishing and fishing by vessels of the United States, which are--
  - (A) necessary and appropriate for the conservation and management of the fishery to prevent overfishing and rebuild overfished stocks, and to protect, restore, and promote the long-term health and stability of the fishery;
  - (B) described in this subsection or subsection (b), or both; and
  - (C) consistent with the national standards, the other provisions of this Act, regulations



implementing recommendations by international organizations in which the United States participates (including but not limited to closed areas, quotas, and size limits), and any other applicable law;

(2) contain a description of the fishery, including, but not limited to, the number of vessels involved, the type and quantity of fishing gear used, the species of fish involved and their location, the cost likely to be incurred in management, actual and potential revenues from the fishery, any recreational interest in the fishery, and the nature and extent of foreign fishing and Indian treaty fishing rights, if any;

(3) assess and specify the present and probable future condition of, and the maximum sustainable yield and optimum yield from, the fishery, and include a summary of the information utilized in making such specification;

(4) assess and specify--

(A) the capacity and the extent to which fishing vessels of the United States, on an annual basis, will harvest the optimum yield specified under paragraph (3),

(B) the portion of such optimum yield which, on an annual basis, will not be harvested by fishing vessels of the United States and can be made available for foreign fishing, and

(C) the capacity and extent to which United States fish processors, on an annual basis, will process that portion of such optimum yield that will be harvested by fishing vessels of the United States;

(5) specify the pertinent data which shall be submitted to the Secretary with respect to commercial, recreational, charter fishing, and fish processing in the fishery, including, but not limited to, information regarding the type and quantity of fishing gear used, catch by species in numbers of fish or weight thereof, areas in which fishing was engaged in, time of fishing, number of hauls, economic information necessary to meet the requirements of this Act, and the estimated processing capacity of, and the actual processing capacity utilized by, United States fish processors;

(6) consider and provide for temporary adjustments, after consultation with the Coast Guard and persons utilizing the fishery, regarding access to the fishery for vessels otherwise prevented from harvesting because of weather or other ocean conditions affecting the safe conduct of the fishery; except that the adjustment shall not adversely affect conservation efforts in other fisheries or discriminate among participants in the affected fishery;

(7) describe and identify essential fish habitat (EFH) for the fishery based on the guidelines established by the Secretary under section 305(b)(1)(A), minimize to the extent practicable adverse effects on such habitat caused by fishing, and identify other actions to encourage the conservation and enhancement of such habitat;

(8) in the case of a fishery management plan that, after January 1, 1991, is submitted to the Secretary for review under section 304(a) (including any plan for which an amendment is submitted to the Secretary for such review) or is prepared by the Secretary, assess and specify the nature and extent of scientific data which is needed for effective implementation of the plan;

(9) include a fishery impact statement for the plan or amendment (in the case of a plan or amendment thereto submitted to or prepared by the Secretary after October 1, 1990) which shall assess, specify, and analyze the likely effects, if any, including the cumulative conservation, economic, and social impacts, of the conservation and management measures on, and possible mitigation measures for—

- (A) participants in the fisheries and fishing communities affected by the plan or amendment;
- (B) participants in the fisheries conducted in adjacent areas under the authority of another Council, after consultation with such Council and representatives of those participants; and
- (C) the safety of human life at sea, including whether and to what extent such measures may affect the safety of participants in the fishery;

(10) specify objective and measurable criteria for identifying when the fishery to which the plan applies is overfished (with an analysis of how the criteria were determined and the relationship of the criteria to the reproductive potential of stocks of fish in that fishery) and, in the case of a fishery which the Council or the Secretary has determined is approaching an overfished condition or is overfished, contain conservation and management measures to prevent overfishing or end overfishing and rebuild the fishery;

(11) establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery, and include conservation and management measures that, to the extent practicable and in the following priority--

- (A) minimize bycatch; and
- (B) minimize the mortality of bycatch which cannot be avoided;

(12) assess the type and amount of fish caught and released alive during recreational fishing under catch and release fishery management programs and the mortality of such fish, and include conservation and management measures that, to the extent practicable, minimize mortality and ensure the extended survival of such fish;

(13) include a description of the commercial, recreational, and charter fishing sectors which participate in the fishery, including its economic impact, and, to the extent practicable, quantify trends in landings of the managed fishery resource by the commercial, recreational, and charter fishing sectors;

(14) to the extent that rebuilding plans or other conservation and management measures which reduce the overall harvest in a fishery are necessary, allocate, taking into consideration the economic impact of the harvest restrictions or recovery benefits on the fishery participants in each sector, any harvest restrictions or recovery benefits fairly and equitably among the commercial, recreational, and charter fishing sectors in the fishery and;

(15) establish a mechanism for specifying annual catch limits (ACLs) in the plan (including a multiyear plan), implementing regulations, or annual specifications, at a level such that overfishing does not occur in the fishery, including measures to ensure accountability (AMs).

### **5.9.3 Management Alternatives**

NOTE ON COMBINATIONS: All of the action alternatives in the set could be adopted individually or together.

#### **9a. No-action**

Under the no-action alternative, primary RH/S management would continue to rest with the states as coordinated through the ASMFC as described above in section 5.9.2. The states would continue to address catch in state waters and address habitat improvements through collaborative work with NOAA, U.S. F&W Service, and private partners. From the Council perspective, RH/S would continue to be managed as a bycatch species, with bycatch to be minimized to the extent practicable. The Council could also continue to consider discretionary measures designed to reduce retained incidental catch (bycatch is defined as discards in the MSA) as it is doing in Amendment 14.

#### **9b. Add blueback herring as a stock in the MSB FMP.**

#### **9c. Add alewife as a stock in the MSB FMP.**

#### **9d. Add American shad as a stock in the MSB FMP.**

#### **9e. Add hickory shad as a stock in the MSB FMP.**

The Council could add none, one, or any combination of these species as “stocks” in the fishery. Selecting any of the action alternatives would result in the Council immediately beginning another amendment to add all of the provisions 1-15 above to the FMP for any species that is added. Such a process would likely take another 1-2 years to complete, with the development of ACLs/AMs (or ACL alternatives) and essential fish habitat designations taking the most time and being the most substantive of those provisions.

If an assessment was available and if it contained accepted reference points, any need for rebuilding that was indicated by those reference points could also lead to major actions.

Since RH/S are already managed by the ASMFC, and since substantial catches of RH/S take place in state waters, the plan would likely have to be a joint plan with the ASMFC. It is possible that the Council could attempt to defer primary management of catches (ACLs) to the ASMFC as discussed below.

Once the species were added through the follow-up amendment, NMFS would begin conducting habitat consultations for any identified EFH for federal and/or federally permitted actions (i.e. non-fishing impacts). An evaluation of fishing activities impacts on RH/S habitat and consideration of measures to minimize such impacts would also take place, possibly in the follow-up amendment or possibly afterward through another action.

In the amendment to implement the MSA provisions for a “stock in the fishery,” the Council would have to decide whether to implement standard ACLs with accountability measures or make the case that an alternative equivalent could function as an ACL (this applies to any RH/S species that were added). In the first case, the Council’s SSC would have to provide an Acceptable Biological Catch (ABC) (regardless of whether information was available on sustainable catch levels), which would be the ACL,

and then all sources of mortality would have to be accounted for and controlled to ensure that the ACL was not exceeded. Such controls could involve RH/S retention limits, retention prohibitions, and or measures to reduce discards from relevant gear types such that ACLs would not be exceeded.

In the second case, the Council would have to make the case that alternative management measures are taking the place of an ACL, in the way that the North Pacific Fishery Management Council has made the case that Salmon moratoria in certain federal waters plus Alaska's escapement-based management measures effectively create a justifiable alternative approach to Council-derived ACLs/AMs. Their argument hinges on the fact that the State of Alaska monitors catch in all of the salmon fisheries and manages salmon holistically by incorporating all the sources of fishing mortality on a particular stock or stock complex in calculating the escapement goal range. As explained above, overfishing is prevented by in-season monitoring and data collection that indicates when an escapement goal is not being met. When the data indicate low run strength due to natural fluctuations in salmon abundance, Alaska Department of Fish & Game closes the fishery to ensure the escapement goal range is reached. Biological escapement goal (BEG) means the escapement that provides the greatest potential for maximum sustained yield. BEG is the primary management objective for escapement (NPFMC 2011).

In order to pursue a similar path a be consistent with the MSA, it would appear that the Council would have to make that argument that the States were pursuing management based on biologically-based escapement goals and that those goals had taken all sources of mortality into account, including ocean-intercept fishing mortality. This may be problematic especially in states with moratoriums because they do not know the status of their runs (most) – if they do not know the status of their runs it would seem to be difficult to make the case that whatever at-sea mortality occurs has been accounted for and that taking everything into consideration a sustainable outcome would result.

The two ACL/AM approaches described above would be options for the Council to explore if it decided to move forward with adding any RH/S species as stocks in the MSB FMP.

Note: Due to the difficulty in identifying the two river herrings and the two shads in landings data it is assumed that for ACL/AM purposes that they could be addressed together (i.e. a river herring ACL and a shad ACL).

**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**50 CFR Parts 223 and 224**

[Docket No. 111024651–1650–01]

RIN 0648–XA739

**Listing Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition To List Alewife and Blueback Herring as Threatened Under the Endangered Species Act**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** 90-day petition finding; request for comments.

**SUMMARY:** We, NMFS, announce a 90-day finding for a petition to list alewife (*Alosa pseudoharengus*) and blueback herring (*Alosa aestivalis*) as threatened under the Endangered Species Act and to designate critical habitat concurrent with a listing. We find that the petition presents substantial scientific information indicating the petitioned action may be warranted. Accordingly, we will conduct a review of the status of alewife and blueback herring, collectively referred to as river herring, to determine if the petitioned action is warranted. To ensure that the review is comprehensive, we solicit information pertaining to this species from any interested party.

**DATES:** Information related to this petition finding must be received by January 3, 2012.

**ADDRESSES:** You may submit comments, identified by the RIN 0648–XA739, by any of the following methods:

- **Electronic Submissions:** Submit all electronic public comments via the Federal eRulemaking Portal <http://www.regulations.gov>. Follow the instructions for submitting comments.

- **Mail or hand-delivery:** Assistant Regional Administrator, NMFS, Northeast Regional Office, 55 Great Republic Drive, Gloucester, MA 01930.

All comments received are a part of the public record and will generally be posted to <http://www.regulations.gov> without change. All Personal Identifying Information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information.

NMFS will accept anonymous comments. Attachments to electronic comments will be accepted in Microsoft

Word, Excel, WordPerfect, or Adobe PDF file formats only.

The petition and other pertinent information are also available electronically at the NMFS Web site at [http://www.nero.noaa.gov/prot\\_res/CandidateSpeciesProgram/RiverHerringSOC.htm](http://www.nero.noaa.gov/prot_res/CandidateSpeciesProgram/RiverHerringSOC.htm).

**FOR FURTHER INFORMATION CONTACT:** Kim Damon-Randall, NMFS, Northeast Regional Office (978) 282–8485 or Marta Nammack, NMFS, Office of Protected Resources (301) 713–1401.

**SUPPLEMENTARY INFORMATION:**

**Background**

On August 5, 2011, we, the National Marine Fisheries Service (NMFS), received a petition from the Natural Resources Defense Council (NRDC), requesting that we list alewife (*Alosa pseudoharengus*) and blueback herring (*Alosa aestivalis*) each as threatened throughout all or a significant portion of their range under the Endangered Species Act (ESA). In the alternative, they requested that NMFS designate distinct population segments (DPS) of alewife and blueback herring as specified in the petition (Central New England (CNE), Long Island Sound (LIS), Chesapeake Bay (CB) and Carolina for alewives, and CNE, LIS, and CB for blueback herring). The petition contains information on the two species, including the taxonomy; historical and current distribution; physical and biological characteristics of the species' habitat and ecosystem relationships; population status and trends; and factors contributing to the species' decline. NRDC also included information regarding the possible DPSs of alewife and blueback herring as described above. The petition addresses the five factors identified in section 4(a)(1) of the ESA: (1) Present or threatened destruction, modification, or curtailment of habitat or range; (2) over-utilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; and (5) other natural or man-made factors affecting the species' continued existence.

**ESA Statutory Provisions and Policy Considerations**

Section 4(b)(3)(A) of the ESA (16 U.S.C. 1533(b)(3)(A)) requires that we make a finding as to whether a petition to list, delist, or reclassify a species presents substantial scientific or commercial information indicating the petitioned action may be warranted. ESA implementing regulations define substantial information as the amount of

information that would lead a reasonable person to believe the measure proposed in the petition may be warranted (50 CFR 424.14(b)(1)). In determining whether substantial information exists for a petition to list a species, we take into account several factors, including information submitted with, and referenced in, the petition and all other information readily available in our files. To the maximum extent practicable, this finding is to be made within 90 days of the receipt of the petition (16 U.S.C. 1533(b)(3)(A)), and the finding is to be published promptly in the **Federal Register**. If we find that a petition presents substantial information indicating that the requested action may be warranted, section 4(b)(3)(A) of the ESA requires the Secretary of Commerce (Secretary) to conduct a review of the status of the species. Section 4(b)(3)(B) requires the Secretary to make a finding as to whether the petitioned action is warranted within 12 months of the receipt of the petition. The Secretary has delegated the authority for these actions to the NOAA Assistant Administrator for Fisheries.

The ESA defines an endangered species as “any species which is in danger of extinction throughout all or a significant portion of its range (ESA section 3(6)).” A threatened species is defined as a species that is “likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (ESA section 3(19)).” As stated previously, under section 4(a)(1) of the ESA, a species may be determined to be threatened or endangered as a result of any one of the following factors: (1) Present or threatened destruction, modification, or curtailment of habitat or range; (2) over-utilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; or (5) other natural or manmade factors affecting its continued existence. Listing determinations are made solely on the basis of the best scientific and commercial data available, after conducting a review of the status of the species and taking into account efforts made by any state or foreign nation to protect such species.

Under the ESA, a listing determination can address a species, subspecies, or a DPS of a vertebrate species (16 U.S.C. 1532 (16)). NRDC presents information in the petition proposing that DPSs of alewife and blueback herring are present in the United States and indicating that it may be appropriate to divide the population

into DPSs of alewife and blueback herring as specified in the petition. If we find that listing at the species level is not warranted, we will determine whether any populations of these species meet the DPS policy criteria, and if so, whether any DPSs are endangered or threatened under the ESA.

#### *Life History of Alewife and Blueback Herring*

Alewife and blueback herring are collectively referred to as "river herring." Due to difficulties in distinguishing between the species, they are often harvested together in commercial and recreational fisheries, and managed together by the Atlantic States Marine Fisheries Commission (ASMFC). Throughout this finding, where there are similarities, they will be collectively referred to as river herring, and where there are distinctions they will be identified by species.

River herring can be found along the Atlantic coast of North America, from the maritime provinces of Canada to the southeastern United States (Mullen *et al.*, 1986; Shultz *et al.*, 2009). The coastal ranges of the two species overlap, with blueback herring found in a greater and more southerly distribution ranging from Nova Scotia down to the St. John's River, Florida; and alewife found in a more northerly distribution, from Labrador and Newfoundland to as far south as South Carolina, though the extreme southern range is a less common occurrence (Collette and Klein-MacPhee, 2002; ASMFC, 2009a; Kocik *et al.*, 2009). Adults are most often found at depths less than 100 m (328 ft) in waters along the continental shelf (Neves, 1981; ASMFC, 2009a; Shultz *et al.*, 2009).

River herring have a deep and laterally compressed body, with a small, pointed head with relatively large eyes, and a lower jaw that protrudes further than the upper jaw (Collette and Klein-MacPhee, 2002). The dorsal fin is small and slightly concave, pelvic fins are small, pectorals are moderate and low on the body, and the caudal fin is forked (Collette and Klein-MacPhee, 2002).

The coloring varies, ranging from dark blue and bluish green to grayish green and bluish gray dorsally; and silvery with iridescence in shades of green and violet on the sides and abdomen. In adults, there is often a dusky spot that is located at eye level on both sides behind the margin of the gill cover. The colors of alewife are thought to change in shade according to substrate as the fish migrates upstream, and sea run fish are thought to have a golden cast to their

coloring (Collette and Klein-MacPhee, 2002).

Blueback herring and alewife are similar in appearance; however, there are some distinguishable characteristics: Eye diameter and the color of the peritoneum. The eye diameter with alewives is relatively larger than that of blueback herring. In blueback herring, the snout length is generally the same as the eye diameter; however with alewives, the snout length is smaller than the diameter of the eye (Collette and Klein-MacPhee, 2002). In alewives, the peritoneum is generally pale/light gray or pinkish white, whereas the peritoneum in blueback herring is generally dark colored and either brown or black, and sometimes spotted (Collette and Klein-MacPhee, 2002; ASMFC, 2009a).

River herring are anadromous, meaning that they migrate up coastal rivers in the spring from the marine environment, to estuarine and freshwater rivers, ponds, and lake habitats to spawn (Collette and Klein-MacPhee, 2002; ASMFC, 2009a; Kocik *et al.*, 2009). They are highly migratory, pelagic, schooling species, with seasonal spawning migrations that are cued by water temperature (Collette and Klein-MacPhee, 2002; Schultz, 2009). Depending upon temperature, blueback herring typically spawn from late March through mid-May. However, they have been documented spawning in the southern parts of their range as early as December or January, and as late as August in the northern range (ASMFC, 2009a). Alewives generally migrate earlier than other alosine fishes, but have been documented spawning as early as February to June in the southern portion of their range, and as late as August in the northern portion of the range (ASMFC, 2009a). It is thought that river herring return to their natal rivers for spawning, and do exhibit natal homing. However, colonization of streams where river herring have been extirpated has been documented; therefore, some effective straying does occur (ASMFC, 2009a).

Throughout their life cycle, river herring use many different habitats ranging from the ocean, up through estuaries and rivers, to freshwater lakes and ponds. The substrate preferred for spawning varies greatly and can include substrates consisting of gravel, detritus, and submerged aquatic vegetation. Blueback herring prefer swifter moving waters than alewife (ASMFC, 2009a). Nursery areas can include freshwater and semi-brackish waters; however, little is known about their habitat preference in the marine environment (Meadows, 2008; ASMFC, 2009a).

#### **Analysis of Petition and Information Readily Available in NMFS Files**

In the following sections, we use the information presented in the petition and in our files to: (1) Describe the distribution of alewife and blueback herring; and (2) evaluate whether alewife and blueback herring are at abundance levels that would lead a reasonable person to conclude that listing under the ESA may be warranted due to any of the five factors listed under section 4(a)(1) of the ESA.

#### *Abundance*

The NRDC asserts that alewife and blueback herring populations have suffered dramatic declines over the past 4 decades (ASMFC, 2008). The NRDC cites the ASMFC as stating that alewife and blueback herring harvest averaged almost 43 million pounds (19,504 metric tons (mt)) per year from 1930 to 1970. NRDC also cites ASMFC (2008) in stating that peak harvest occurred in the late 1940s and early 1950s and was highest in Virginia and North Carolina. The NRDC notes that commercial landings of river herring began declining sharply coastwide in the 1970s. However, ASMFC (2009a) reports that 140 million pounds (63,503 mt) of river herring were commercially landed in 1969, marking the peak in river herring catch; this is a discrepancy from what is stated in the petition. From the peak landings in 1969, landings declined to a point where domestic landings recently (2000–2007) exceeded only 2 million pounds (907 mt) yearly (ASMFC, 2009a). Declines in catch per unit effort (CPUE) have also been observed in two rivers for blueback herring and for alewife, and declining trends in CPUE for the combined species were also observed in two out of three rivers examined (ASMFC, 2009a).

ASMFC (2009a) also reports declines in abundance through run size estimates for river herring combined, as well as for individual species of alewife and blueback herring. Abundance declined in seven out of fourteen rivers in New England from the late 1960s to 2007, with no obvious signs of recovery; however, since 2004, there have been some signs of recovery in five out of fourteen rivers (ASMFC, 2009a). Coastwide declines have been observed, particularly in southern New England (Davis and Schultz *et al.*, 2009). In the Connecticut River the number of blueback herring passing Holyoke Dam declined from 630,000 in 1985 to a low of 21 in 2006 (Schultz *et al.*, 2009).

*ESA Section 4(a)(1) Factors*

## Present or Threatened Destruction, Modification or Curtailment of Habitat or Range

In the petition, the NRDC states that habitat alterations, loss of habitat, and impaired water quality have contributed to the decline of river herring since colonial times. NRDC further states that climate change now poses an increasing threat as well. NRDC states that dams and turbines block access to spawning and foraging habitat, may directly injure or kill passing fish, and change water quality through alterations in flow and temperature, which NRDC asserts is significantly impacting river herring. NRDC cites ASMFC (2009b) which indicates that flow variations caused by dams, particularly hydropower dams, can displace eggs as well as disrupt migration patterns, which will adversely affect the survival and productivity of all life stages of river herring as well as other anadromous fish. ASMFC (2009b) indicates that increased flows at dams with fishways can also adversely affect the upstream migration of adults, impeding their ability to make it up through the fishway, as well as the downstream migration of juveniles, causing an early downstream migration and higher flows through sluiceways resulting in mortality. According to NRDC, dams have caused river herring to lose access to significant portions of their spawning and foraging habitat. In addition to altering flow and changing environmental parameters such as temperature and turbidity, NRDC indicates that dams, particularly hydropower dams, cause direct mortality to various life stages of river herring through entrainment and impingement in turbines, and changing water pressures. In addition, NRDC states that turbines used in tidal hydroelectric power plants may impact river herring with each tidal cycle as the fish migrate through the area.

Dredging and blasting were also identified by NRDC as significant threats to river herring. The petition cites ASMFC (2009b), asserting that increased suspended sediment, changes in water velocities, and alteration of substrates through dredging can directly impact river herring habitat. In addition, NRDC asserts that these operations may affect migration patterns and spawning success, and they can directly impact gill tissues, producing near fatal effects (NMFS, 1998; ASMFC, 2009b).

The NRDC also asserts that water quality poses a significant threat to river herring through changes in water temperature and flow, introduction of toxic pollutants, discharge, erosion, and

nutrient and chemical run-off (ASMFC, 2009b). NRDC states that "poor water quality alone can significantly impact an entire population of alewife or blueback herring." ASMFC (2008) notes that significant declines in dissolved oxygen (DO) levels in the Delaware River during the 1940s and 1950s from heavy organic loading made portions of the river during the warmer months of the year uninhabitable to river herring. ASMFC (2008, 2009a) indicates that river herring abundance is significantly affected by low DO and hypoxic conditions in rivers and that these conditions may also prevent spawning migrations.

River herring susceptibility to toxic chemicals and metals was also identified by NRDC as a threat to the species. The NRDC asserts that river herring are subjected to contaminants through their habitat, which may be contaminated with dioxins, polychlorinated aromatic hydrocarbons, organophosphate and organochlorine pesticides, polychlorinated biphenyls, and other hydrocarbon compounds, as well as toxic metals. Citing ASMFC (1999), the NRDC states that because of industrial, residential, and agricultural development, heavy metal and various types of organic chemical pollution has increased in nearly all estuarine waters along the Atlantic coast, including river herring spawning and nursery habitat. NRDC asserts that these contaminants can directly impact fish through reproductive impairment, reduced survivorship of various life stages, and physiological and behavioral changes (ASSRT, 2007; 75FR 61872).

The NRDC also identified climate change as a threat to river herring habitat. According to NRDC, the spatial distribution, migration, and reproduction of alewife may be affected through rising water temperatures caused by climate change. Citing the International Panel on Climate Change (IPCC) (2001), NRDC states that fish larvae and juveniles may have a high sensitivity to water temperature and suggests that headwaters and rivers may be more vulnerable; thus, the effects of climate change may be more significant to anadromous species, which utilize a multitude of habitats. According to ASMFC (2009b), as water temperatures rise, the upstream spawning migration of alewife declines, and will mostly cease once temperatures have risen above 21 degrees Celsius. In addition to increasing water temperatures, climate change may affect river herring through increased precipitation that may affect rivers and estuaries along the coast. Citing Kerr *et al.* (2009), the NRDC reports that a 10 percent increase in

annual precipitation is expected in the Northeast United States from 1990 to 2095 and that precipitation has already increased 8 percent over the past 100 years (Markham and Wake, 2005). As increased water flows may affect anadromous fish migration, increased precipitation and the potential for flooding in rivers due to climate change may pose a significant threat to river herring (Limburg and Waldman, 2009).

## Overutilization for Commercial, Recreational, Scientific or Education Purposes

The NRDC identified direct harvest, bycatch, and incidental catch as significant threats to river herring. River herring were historically fished through inshore fisheries, and constitute one of the oldest fisheries in North America (Haas-Castro, 2006). Commercial landings of river herring reached nearly 34,000 metric tons (mt) in the 1950s, but in the 1970s, landings fell below 4,000 mt. According to ASMFC (2008), foreign commercial exploitation of river herring in the 1960s led to drastic declines in abundance of river herring. Annual commercial landings over the past decade have varied from 137 mt to 931 mt, and 90 percent of this catch was typically harvested by Maine, North Carolina, and Virginia fisheries (Haas-Castro, 2006). Historically, river herring were targeted for food, bait and fertilizer purposes; however, they are currently most often used for bait in commercial fisheries (Collette and Klein-MacPhee, 2002). The NRDC contends that declines in river herring abundance are greatly affected by commercial overharvest, noting that direct harvest of river herring currently takes place in Maine, New Hampshire, New York, New Jersey, some rivers in Delaware, Maryland, Virginia, and South Carolina.

Bycatch and incidental catch were also identified by NRDC as resulting in significant mortality of river herring, stating that this catch occurs in both state and Federal waters. NRDC asserts that the anadromous life history of river herring presents the potential for increased bycatch due to the species schooling behavior at congregation sites throughout different portions of migration. Citing Lessard and Bryan (2011), NRDC indicates that "hot spots" of bycatch and incidental catch have been found in the winter between Cape Cod and Cape Hatteras, in the spring with blueback herring in the southern region, and in the fall in the Gulf of Maine and Georges Bank. The NRDC states that a variety of sources including landings records, log books, portside sampling efforts, and the NMFS observer program provide information

on bycatch and incidental catch, asserting that most of these sources are likely to underestimate the amount of bycatch that occurs.

The NRDC cites Lessard and Bryan (2011) in stating that the majority of bycatch of river herring is taken with mid-water otter paired trawls, and that catch with this gear type appears to be increasing from 2000–2008, with an estimation of around 500,000 to 2.5 million pounds (227 to 1,134 mt) of river herring caught annually as bycatch. In addition, the NRDC asserts that the Atlantic herring and Atlantic mackerel fisheries are increasing their use of single and pair mid-water trawls, and are using larger, more efficient nets, increasing the effort and efficiency in this fishery. The petition further outlines specific overharvesting issues within the Damariscotta, Hudson, Delaware, Potomac, Chowan, Santee-Cooper, and the St. John's Rivers, as well as Chesapeake Bay and Albermarle Sound.

#### Predation and Disease

The NRDC identifies predation and disease as another threat facing river herring. Citing the Maine Department of Marine Resources (ME DMR) (2003), NRDC states that river herring may be preyed upon by striped bass, bluefish, tuna, cod, haddock, halibut, American eel, brook trout, rainbow trout, brown trout, lake trout, landlocked salmon, smallmouth bass, largemouth bass, pickerel, pike, white and yellow perch, seabirds, bald eagle, osprey, great blue heron, gulls, terns, cormorants, seals, whales, otter, mink, fox, raccoon, skunk, weasel, fisher, and turtles. It asserts that the decline of some populations of river herring is due to increased predation, citing ASMFC (2008) as noting a concern with increasing striped bass abundance, and identifying predation by striped bass as contributing significantly to the decline of river herring in some rivers. Additionally, many species of cormorants along the coast are increasing in abundance, and predation on alosines by cormorants has been increasing, although Dalton *et al.* (2009) suggested that the double-crested cormorant is not believed to pose an immediate threat to the recovery of alewife in Connecticut.

According to the NRDC, significant cumulative mortality can occur with viral hemorrhagic septicemia, which is a viral infection known to infect certain anadromous fish, including river herring. Additionally, NRDC asserts that when levels of suspended solids are present during spawning, alewife eggs are significantly more likely to contract a naturally occurring fungus infection.

#### Inadequacy of Existing Regulatory Mechanisms

The NRDC states that state and Federal regulatory mechanisms are insufficient and contributing to drastic declines in river herring populations that continue throughout all or a significant portion of the species' ranges. Due to difficulties in distinguishing between the species, alewife and blueback herring are managed together by the ASMFC as river herring. NRDC states that ASMFC has the authority to develop and issue interstate fishery management plans (FMP) for fisheries administered by the state agencies and will coordinate management with Federal waters.

According to NRDC, ASMFC adopted an amendment to the coast-wide FMP for American shad and river herring in 2009, to specifically address the declining river herring populations coastwide. The petition asserts that this amendment is not likely to protect river herring sufficiently, as it "does not require, and is not likely to result in, adequate measures to reduce significant incidental catch and bycatch/bycatch mortality of these species, particularly in federal waters." NRDC also asserts that this amendment does not address non-fishing stressors on river herring sufficiently. The petition further states that four states have already had prohibitions on the harvest of river herring in place, and even with this prohibition on all harvest, these states have continued to see declines.

The petition notes that river herring are not subject to the requirements and protections of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) because they are not currently managed under an FMP as a stock, and therefore, are not federally managed in regard to overfishing and depleted stocks under the MSA. Even though river herring are caught and sold as bycatch, and FMPs are meant to minimize bycatch, the NRDC asserts that any provisions in FMPs meant to address bycatch of river herring have proven to be ineffective and inadequate. NRDC further asserts that bycatch reporting is inadequate and limited and that there are currently no FMPs under the MSA that specifically address bycatch and bycatch mortality of river herring.

The NRDC notes that currently the Mid-Atlantic Fisheries Management Council (MAFMC) is developing two amendments to two separate FMPs that include proposals for improving the monitoring of bycatch of river herring in these fisheries; however, it asserts that it was unknown whether the bycatch

monitoring measures for river herring would be included in the final amendment.

NRDC also indicates that under the MSA or the Atlantic Coast Fisheries Act, NMFS has the potential to initiate emergency rulemaking or other actions to reduce bycatch of river herring in small mesh fisheries, but has declined to do so thus far. NRDC further notes that NMFS has declined to take emergency rulemaking actions for bycatch of river herring in small-mesh fisheries in New England and the Mid-Atlantic.

Federally managed stocks are required to have essential fish habitat (EFH) designated under the MSA; however, since river herring are not considered a federally managed stock under the MSA, EFH has not been designated for this species. A provision under the 1996 amendments to the MSA provides for comments from regional councils on activities that may affect anadromous fish habitat; however, the NRDC asserts that this provision has not provided any significant modifications to activities affecting anadromous fish habitat.

In addition to fisheries, the petition indicates that Federal laws and regulations have also failed to protect river herring and their habitat from threats such as poor water quality, dredging, and altered water flows. The petition briefly describes the Clean Water Act (CWA), the Federal Power Act (FPA), and the Anadromous Fish Conservation Act, and identifies where these regulations present inadequacies that are failing to protect river herring. NRDC notes that the CWA should limit discharge of pollutants into navigable waters and that some progress has been made in terms of industrial sources. NRDC also concludes that the CWA has not "adequately regulated nutrients and toxic pollutants originating from non-point sources." In addition, some permits for dredging and excavation require permitting from the Army Corps of Engineers, and NRDC notes that these may benefit river herring through placing restrictions on the timing and location of activities in river herring habitats. The FPA allows for protection of fish and wildlife that may be affected by hydroelectric facilities. As mentioned previously, NRDC asserts that fish passage at hydroelectric facilities can be inefficient, and the dams themselves affect water flow which can pose a significant threat to river herring. Thus, according to NRDC, FPA protections for river herring are inadequate. The NRDC further states that the Anadromous Fish Conservation Act does not require any measures for river herring that would improve



habitat, reduce bycatch, or mitigate other threats to river herring, and therefore provides inadequate protection for the species. The NRDC notes that there are Federal protections that may benefit river herring which are intended for other anadromous species such as Atlantic salmon and shortnose sturgeon; however, it asserts that any benefits from these protections are minor and insufficient to fully protect river herring.

#### Other Natural or Manmade Factors Affecting Its Existence

The petition describes other natural or manmade factors that may be affecting river herring, including invasive species, impingement, entrainment, and water temperature alterations. The petition states that invasive species may threaten food sources for alewives and blueback herring. ASMFC (2008) describes the negative effect zebra mussel introduction to the Hudson River had on phytoplankton and zooplankton, and subsequently water quality. According to ASMFC (2008), a decrease in both micro and macro zooplankton as well as phytoplankton improved water clarity and increased shallow water zoobenthos by 10 percent. Early life stages of river herring feed on zooplankton as well as phytoplankton (ASMFC, 2008). Strayer *et al.* (2004) hypothesized that the introduction of this invasive species created competition for availability of the preferred food source of early life stages of river herring, and found that larval river herring abundance decreased with increased zebra mussel presence. Thus, according to the petition, invasive species introduction and subsequent water quality changes which may affect plankton abundance can decrease the abundance of early life stages of river herring.

As described previously, the petition asserts that various life stages of river herring may be impinged or entrained through water intake structures from commercial, agricultural, or municipal operations. These intake structures alter flow, and may cause direct mortality to various life stages of river herring if they are impinged or entrained by the intake. In addition, aside from direct mortality, the petition asserts that intakes alter flow, which can affect water quality, temperature, substrate, velocity, and stream width and depth. NRDC suggests that these alterations can affect spawning migrations as well as spawning and nursery habitat, which could pose a significant threat to river herring.

#### Petition Finding

Based on the above information, which indicates ongoing multiple threats to both species as well as potential declines in both species throughout their ranges, and the criteria specified in 50 CFR 424.14(b)(2), we find that the petition presents substantial scientific and commercial information indicating that the petitioned action concerning alewife and blueback herring may be warranted. Under section 4(b)(3)(A) of the ESA, this positive 90-day finding requires NMFS to commence a status review of the species. During our status review, we will review the best available scientific and commercial information, including the effects of threats and ongoing conservation efforts on both species throughout their ranges. Alewife and blueback herring are now considered to be candidate species (69 FR 19976; April 15, 2004). Within 12 months of the receipt of the petition (August 5, 2011), we will make a finding as to whether listing alewife and/or blueback herring as endangered or threatened is warranted, as required by section 4(b)(3)(B) of the ESA. If listing these species is not warranted, we will determine whether any populations of these species meet the DPS policy criteria (61 FR 4722; February 7, 1996), and if so, whether any DPSs are endangered or threatened under the ESA. If listing either species (or any DPS) is warranted, we will publish a proposed listing determination and solicit public comments before deciding whether to publish a final determination to list them as endangered or threatened under the ESA.

#### References Cited

A complete list of the references used in this finding is available upon request (see ADDRESSES).

#### Information Sought

To ensure the status review is based on the best available scientific and commercial data, we solicit information pertaining to alewife and blueback herring. Specifically, we solicit information in the following areas: (1) Historical and current distribution and abundance of these species throughout their ranges; (2) population status and trends; (3) any current or planned activities that may adversely impact these species, especially as related to the five factors specified in section 4(a)(1) of the ESA and listed above; (4) ongoing efforts to protect and restore these species and their habitat; and (5) any biological information (life history, morphometrics, genetics, etc.) on these

species. We request that all information be accompanied by: (1) Supporting documentation such as maps and bibliographic references; and (2) the submitter's name, address, and any association, institution, or business that the person represents.

#### Peer Review

On July 1, 1994, NMFS, jointly with the U.S. Fish and Wildlife Service, published a series of policies regarding listings under the ESA, including a policy for peer review of scientific data (59 FR 34270). OMB issued its Final Information Quality Bulletin for Peer Review on December 16, 2004. The Bulletin became effective on June 16, 2005, and generally requires that all "influential scientific information" and "highly influential scientific information" disseminated on or after that date be peer reviewed. The intent of the peer review policy is to ensure that decisions are based on the best scientific and commercial data available. Independent peer reviewers will be selected to review the status review report from the academic and scientific community, tribal and other Native American groups, Federal and state agencies, the private sector, and public interest groups.

Authority: 16 U.S.C. 1531 *et seq.*

Dated: October 27, 2011.

John Oliver,

Deputy Assistant Administrator for Operations, National Marine Fisheries Service.

[FR Doc. 2011-28430 Filed 11-1-11; 8:45 am]  
BILLING CODE 3510-22-P

#### DEPARTMENT OF COMMERCE

#### National Oceanic and Atmospheric Administration

#### 50 CFR Part 622

[Docket No. 100217095-1652-02]

RIN 0648-AY56

#### Fisheries of the Caribbean, Gulf of Mexico, and South Atlantic; Reef Fish Fishery of the Gulf of Mexico; Amendment 32

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

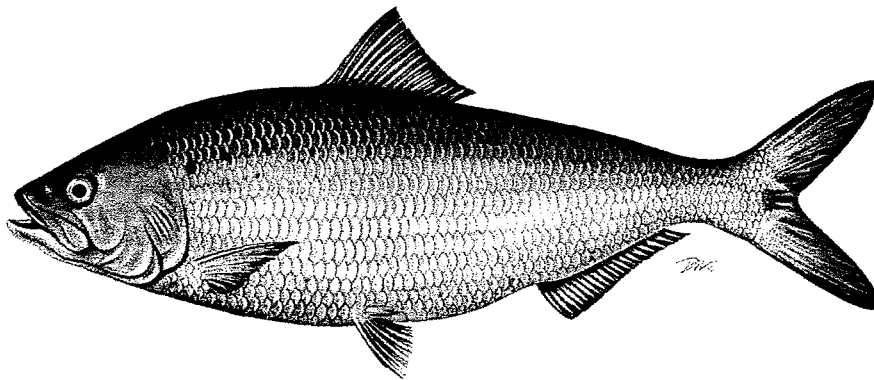
ACTION: Proposed rule; request for comments.

SUMMARY: NMFS proposes to implement management measures described in Amendment 32 to the Fishery Management Plan for the Reef Fish

Stock Assessment Report No. 07-01  
of the

## Atlantic States Marine Fisheries Commission

*Terms of Reference & Advisory Report  
to the American Shad Stock Assessment Peer Review*



August 2007



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

Stock Assessment Report No. 07-01  
of the  
**Atlantic States Marine Fisheries Commission**

*Terms of Reference & Advisory Report  
to the American Shad Stock Assessment Peer Review*

Conducted on  
July 16-20, 2007  
Alexandria, Virginia

Prepared by the  
ASMFC American Shad Stock Assessment Peer Review Panel

Dr. Karin Limburg, Panel Chair, State University of New York  
Dr. Jamie Gibson, Department of Fisheries and Oceans, Canada  
Dr. Bill Pine, University of Florida  
Dr. Terrance Quinn, University of Alaska  
Dr. Norma Jean Sands, National Marine Fisheries Service

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## Preface

### *Summary of the ASMFC Peer Review Process*

The Stock Assessment Peer Review Process, adopted in October 1998 and revised in 2002 and 2005 by the Atlantic States Marine Fisheries Commission (ASMFC or Commission), was developed to standardize the process of stock assessment reviews and validate the Commission's stock assessments. The purpose of the peer review process is to: (1) ensure that stock assessments for all species managed by the Commission periodically undergo a formal peer review; (2) improve the quality of Commission stock assessments; (3) improve the credibility of the scientific basis for management; and (4) improve public understanding of fisheries stock assessments. The Commission stock assessment review process includes an evaluation of input data, model development, model assumptions, scientific advice, and a review of broad scientific issues, where appropriate.

The Benchmark Stock Assessments: Data and Assessment Workshop and Peer Review Process report outlines options for conducting an external peer review of Commission managed species. These options are:

1. The Stock Assessment Workshop/Stock Assessment Review Committee (SAW/SARC) conducted by the National Marine Fisheries Service (NMFS), Northeast Fisheries Science Center (NEFSC).
2. The Southeast Data and Assessment Review (SEDAR) conducted by the National Marine Fisheries Service, Southeast Fisheries Science Center (SEFSC).
3. The Transboundary Resources Assessment Committee (TRAC) reviews stock assessments for the shared resources across the USA-Canada boundary and is conducted jointly through the National Marine Fisheries Service and the Canada Department of Fisheries and Oceans (DFO).
4. A Commission stock assessment Peer Review Panel conducted by 3-5 stock assessment biologists (state, federal, university). The Commission Review Panel will include scientists from outside the range of the species to improve objectivity.
5. A formal review using the structure of existing organizations (i.e. American Fisheries Society, International Council for Exploration of the Sea, or the National Academy of Sciences).

Twice annually, the Commission's Interstate Fisheries Management Program (ISFMP) Policy Board prioritizes all Commission managed species based on species management board advice and other prioritization criteria. The species with highest priority are assigned to a review process to be conducted in a timely manner.

In July 2007, the Commission convened a Stock Assessment Peer Review Panel comprised of members with an expertise in stock assessment methods and/or anadromous species and their life history. The review for the American shad stock assessment was conducted at the Crowne Plaza Hotel in Alexandria, Virginia from July 16 - 20, 2007. Prior to the Review Panel meeting, the Commission provided the Review Panel Members with an electronic and hard copy of the 2007 American Shad Stock Assessment Report.

The review process consisted of an introductory presentation of the completed 2007 stock assessments by river system. Each presentation was followed by general questions from the Panel. The final two days involved a closed-door meeting of the Review Panel during which the documents and presentations were reviewed and a report prepared.

The report of the Review Panel is structured to closely follow the terms of reference provided to the stock assessment team.

## **Acknowledgements**

The Atlantic States Marine Fisheries Commission thanks all of the individuals who contributed to the development of the American Shad Stock Assessment Report and the Terms of Reference and Advisory Report. The Commission extends its appreciation to the members of the American Shad Stock Assessment Peer Review Panel (Dr. Karin Limburg - Chair, State University of New York College of Environmental Science and Forestry; Dr. Jamie Gibson, Canada's Department of Fisheries and Oceans; Dr. Bill Pine, University of Florida; Dr. Terrance Quinn, University of Alaska; and Dr. Norma Jean Sands, National Marine Fisheries Service, Northwest Fisheries Science Center) for their efforts to evaluate the stock assessment and developing this Terms of Reference and Advisory Report.

The Commission and American Shad Peer Review Panel thank the ASMFC American Shad Technical Committee and Stock Assessment Subcommittee (SASC) members who developed the consensus stock assessment report, especially Andy Kahnle (New York Department of Environmental Conservation) for his dedication to the completion of the stock assessment, serving as Chair of the SASC, and presenting the report to the American Shad Peer Review Panel. We would also like to thank Russ Allen, New Jersey Department of Environmental Protection; Kathy Hattala, New York Department of Environmental Conservation; Michael Hendricks, Pennsylvania Fish & Boat Commission; Patrick Kilduff, Atlantic States Marine Fisheries Commission; John Olney, Virginia Institute of Marine Science; and Bob Sadzinski, Maryland Department of Natural Resources for their useful and clear presentations on the state-specific data and assessments.

The American Shad Peer Review Panel would like to thank Erika Robbins, Melissa Paine, Dr. Genny Nessler, and Megan Caldwell from the ASMFC for logistical and administrative support during the peer review and preparation of the report.

## Introduction

The American shad was, historically, one of the most important exploited fish species in North America (Stevenson 1899; Limburg et al. 2003). In the late 19<sup>th</sup> century, annual harvests reached over 50 million pounds ( $22.7 \times 10^3$  mt). Since then, the stocks declined due to a combination of overfishing, pollution, and habitat loss due to dam construction; over 4,000 km of spawning habitat have been lost (Limburg et al. 2003). In recent years, coastwide harvests are on the order of 500-900 mt, nearly two orders of magnitude lower than in the late 19<sup>th</sup> century.

The stocks of American shad in their native range along the North American East Coast are currently at all-time lows. The Shad and River Herring Technical Committee of ASMFC undertook the fourth assessment of American shad in 2007, through the Stock Assessment Subcommittee (SASC). Earlier assessments were conducted in 1984, 1988 and 1998 (ASMFC 1985, 1988, 1998).

The current assessment contains an extensive compilation of data from many sources and examines status at the river-stock level from some 30 different stocks. The SASC was mandated to use an inclusive, stakeholder-based approach. Hence, the SASC obtained its data from all local, regional, and federal management agencies, and used information from independently funded academic studies as well. The result was a 1,200+ page document; certainly one of the most comprehensive collections of fisheries related data ever assembled for this species.

This review contains a careful examination of eight Terms of Reference (TORs), i.e., information goals and analyses, to which the American shad SASC had committed. An Advisory Report follows our review of the TORs. We have included a new section in the Advisory Report called “Perspectives” because of the availability of long-term data and historical accounts that allow us to speculate on what the unexploited stocks may have looked like, and to help us interpret the “shifting baseline” (Pauly 1995) phenomenon as it applies to American shad. Several sentences found throughout the document are bolded to add emphasis.

**The Review Panel commends the SASC for a well-organized, well-developed, and thoughtful report.** The SASC worked hard to separate out “the hard facts” from more speculative analyses and more creative modeling. The members of the SASC are to be commended for their careful and cautious approach. The SASC is also to be commended for taking “the long view” where possible, in order to incorporate much historical information and give perspective to the current assessment.

American Shad Peer Review Panel:

Karin Limburg, State University of New York (Chair)

Jamie Gibson, DFO Canada

Bill Pine, University of Florida

Terry Quinn, University of Alaska – Fairbanks

Norma Jean Sands, NOAA Northwest Fisheries Science Center



## **Terms of Reference for the American Shad Stock Assessment Peer Review**

### **A. Compile and determine adequacy of available life history data for each stock**

The American Shad SASC compiled data from a wide range of state and federal sources. Life history and biological data included age, age-at-maturity, and number of previous spawnings (from scale analyses), length-at-age, weight-at-age, growth parameters (using von Bertalanffy or Gompertz models), fecundity (mostly from studies conducted in the 1950s), and natural mortality estimates. Other parameters included juvenile (mostly young-of-year, but also age-1) abundance indices and in some cases juvenile lengths. Table 1 lists some of the relevant indices that were compiled into the assessment report. Dams are noted because of their importance as an impediment to migration and also as a source of mortality, if passageways are in use.

**The SASC did a highly commendable job at compiling the available data.** It also scrutinized the data and commented on the quality of the data for each stock. The Panel did well with size-at-age analyses where the age data were reliable. The SASC also identified problems with sample size and design of monitoring, issues that are complicated because of shad's use of multiple spawning habitats along the length of natal river systems, and which can be further exacerbated by hydrology (floods and droughts).

**A fundamental issue that hinders the assessments is that aging is very difficult for some of the American shad stocks.** An ASMFC-sponsored scale aging workshop (using known-age scales from the Delaware River) revealed that scale readers with long experience tended to under-estimate the ages of older fish (McBride et al. 2005). Besides under-aging, scale erosion during the spawning run can sometimes extend back beyond previous spawning marks. Scales are metabolically active, and in cases where fish migrate long distances in unidirectional flows, such as the Delaware River, scales become quite eroded, presumably as they are "mined" for calcium.

The SASC and Technical Committee are well aware of the problem, and validation trials are in progress in a number of watersheds. The validations consist of marking otoliths of hatchery shad with oxytetracycline (OTC), releasing the fish, and monitoring for recaptures that occur several years later. This should be a substantial help in resolving some of the aging errors, and the Review Panel encourages as many such experiments as possible to be done, particularly in systems where scales are difficult to read. **Once reliable aging can be done, it will enable the use of better modeling methods for more stocks.**

The SASC pointed out that American shad is a species well known for its life history variations with latitude (e.g., Leggett and Carscadden 1978, Limburg et al. 2003), but did not emphasize this in its report. The Review Panel felt that such information would have been useful to summarize, and to compare current parameters to historic data.

In summary, **the life history data compiled was sufficient for the assessment at hand**, and the study identifies areas of uncertainty where improvements can be made. Such improvements could lead to the development of stock-specific management plans where necessary for populations at various levels of abundance. Furthermore, improved data

will enable the development of models and plans that may require other life history parameters, such as stock-recruit parameters, more detailed estimates of mortality (natural and human-driven), growth, maturity, counter-gradient growth variation, and ecosystem interactions.

**Table 1.** Summary of key biological, life history, and abundance indices reported for American shad, for the river/bay systems in the 2007 stock assessment. An “x” denotes the item was found in the report; “(x)” indicates data were considered unreliable by SASC & Panel; “●” was used by SASC to denote an index that went into the assessment, “○” denotes that an index was present, but not used, & “?” unreliable scales of Delaware River fish cast doubt upon age, maximum age, & repeat spawning estimates. *Z* = total mortality, *M* = natural mortality, FD = Fishery Dependent, FI = Fishery Independent, & JAI = Juvenile Abundance Indices.

State	River	Basic Biology				Relative Abundance Indices			
		Length	Weight	Sex	Age	FD Commercial	FD Recreational	FI Adult	JAI
ME	Merrymeeting Bay							○	○
	Kennebec								●
	Androscoggin	x		x	x				●
	Saco	x		x	x			●	
NH	Exeter	x		x	x			●	
MA	Merrimack	x	x	x	x			●	
RI	Pawcatuck	x		x	x			●	●
CT, MA	Connecticut	x	x	x	x	○	○	●	●
NY	Hudson	x	x	x	x	●	●	●	●
NY, PA, NJ, DE	Delaware River & Bay	x		x	(x)			●	●
MD	Nanticoke			x	x			●	●
PA, MD	Susquehanna River & Flats	x	x	x	x	○	○	●	●
MD, DC, VA	Potomac	x		x	x	●		●	●
VA	York	x		x	x	●	○	●	●
	James	x		x	x	●	○	●	●
	Rappahannock	x		x	x	●	○	●	●
NC	Albemarle Sound	x		x	x	●	○	●	○
	Roanoke	x		x	x		○	●	
	Tar-Pamlico	x		x	x	●	○	●	
	Neuse	x		x	x	●	○	●	
	Cape Fear	x		x	x	●	○	●	
SC	Winyah Bay					●			○
	Waccamaw	x		x	x	●		○	
	Great Pee Dee					●			
	Santee	x		x	x	●	●	●	○
	Cooper	x		x		●	●	○	
	Combahee					●			
	Edisto	x		x	x	●		○	○
SC, GA	Savannah					●	○		
GA	Altamaha	x	x	x	x	●		●	○
	Ogeechee					●	●		○
FL	St. Johns	x	x	x		○	●	●	

**Table 1 (continued).** Summary of key biological, life history, and abundance indices reported for American shad, for the river/bay systems in the 2007 stock assessment. An “x” denotes the item was found in the report; “(x)” indicates data were considered unreliable by SASC & Panel; “●” was used by SASC to denote an index that went into the assessment, “O” denotes that an index was present, but not used, & “?” unreliable scales of Delaware River fish cast doubt upon age, maximum age, & repeat spawning estimates. *Z* = total mortality, *M* = natural mortality, FD = Fishery Dependent, FI = Fishery

Jurisdiction	River	Life history variables						Dams
		Max Age	Repeat Spawning	Maturity	Fecundity	Z	M	
ME	Merrymeeting Bay							
	Kennebec							x
	Androscoggin							x
	Saco					x		x
NH	Exeter	x				x		x
MA	Merrimack	x	x			x		x
RI	Pawcatuck	x	x	x		Z		x
CT, MA	Connecticut	x	x	?	x	x	x	x
NY	Hudson	x	x	x	x	x	x	
NY, PA, NJ, DE	Delaware River & Bay	?	?					
MD	Nanticoke	x	x			x		x
PA, MD	Susquehanna River & Flats	x	x	x		x		x
MD, DC, VA	Potomac	x	x			x		x
VA	York	x	x			x		
	James	x	x			x		
	Rappahannock	x	x			x		
NC	Albemarle Sound	x	x			x		
	Roanoke	x	x			x		x
	Tar-Pamlico	x	x			x		
	Neuse	x	x			x		x
	Cape Fear	x	x			x		
SC	Winyah Bay							
	Waccamaw	x						
	Great Pee Dee							
	Santee	x						x
	Cooper							x
	Combahee							
	Edisto	x						
SC, GA	Savannah							x
GA	Altamaha	x				x		x
	Ogeechee							
FL	St. Johns							

Independent, & JAI = Juvenile Abundance Indices.

**B. Compile and determine adequacy of available fishery-dependent and/or independent data as indices of relative abundance for each stock.**

The SASC presented clearly which indices were available, compiled those indices, described their source, and identified the life stage to which each index applies. The indices included catch-per-unit-effort (CPUE) from various fisheries, direct counts (mostly at fish passageways), fishery-independent surveys, creel surveys for recreational fisheries, and juvenile abundance indices (JAIs). In some cases, where fish could be observed passing through a discrete area, an "area-under-the-curve" approach was used to index populations. This method, which integrates fish counts over time, was used in five river systems (Hudson, James, York, Rappahannock, and Altamaha Rivers). Every river system had at least one index available (Table 1), although the number of years of data varied considerably.

Trends in indices were compared within and between systems to evaluate the consistency of the indices. The SASC and Review Panel noted the strong need to continue to collect and evaluate indices such as counts at fish passage facilities, JAIs, etc., to determine the degree to which these inform and support estimates of adult abundance and reflect climatic factors, modifications in passage, and so on. It was noted that linkages between life stages and between indices could be improved in the future. Most shad do not mature before 5 years of age. Due to the resulting times lags and autocorrelation issues, long-term collections need to be put in place (or continued where they exist) once techniques have been worked out and accepted.

Indices were not synthesized using a single overall approach that could be used to develop population dynamics models. Such efforts could be conducted in the future as the time series become longer.

The Review Panel was concerned that very few estimates of uncertainty were presented with the index data. The Panel encourages the SASC to produce and present uncertainty estimates (standard errors) for all indices.

The Review Panel was also puzzled about what the JAIs were actually indexing. Seldom was there a direct relationship between a juvenile or other young-of-year (YOY) index (e.g., post yolk-sac larvae or PYSL) and an adult index. It is unclear whether this is because of the limitations of the time series, the way the data were collected, or because of other exogenous processes (e.g., an ocean intercept fishery). Most of the presented JAIs were calculated using data collected throughout the nursery areas and included YOY of varying sizes and ages. Abundance of YOY American shad is thought to be determined by a combination of density dependent and environmental factors acting within nursery areas, as well as the process of emigration to the sea (Crecco and Savoy 1988; Limburg 1996). When the JAI includes more than one life stage, thereby integrating over these processes, it becomes unclear whether it is intended to be an index of spawner abundance during that year, or an index of year class strength that is meant to index subsequent returns as the cohort matures. Collection and analysis of size and/or age data as part of the juvenile surveys may aid in determining the utility of these data series.

### C. Determine most appropriate method of estimating natural mortality.

Natural mortality ( $M$ ) remains one of the most important but difficult life history parameters to estimate for fish stocks (Vetter 1988). Direct estimates of  $M$  are sometimes possible when tagging or telemetry data are available (Hearn et al. 1998; Hightower et al. 2001), but most often  $M$  is approximated using some aspect of species life history and environment. The SASC chose Hoenig's method (Hoenig 1983), a widely used approach to estimate  $M$  from the longevity of the stock. The role that  $M$  plays in the assessment is primarily in the calculation of biological reference points;  $M$  is also used in combination with catch curves to partition total mortality into fishing mortality ( $F$ ) and  $M$ . The SASC's rationale for using Hoenig's method was to use a simple, widely accepted approach for a group of geographic regions where longevity information was available. Natural mortality values were determined for New England (0.38), Hudson River (0.30), York River (0.35), and Albemarle Sound (0.42) stocks (Table 1.1.5-1 in the 2007 American Stock Assessment Report). Thus, as expected by the SASC,  $M$  increases from north to south due to the decrease in longevity and the decrease in repeat spawning frequency (the most southerly populations are semelparous).

In the previous assessment (ASMFC 1998),  $M$  was assumed to vary with age, with an  $M$  of 0.3 for ages 1-3, and with a range of higher values of  $M$  for older ages, under the supposition that mature fish would have higher mortality due to spawning. The higher values for the older aged fish were also different spatially for the Hudson River, northern rivers, and southern rivers (Table 1.1.5-1, 2007 American Shad Stock Assessment Report). The approach in the current assessment differs, because the SASC chose to perform a sensitivity study to assess how changes in  $M$  altered assessment outputs (see TOR-D). In this sensitivity analysis, four scenarios were examined, one where  $M$  changed over age, from 0.51 at age-1 to 0.19 at age-14 using a method from (Boudreau and Dickie 1989), and three other scenarios where  $M$  was held constant across ages at different values ( $M= 0.3, 0.5, \text{ and } 0.7$ ; Table 1.1.5-4, 2007 American Shad Stock Assessment Report).

**The Panel concurred with the SASC approach** because the time-honored method of Hoenig is widely used, and more importantly, the SASC did a good job of examining the influence of  $M$  on the benchmarks that were calculated. **However, future efforts should focus on better determination of natural mortality, because biological reference points (BRPs) were very sensitive to the values of  $M$  used.**  $M$  is the population parameter that has the largest effect on benchmarks.

As a first step, the panel recommends that alternate life history methods should be investigated for the calculation of  $M$  (e.g., Alverson-Carney, Pauly, Gunderson; see Quinn and Deriso 1999, section 8.3), because these methods use additional life history information such as growth and reproduction and may help to expand or narrow the range of potential  $M$  values. Second, the SASC should consider whether field work could be done to determine  $M$  experimentally. A well-designed tagging program should be able to estimate a precise  $M$  value while also providing additional information of interest related to fishing mortality, age and growth, fish movement, and stock identification (see TOR-G). Third, the SASC should also consider a sensitivity scenario like that in the previous assessment, in which natural mortality increases with age.

It may also be interesting to consider a scenario in which  $M$  has a U-shaped distribution with age: high at younger and older ages and low at middle ages. This scenario would account for predation mortality at younger ages and spawning mortality at older ages.

In the current assessment, natural mortality is a parameter that encompasses various sources of mortality, including natural mortality (e.g., predation, disease), unmeasured fishing effects (e.g., bycatch, ocean fishery), and unmeasured anthropogenic effects (e.g., mortality due to dams and pollution). As the world moves to embrace ecosystem-based management, it will be necessary to separate natural and anthropogenic sources of mortality for better understanding the ecosystem. **The Panel recommends that the SASC move towards explicitly separating natural mortality  $M$  from mortality from anthropogenic sources** (Advisory Report, Section G).

**D. Determine which assessment analyses are most appropriate to available data for each stock. Assessment methods will range from simple trend analysis to more complex models.**

The SASC considered a variety of assessment approaches and ultimately used simple indices, catch-curve analyses, and biomass per-recruit models to assess American shad stocks. The core of the assessment is a comparison of catch-curve estimates of total mortality ( $Z$ ) to benchmark  $Z$  values calculated by using a biomass-per-recruit model. Per-recruit models are widely used to estimate appropriate fishing mortality rates in conjunction with management goals. A key aspect of per-recruit models is that no knowledge of the stock-recruitment relationship is required for their calculations, because the model determines yield and biomass on a per recruit basis so harvest decisions are based on information once the fish have recruited. Data inputs for this type of model include an estimate of  $M$ , selectivity patterns, and information on weight-at-age and proportion mature-at-age. Key assumptions in per-recruit models are that fishing does not affect growth or recruitment, and that natural mortality and growth are constant with stock size (no compensation). The main output from a per-recruit model is a mortality target for the management objective, generally a level of  $F_{30}$ - $F_{40}$  representing fishing mortality rates that would maintain biomass-per-recruit at the given percentage of the unfished stock (Quinn and Deriso 1999). Higher percentages represent more conservative fishing policies. In general, a per-recruit approach is an appropriate assessment technique for a coastwide evaluation where available data vary greatly.

The SASC's approach to per-recruit modeling differs somewhat from traditional approaches. The SASC chose to develop values of the maximum  $Z$  rather than for  $F$ . This was done because of uncertainty in the sources of mortality in American shad with hypotheses differing as to whether fishing mortality, other human-induced mortality, or changes in natural mortality are limiting American shad recovery. Benchmark values of  $Z_{30}$ , defined as the long-term total mortality rate that will preserve 30% of the biomass or egg production per recruit of an unexploited stock, were calculated for four regions to reflect differences in latitudinal differences in life history. Stock-specific estimates of  $Z$  from catch-curve methods were then compared to the  $Z_{30}$  level to assess total mortality status. Stocks where catch-curve mortality estimates exceeded  $Z_{30}$  level benchmarks were considered to have excessive total mortality.

**The SASC did a good job of evaluating model sensitivity** by building stock specific models where more data were available (e.g., Hudson River). As mentioned in TOR-C, the assessment showed how  $F$  benchmarks would vary across different levels of  $M$  using a range of age-variant and age-invariant  $M$  values. Benchmark  $F$  values from a per-recruit model are sensitive to  $M$  values and this sensitivity is acknowledged by the SASC in Tables 1.1.5-1 of the American Shad Stock Assessment Report. For the stock-specific benchmark calculations, different levels of  $M$  were used for each region based on known life history differences across the populations. Aging error is acknowledged as a major problem by the SASC. This source of error can have major implications in the use of the catch-curve analyses that are the core assessment for each stock. The authors do a good job pointing out the limitations related to the age validation work that has been done and studies are ongoing to aid in addressing the validation issues.

**Catch-curve analysis has substantial limitations and should usually be avoided if reasonable alternatives are available** (Quinn and Deriso 1999, chapter 8). Trends in recruitment cause biases in total mortality. For example, when there is a declining trend in recruitment, total mortality is underestimated. This can lead to underestimating fishing mortality, which is not precautionary. Furthermore, the trend in recruitment is completely confounded with total mortality, such that using catch-curves can not simply be validated by inspecting the slope for a linear relationship between  $\log_e(N)$  and age.

The use of catch curves requires the SASC to specify the range at which full vulnerability is achieved. In the case of American shad, age frequencies in the catch curve are low and the range of ages is limited to as few as 4 cohorts. Consequently, the standard error of the catch curve is undoubtedly high, yet these standard errors are not reported nor are uncertainties in the catch-curve considered. **Future assessments should report the standard error.** The SASC also fitted catch-curves using data only to the right of the peak in the catch-age plots. The biological samples are collected in-river, and as a result the abundance of age classes that are not fully mature is underestimated (because these cohorts are not in the river where the samples are taken), which can lead to mortality estimates that are biased low. Where the data were available, the SASC did estimate  $Z$  from catch curves based on number of previous spawnings, an approach that uses abundance of mature fish only. For some populations, the estimates from the two methods were in good agreement, whereas in some other populations they were not. *Thus, catch curve analysis for American shad may be both inaccurate and imprecise.*

**Given these caveats, the Panel accepts the use of catch curve analysis in this assessment, because sensitivity analyses suggest that the results presented are robust to the assumptions that were made in using the catch-curves. Nevertheless, the focus of future assessments should be the development of more modern models of age-structured populations that integrate data sources and knowledge about American shad.** Age-structured models have been developed for anadromous *Alosa* that incorporate both age and previous spawning history in the catch-at-age array. Chaput et al. (2001) described a tuned VPA used for assessment of anadromous alewife in the Margaree River, Nova Scotia, and Gibson and Myers (2003) presented a statistical catch-at-age model adapted to four alewife populations in eastern Canada. Rather than tracking only abundance at age, cohorts are partitioned into sub-cohorts based on the age-at-maturity. These models preclude the need to specify maturity schedules in age-structured

models and address issues of variability in maturity schedules in the assessment models. When vital rates are held constant over sub-cohorts, estimation uncertainty can be evaluated because multiple estimates of different parameters (i.e., fishing mortality) are obtained in each year. Other alternative modeling approaches are discussed in TORs E and G.

A potential assessment framework that the ASMFC may wish to consider is one modeled after the framework used for many North Pacific salmonid stocks. For populations where data sources are limited, simple models with very conservative input parameters are used such that a highly precautionary, risk-adverse harvest policy is developed. In areas where more information is available, more in-depth models are developed which often allows greater flexibility in the management plans and potentially higher harvests in some years. Similarly, the North Pacific Fishery Management Council has a tier system for groundfish assessment based on the amount of available information. The tiers range from stocks with sufficient information to establish maximum sustainable yield (MSY), to stocks for which per recruit analyses can be conducted, to stocks for which only historical catch information is available. **These tiered systems** for being precautionary in data-poor situations, and more active in managing harvest in more data-robust environments, **could potentially be implemented for American shad along the U.S. East Coast.**

#### **E. Estimate biological reference points for each stock where possible.**

The SASC developed a benchmark total mortality rate,  $Z_{30}$ , defined as the long-term total mortality rate that would preserve 30% of the spawning biomass produced per recruit (BPR) in an unexploited population. In future assessments, the Panel recommends labeling this spawner-biomass-per-recruit (SPR) rather than biomass per recruit (BPR) to avoid confusion with *total* biomass per recruit. This reference point is analogous to the SPR fishing mortality rates (e.g.,  $F_{30}$ ,  $F_{40}$ ) widely used as reference points in fisheries around the world when spawner-recruit relationships are uncertain (Quinn and Deriso 1999). The origin of the choice of  $F_{30}$  for American shad populations dates back to the stock assessment of 1998 (ASMFC 1998). The Panel was unable to find any rationale for the choice of the value of 30 (versus 35 or 40) and requests that future stock assessments reveal this rationale and investigate whether the choice of the value of 30 is sufficiently conservative.

The SASC chose to develop a benchmark rate for  $Z$  rather than for  $F$  because there are many competing theories about the causes of mortality in Atlantic coastal American shad stocks. This does not eliminate the issue of partitioning mortality into  $F$  and  $M$  in modeling, but it does avoid an emphasis on  $F$  when comparing the results to observed estimates of  $Z$ . A regional approach was used to estimate reference points because most individual stocks did not have all of the needed stock specific data.  $Z_{30}$  values were calculated for New England, Hudson River, York River and Albemarle Sound. The reference point could not be calculated for the most southerly populations that spawn only once and then die. For these populations, a method similar to that for Pacific salmon, also semelparous, could be explored (NMFS 2004).



Inputs to the model are natural mortality, maximum age, proportion mature-at-age, biomass-at-age, and the selectivity of fishing gear. The SASC conducted thorough sensitivity analyses of the  $Z_{30}$  values to the model inputs. Additionally, for the Hudson River population, they augmented the basic biomass-per-recruit (BPR) calculations by also determining egg production-per-recruit (EPR) after including fecundity-at-age. Egg production is more closely tied to the regenerative capacity of the population than spawning biomass, though rarely are there large differences in results. Because there is variation in the timing of the fisheries relative to natural mortality, the SASC calculated  $Z_{30}$  values for both Type 1 (fishing and natural mortality occurring at separate times) and Type 2 (fishing and natural mortality both occurring year round) fisheries. The resulting values were thought to bracket the range of expected  $Z_{30}$  values for fisheries harvesting American shad.

**The Review Panel agreed that  $Z_{30}$  is an appropriate benchmark for overall use at the current time,** given differences in both the biology and the types of data available for the many populations included in the assessment. However, the Review Panel identified two problems with the calculations used that were corrected at the meeting by two members of the SASC in order that the assessment could proceed. Below, our report refers to these as “revised” values of  $Z_{30}$ .

First, in the Type 1 calculation, only mature fish were vulnerable to the fishery, but the survivorship calculation included fishing mortality for both mature and immature fish. The second issue was that gear selectivity (termed a “partial recruitment vector”) had also been included in the survivorship calculation. Because the  $Z_{30}$  reference point was the benchmark against which  $Z$  values calculated from catch curves were being compared, gear selectivity needed to be set equal to one for all ages, if the two values were to be comparable. This results from the implicit assumption that  $Z$  is the same for all ages when estimated from a catch curve using linear regression.

Because shad are diadromous, the effect of increasing total mortality on spawner biomass depends on how that mortality is distributed throughout the population. In-river fisheries typically harvest mature fish just prior to spawning, whereas both mature and immature fish are vulnerable to fisheries in the ocean. In-river fisheries affect populations just before spawning, whereas adult turbine mortality affects a population after reproduction has occurred. In each case, the effect of increasing mortality on spawning biomass-per-recruit may differ between these two types of fisheries, even if the increase in (annual) mortality is the same.

**The Review Panel agreed with the SASC that the effects of in-river fisheries could be modeled as a Type 1 fishery,** and that the effects of marine fisheries could be modeled as a Type 2 fishery. For both fisheries,  $Z_{30}$  is found by calculating spawning BPR for a range of fishing mortalities and finding the fishing mortality that reduces the BPR to 30% of its value in the absence of fishing.

The order of mortality events is an important consideration when developing BPR models. For a Type 1 in-river fishery,  $N_a$  is the number of fish at age  $a$  (mature and immature combined) at the time when the mature fish component first enters the river. These fish are assumed to be fished

after river entry, but before spawning. Given this order of events, the spawning biomass per recruit for a given level of  $F$ ,  $BPR_F$ , is given by:

$$BPR_F = \sum_a N_a (1 - u_a) m_a w_a,$$

where  $m_a$ ,  $w_a$  and  $u_a$  are the age-specific maturity probabilities, weights, and exploitation rates, respectively. The abundance  $N_1$  at age 1 is set to a constant value (say 1,000) to obtain a per-recruit value. The number of fish at age  $a+1$  is given by:

$$\begin{aligned} N_{a+1} &= N_a m_a e^{-M} (1 - u_a) + N_a (1 - m_a) e^{-M}. \\ &= N_a e^{-M} (1 - m_a u_a) \end{aligned}$$

The first term on the right side of the first line of the equation is the number of surviving mature fish and the second term is the number of surviving immature fish. The second line is the equation reduced. In this equation, fishing mortality is only applied to mature fish, because immature fish are largely absent from the river system. If selective gear is used, age-specific gear selectivity,  $v_a$ , can be included in the model in the calculation of  $u_a$ :

$$u_a = (1 - e^{-v_a F}).$$

Note that the assumption  $v_a = 1$  was used here so that the  $Z_{30}$  and catch curve  $Z$  values would be comparable. Additionally, the partial recruitment vectors from the original assessment were not used in the revised  $Z_{30}$  values, because there is uncertainty about their connection to gear selectivity. Given the variability in gears used to capture shad, and the fact that other in-river sources of mortality were being included, the Review Panel considered this assumption appropriate for the current wide-scale assessment, but recommends that gear selectivity be investigated further in stock-specific assessments where fisheries or other sources of mortality are known to be selective. Gear selectivity determines how mortality is distributed over ages. As a result, the reference  $Z_{30}$  values will change if selectivity is included and will be specific to the gear.

For a Type 2 at-sea fishery (in which natural and fishing mortality operate concurrently and both mature and immature fish are vulnerable to the gear),  $BPR_F$ , is given by:

$$BPR_F = \sum_a N_a m_a w_a$$

because the start of the year is when mature fish are found at the mouth of the river system, after at-sea fisheries and just before spawning.

In this situation,  $N_{a+1}$  is calculated as:

$$N_{a+1} = N_a e^{-M} (1 - u_a),$$

because both mature and immature fish experience natural and fishing mortality.

The exploitation fraction  $u_a$  is approximated by the standard Baranov equation:

$$u_a = \frac{v_a F}{Z_a} (1 - e^{-Z_a}), \text{ where } Z_a = v_a F + M.$$

The Review Panel then considered how to parameterize the BRP model for a Type 2 fishery. Were young fish vulnerable to the ocean fisheries? Can the very limited stock information from tagging and genetics be used to establish reference points? How much variability is there in gear selectivity by age? Are there sex-specific differences? Is it defensible to ignore the river mortalities here? The Review Panel could not resolve any of these issues with the scientific information at hand. Therefore, the Review Panel did not ask the SASC members to provide revised values from the Type 2 fishery, because of uncertainties in the ocean fisheries related to stock, age, and sex composition.

Results from the revised per recruit procedure are contrasted with the SASC stock assessment results from 1998 and this year in Table 2. The revised benchmark calculations resulted in higher  $Z_{30}$  values than were initially estimated by the SASC. This is the expected outcome because the revised results have less total mortality on immature shad, thus allowing higher mortality on mature shad. The revised results are lower than the comparable  $Z_{30}$  values used in the last region-wide shad assessment (ASMFC 1998), because natural mortality for older ages was much higher in the previous assessment.

Biological reference points are indices based on the biological characteristics of a fish stock and the characteristics of its fisheries or other human interactions. They are used to gauge whether specific management objectives are being achieved and provide both the link between stock assessment and management objectives (Caddy and Mahon 1995), and a basis for risk analysis of management actions (Punt and Hilborn 1997). **Although the Review Panel considered the  $Z_{30}$  benchmark sufficient for the region-wide comparisons presented in this assessment, this reference point is not directly linked to the management issues for many of these populations and the Review Panel encourages the development of population-specific reference points appropriate for the alleviation of the threats that exist for many of these populations.** Where abundance is sufficient to support fisheries, fishery-type reference points are appropriate, but for populations under restoration or rebuilding, reference points must also be appropriate for assessing the effectiveness of recovery activities. Human activities impact anadromous fish populations in many ways (e.g., fishing, dams and turbine mortality, habitat degradation), and where populations that are fished are under stress from other human activities, fishery reference points may need to be adjusted to compensate for the reduced productivity resulting from these other activities. For populations with low freshwater productivity, meeting the  $Z_{30}$  criterion will not ensure population recovery, as it does not explicitly account for this reduced production. The Review Panel notes that rebuilding targets are being developed for many of these populations and that in many instances, such as the Susquehanna River population, the SASC provided these targets in its report.

**Table 2.** Initial and revised benchmark total mortality rates ( $Z_{30}$ ) for each region for a Type 1 (T1) fishery. Initial values came from the original stock assessment produced by the SASC; revised values (in bold) were provided by SASC members as requested by the Review Panel. The Panel recommends that the revised values be used. Values used in the last assessment (ASMFC 1998), and corresponding  $F_{30}$ s for the York River are provided for comparison.

Region	Model	Max. age	M <sup>1</sup>	Z <sub>30</sub>		F <sub>30</sub>
				EPR <sup>2</sup>	BPR <sup>3</sup>	
New England	T1	11	0.38	-	0.64	
	revised T1	11	0.38		<b>0.98</b>	
Hudson River, NY	T1	14	0.30	0.52	0.54	
	revised T1	14	0.30	<b>0.68</b>	<b>0.73</b>	
York River, VA	T1	12	0.35	0.64	0.63	0.28
	revised T1	12	0.35	<b>0.85</b>	<b>0.85</b>	<b>0.50</b>
Albemarle Sound, NC	T1	10	0.42	-	0.76	
	revised T1	10	0.42		<b>1.01</b>	
ASMFC 1998						
All rivers	1-3		0.3			
Hudson	4-10		0.6		0.99	0.39
Northern rivers (NC-ME)	4-10		1.5		1.93	0.43
Southern rivers (SC-FL)	4-8		2.5		2.98	0.48

<sup>1</sup> assumed instantaneous natural mortality

<sup>2</sup> eggs per recruit

<sup>3</sup> biomass per recruit

The  $Z_{30}$  benchmarks could not be developed for the most southerly populations because they are semelparous. First, the Review Panel suggests that reference points for these populations be determined using surplus production, biomass dynamics, or delay-difference models, as shown in Hilborn and Walters (1992) and Quinn and Deriso (1999). Although at present the Panel does not know whether this approach will provide plausible reference points, testing the approach would also evaluate the utility of the data in this type of model. These kinds of models can be used with age-structured populations that do not have reliable age data for catch and abundance. Second, it may be possible to develop management benchmarks from standard semelparous spawner-recruit analysis (Quinn and Deriso 1999, chapter 3). Here an index of recruitment (from juvenile surveys) would be compared with an index of spawners (from river surveys) in order to establish  $F_{msy}$  reference points. This approach is widely used with Pacific salmon populations (NMFS 2004). This may also be the solution to the problems in the Delaware River,

for which aging accuracy is suspect. The above models could possibly be derived using the Lewis haul seine (adult) time series and the JAI in an age-aggregated modeling approach.

**F. Determine current status of each stock where possible.**

The SASC provided information for American shad populations in a total of 64 rivers in 16 states/jurisdictions; assessment was conducted for 31 of these populations (Table 1.2 of 2007 American Shad Stock Assessment Report). Stock assessments based on trend analyses using fisheries-independent and/or fisheries-dependent index time series, were presented for 23 of these populations (Table 3). For 16 of these populations, comparisons of total mortality rates to benchmark total mortality rates ( $Z_{30}$ ) were provided.

Given the wide variety of data types available for each population, coupled with differences in the biology, fisheries, and human and non-human induced factors that differentially affect shad population dynamics on a river by river basis, the SASC opted to assess Atlantic coastal shad stocks on an individual basis. **The Review Panel agreed that as an anadromous species, American shad should be assessed and managed by river system.** American shad spawn in rivers along the entire U.S. Atlantic coast and there are gradient (latitudinal) differences among river systems in life history attributes as well as river-specific factors such as the presence of dams (with and without fish passage), water quality problems, and estuarine and in-river fisheries that can lead to river-specific variation in patterns of abundance and in restoration potential.

The SASC used a simple index-based approach in its assessment for several reasons. These included the complexities of modeling oceanic and estuarine mixed-stock fisheries as well as river-specific commercial and recreational fisheries, particularly when few of the mixed-stock fisheries are adequately monitored, but there is almost no information about how to allocate the mixed-stock harvest among stocks. Additionally, few long-term, fishery-independent indices exist, except on rivers with fish passage, and the SASC identified uncertainties about the age data.

The SASC acknowledged that the assessment would not provide definitive answers to all the questions plaguing management of Atlantic coastal American shad. However, it did expect the assessment to give insight to managers on the complexity of the issues facing American shad in order to assist them in their decision-making as well as laying the foundation for future assessments in terms of data sources and methods.

**The Review Panel found that, with some exceptions, the SASC was able to determine the current status of many of the stocks, an impressive result given existing data uncertainties and limited resources.** From river to river, the basis for this assessment ranged from appropriate qualitative statements about status where populations were extirpated or are near extirpation to assessments of trends in abundance indices and total mortality. Where data were limiting or contradictory, the SASC appropriately stated that stock status was unknown. The Review Panel anticipates that the summaries provided by the SASC estimates will be particularly informative for prioritizing research and management actions as it relates to restoration of populations and preventing further declines.

**Table 3.** The 2007 assessed status (recent trend) of American shad populations compared with earlier 1998 assessment. A “?” in the status column indicates that either there was insufficient data or the various data analyses gave conflicting indications of trend.

State	River	Benchmark	Z	2007 Status	1998 Status
ME	Merrymeeting Bay			declining	
	Kennebec	0.98			
	Androscoggin	0.98			
	Saco	0.98	0.8-1.6		
NH	Exeter	0.98	0.3-2.1	Declining	
MA	Merrimack	0.98	0.4-2.4	Stable	Stable
RI	Pawcatuck	0.98	0.7-2.0	Declining	Stable
CT, MA	Connecticut	0.98	0.7-3.0	Stable	Stable
NY	Hudson	0.73	0.4-1.4	Declining	Declining
NY, PA, NJ, DE	Delaware River & Bay	0.85		Stable	Stable
MD	Nanticoke	0.85	0.1-1.6	Stable	Increasing
PA, MD	Susquehanna River & Flats	0.85	1.0-3.5	Declining	
MD, DC, VA	Potomac	0.85	0.6-1.5	Increasing	
VA	York	0.85	0.4-1.4	Increasing	Declining
	James	0.85	0.7-1.4	Declining	Stable
	Rappahannock	0.85	0.3-1.4	Stable	Stable
NC	Albemarle Sound	1.01	0.3-2.4	Stable	
	Roanoke	1.01		Stable	
	Tar-Pamlico	1.01	0.9-2.0	?	
	Neuse	1.01	0.2-2.0	?	
	Cape Fear	1.01	0.5-2.0	?	
SC	Winyah Bay	None		Stable	
	Waccamaw	None		?	
	Great Pee Dee	None		?	
	Santee	None		?	Increasing
	Cooper	None		Stable	
	Combahee	None		?	
	Edisto	None		Declining	Stable
SC, GA	Savannah	None		Stable	
GA	Altamaha (+ Ocmulgee)	None		Declining	Increasing
	Ogeechee	None			
FL	St. Johns	CPUE		Stable	

In general, as summarized by the SASC, American shad stocks have substantially declined from historic levels (see “Perspectives” section). The coastwide stock has experienced overfishing during at least three time periods over the 150 years of record. During these time periods, landings and likely fishing intensity have varied through time such as low landings during World War I, when fishing was thought to have declined, and high landings during World War II, when fishing increased. Major changes in recruitment have also historically occurred due to in-river modifications (dams, dredging, pollution, etc.). Recently, potentially large reductions in fishing

mortality have also likely occurred due to the closure of the ocean-intercept fisheries. This closure may expedite stock recovery, but the time period since closure in 2005 and this assessment in 2007 has not been long enough to detect a response from the resource. Recreational fishing appears to be highly variable across the coast, but trends in recreational fishing are generally not well known. While habitat related improvements are being made as part of ongoing river restoration programs (e.g., up-stream passage, improvements in water quality), the Peer Review Panel suggested substantial improvements to both upstream and downstream fish passage as an area requiring remediation and research. Finally, bycatch in shad and other fisheries is almost totally unknown and needs expedited investigation in future assessments.

The Review Panel appreciated the efforts of the SASC to provide historical landings data that at times dated back into the 1800s. While historical landings data cannot be used to estimate virgin biomass prior to exploitation, they do provide indications of stock potential which aid in the interpretation of the low but stable abundances reported for some rivers. There also appear to be latitudinal differences in stock status, with northern stocks having experienced larger declines and apparently slower recovery to historical overfishing than more southern stocks.

While the available data, trend analyses, and benchmark  $Z_{30}$  comparisons carried out by the SASC were sufficient to provide an overview of status of shad populations in many rivers, the Review Panel recommends the development of population-specific assessment approaches that can be used to address management questions relevant to the specific population. Guidance on this recommendation is provided in TOR-G.

#### **G. Develop recommendations for needed monitoring data and future research.**

The Panel reviewed the SASC recommendations on page 154 of its report. **The Panel thought that the SASC captured most of the important points and decided to use these recommendations as the basis for its own.** The Panel made changes to SASC recommendations 1, 2, 6, 9, 10, and 12 and added one additional recommendation about modeling.

##### *Recommendations for Fisheries and Fishery Assessments:*

1. Due to the poor condition of many shad populations, future management actions to reduce total mortality are needed.
2. Develop a management recovery plan for those populations where current total mortality is above the  $Z_{30}$  benchmark. Components of this plan could include reductions in commercial or recreational fishery mortalities, reductions in bycatch, habitat restoration, improvements in upriver and downstream fish passage, or some combination. All stocks should have management plans that describe fishery and habitat goals and objectives for both the short term and long term. These plans should be reviewed and updated on a regular basis.
3. Identify all fisheries where bycatch occurs, then quantify the amount and disposition of bycatch. In fisheries where bycatch is allowed, quantify the discards.
4. Employ observer coverage to verify the reporting rate of commercial catch and harvest, as well as bycatch and discards.

5. Identify directed harvest and bycatch losses of American shad in all fisheries. In particular, the ocean and bay waters of Atlantic Maritime Canada should be included in this investigation.
6. Future assessments will need to better separate ocean and river fishing mortality in historical data. The problem is that data from the now-closed ocean fishery are limited in regard to stock origin, age composition, and maturity of fish. There is need for better identification of stock composition in mixed stock harvest using microchemistry techniques, genetics, and/or tagging. Modeling may help to account for ocean mortality, and efforts to locate age composition and maturity information.
7. Spatially delineate between mixed stock and Delaware stock areas within the Delaware River system.
8. Collect annual estimates of recreational catch, total harvest, CPUE, age, size, and sex composition of fish in each fishery.
9. If in-river tagging programs (conducted in Georgia, South Carolina, and Maryland) used to estimate exploitation and population size are continued, then assumptions must be verified. Issues related to reporting rate, tag mortality and loss, and movement (fallback), which are needed to estimate exploitation, need to be addressed.
10. Improve analyses of mark-recapture data by using modern methods (e.g., those contained in program MARK; Williams et al. 2001) to estimate survival.
11. Monitor juvenile production in semelparous stocks. Such monitoring may indicate when recruitment failure has occurred.
12. Accurate and precise aging is a critical underpinning of shad stock assessment and a prerequisite to any substantial improvement. Validation of aging procedures using either scales or otoliths is greatly needed for most shad stocks. These methods should allow for age and year-class identification in mature fish. To validate otoliths, it would be desirable to mark stocked larvae with OTC, alizarin, or thermal marking.
13. Characterize passage-associated efficiency, mortality, migration delay, and sub-lethal effects on American shad at hydroelectric dams.
14. Annually update all summary data tables of on-going data collection for use in the next assessment in the format used in this stock assessment for use in ASMFC stock assessments only.
15. Shad population modeling must be vastly expanded in the future. First, age-structured assessment models are needed to integrate the various sources of information available for shad stocks. These models have largely supplanted catch-curve analyses around the world. Second, models that incorporate predator-prey interactions should be examined. Shad are consumed by striped bass (e.g., in Connecticut), seals, sharks, other fishes, and birds. Little is known about these effects. If statistical multi-species models cannot be developed, then perhaps Ecopath may provide some insight. Third, the ultimate goal of stock assessment of shad should be to develop a life history model that accounts for all major factors that affect the mortality, recruitment, and reproduction of shad. This model would include factors in



the ocean environment such as ocean fishing, fisheries bycatch, and oceanographic processes. This model would include factors in the freshwater environment, including fish passage and related mortality, commercial and recreational fishing mortality, habitat changes, and environmental factors. Such a model would be useful to help understand which processes are most important in the sustainability of shad populations.

#### *Recommendations for Habitat*

1. Develop safe, timely, and effective upriver and downriver passage for adults and downriver passage for juvenile at all barriers that limit access to spawning reaches.
2. Maintain water quality and suitable habitat for all life stages of American shad in all rivers with shad populations. Refer to Amendment 1 for habitat issues pertaining to American shad and the ASMFC Anadromous Species Habitat Source Document (*in prep*).
3. In rivers with flow regulation, maintain flows at levels that ensure adequate fish passage, water quality, and habitat protection.

#### **H. Describe the locations and amounts of shad and river herring bycatch in commercial fisheries for mackerel, sea herring, and other pelagic species and estimate the contribution of that bycatch to fishing mortality.**

The SASC members were unable to complete this task at the time of the review. The data sources are widely dispersed and not readily available. This task remains a high priority for the SASC, as bycatch could potentially represent a significant and unknown source of mortality.

## Advisory Report

### A. Stock status

The stock assessment report identifies that all the stocks are highly depressed from historical levels. Current status, i.e., whether the stocks are currently improving or not, was identified for most stocks (Table 3). Declines in American shad in recent years were indicated for Maine, New Hampshire, Rhode Island, and Georgia stocks, and for the Hudson, Susquehanna, James and Edisto Rivers. Low and stable, but often highly variable, stock abundance was indicated for Massachusetts, Connecticut, Delaware, Chesapeake, Rappahannock, some South Carolina, and Florida stocks. Stocks showing some rebounding in recent years include the Potomac and York stocks. Data limitations and conflicting data precluded the report from saying much about the current status or trend of stocks from North or South Carolina (see Table 3).

The status of stocks as reported in the 1998 stock assessment report was based on 1992-1996 trends. Many of the stocks exhibited stable or positive trends during this time and these trends seem to continue until around 1999-2000, as indicated by the current assessment. The current assessment shows declines for several of these stocks from the turn of the century (Pawcatuck, Chesapeake Bay, James, Edisto rivers). The Panel report from the last assessment (1998) stated that: *“These trends in abundance over the 1992-1996 period may reflect natural variability, changes in fishing pressure, or both. The short time series is of limited applicability in analyzing the long term health of American stocks.”* This comment is still relevant and the changes in short term trends seen for American shad just reemphasize this. Only two stocks show some signs of increasing recent trends, i.e., York and Potomac Rivers. The Potomac was not assessed in the last review and the York showed a decline in that review. **Taken in total, American shad stocks do not appear to be recovering. Current restoration actions need to be reviewed and new ones need to be identified and applied.** These include fishing rates, dam passage (and survival there from), stocking, and habitat restoration.

### B. Stock Identification and Distribution

East Coast stocks of American shad have distinct phylogenetic structure due to their natal homing behavior (Bentzen et al. 1989; Nolan et al. 1991; Brown et al. 1996) and are known to mix along their migration routes. Direct evidence comes from tagging experiments (e.g., Talbot and Sykes 1958; Dadswell et al. 1987; Jesien et al. 1992) and is also inferred from natural genetic composition (Brown et al. 1996, 2000) and from biogeochemical signatures in otoliths (Thorrold et al. 1998; Walther 2007).

In the current stock assessment, the SASC discussed at length the impacts of the ocean-intercept fishery on American shad (Section 1.5.1, Part A). Using a combination of artificial tagging and genetic data, the SASC attempted to parse out the percentages of mixed stock ocean (including Delaware Bay) harvests that individual stocks composed. Heaviest mixed stock exploitation was estimated to derive from North and South Carolina, and from the Delaware, Hudson, and Connecticut Rivers. For the Hudson River, where more data are available, the losses attributed to the ocean-intercept fishery appear to be reasonable.

As pointed out in Brown et al. (2000), shad marine migration paths are likely to vary from one year to the next due to changes in climate and possibly other ecological factors. Hence, mixed stock ocean fisheries are likely to intercept different stocks at different rates across time. The uncertainty that arises lends support to the precautionary measure of closing down the ocean-intercept fishery.

The SASC pointed out that further methods development is needed to resolve the mixing of American shad stocks. The Review Panel concurs, and recommends both the implementation of archiving programs (for DNA and otoliths) and more research on otolith chemical markers.

### **C. Management Unit**

Management units of individual river stocks appear appropriate and are supported by the genetic evidence (Brown et al. 2000; Waters et al. 2000). Additional assessment approaches may require combining information from multiple stocks to create regional models supported by life history differences in the stocks, such as a southern stocks (South Carolina, Georgia, and Florida) Mid-Atlantic, and North Atlantic stocks.

### **D. Landings**

The SASC has done an excellent job compiling landings statistics from a variety of state and federal sources across about a 150-year time period (and in the case of the Potomac River, back to 1814). These landings statistics provide useful information to infer stock potential for restoration purposes.

### **E. Data and Assessment**

This is addressed in TOR-D.

### **F. Biological Reference Points**

This is addressed in TOR-E.

### **G. Fishing Mortality**

Most of the mortality estimates presented were in terms of  $Z$  calculated from catch-curve methods. Partitioning of mortality into estimates of  $F$  requires additional assumptions related to  $M$ . Because of uncertainty in  $M$ , estimates of  $F$  were not presented. There is also some debate on the SASC about what is included as  $F$  or  $M$ . Generally in most fisheries stock assessments,  $F$  would include all anthropogenic sources or mortality. For example in these stocks, this would include mortality associated with fishing (directed commercial, commercial bycatch, and recreational) and adult dam passage mortality. Natural mortality sources would include fish that die due to any non-anthropogenic source including predation, old age, or spawning associated mortality.

The SASC and individual managers expressed interest in developing approaches to partitioning mortality into different sources. We have provided some guidance related to this in TOR-G. Most management actions are directed at regulating  $F$ . The SASC's approach of presenting

mortality in terms of total mortality assumes that  $M$  has remained constant across the time series where  $Z$  values were presented for each stock in order to evaluate trends in  $F$ . Using this approach, the SASC is monitoring trends in  $Z$  for responses to recent fishery management actions such as closure of the ocean-intercept fishery. If the assumptions of the catch-curve methods are met, then this approach is likely reasonable. However, by not partitioning mortality, the SASC needs to address other hypotheses of interest such as changes in natural mortality related to ecosystem changes (e.g., increases in striped bass abundance) which may lead to increased predation on American shad. The exception is for the York River where benchmark guidelines are presented for  $F_{30}$  levels as well as  $Z_{30}$  levels.

The SASC's recommendation to continue the use of Brownie type survival models (Brownie et al. 1985) is a good recommendation to estimating total mortality from tagging data. Estimates of reporting rate are required to partition mortality into component parts. Lack of knowledge about reporting rates is possibly why survival estimates from the Brownie models in the Hudson River are not partitioned into component parts. The SASC's decision to exclude other tagging based exploitation estimates (e.g., South Carolina) because of uncertainty in reporting rate and mixing of marked and unmarked fish is appropriate. However, properly designed tagging programs conducted over multiple years could provide annual estimates of fishing mortality for use in assessing stock status and evaluating factors limiting recovery. Jiang et al. (2007) provide an example of using a tagging program to estimate  $F$  and  $M$  for striped bass in the Chesapeake Bay.

## **H. Recruitment**

The Panel feels that the SASC did an excellent job compiling the existing recruitment indices. Juvenile recruitment data are often lacking in many fisheries assessments and efforts to monitor recruitment should continue for each stock. The Panel feels that additional effort should be made to determine how JAIs compare to estimates of adult abundance, both in terms of run size that produced a particular year class and how well strong year classes detected in the JAI programs persist in the adult stock. This would aid in evaluating recruitment responses to climatic events, such as droughts and flooding, or changes in dam management operations related to enhancing upstream and downstream passage capabilities at dams.

## **I. Spawning Stock Biomass**

No estimates of spawning stock biomass (SSB) were presented. However, historical landings data do provide some insight into the potential spawning stock biomass, indicating that SSB is likely much lower currently than in previous time periods (Figure 1). Recent indices of adult abundance also demonstrate large reductions in stock biomass for the northern stocks (Maine through Rhode Island). The Connecticut stock shows variable but stable indices of adult returns, the Hudson River stock shows decline, and the more southern stocks show mixed signals or a stable trend with high variability. However, all abundance indications show low spawning abundance compared with historical levels, assuming that the high historical landings correlate with high historical spawning levels.

## **J. Bycatch**

This is addressed in TOR-H above.

## **K. Other Comments**

Throughout the SASC report there is little discussion on the amount of uncertainty associated with data used in the assessment, particularly in the indices such as annual variance in JAIs. The Panel would like to again make the same recommendation as in the 1998 American shad stock assessment to present uncertainty in model inputs whenever possible instead of assuming that values are known. This allows managers not only to evaluate the uncertainty in the input data, but also to evaluate the uncertainty associated with model results and to aid in research planning by identifying areas where sampling variability is high or model outputs are highly sensitive to uncertain data inputs. These recommendations follow guidelines highlighted in the 1998 NRC report, *Improving Fish Stock Assessments*, which encourages all stock assessments to "*present realistic measure of the uncertainty in model outputs whenever feasible*" (NRC 1998).

## **L. Perspectives**

The world is a rapidly changing place, as the impact of humanity becomes ever more pervasive. Historical ecology has become one means to study and evaluate this impact (e.g., Jackson et al. 2001; Briggs et al. 2005). The current American shad stock assessment explicitly incorporated historical perspectives, by compiling catch data as far back in time as the early 1800s. Throughout the stock assessment report, time series of harvests from a number of states and river systems are presented along with the corresponding state or system summary. The Panel brings these data together in a slightly different way by (a) putting all the time series data onto the same temporal scale, with different scales on the y-axis, in order to examine temporal trends, and (b) putting all the data on the same scales on both axes, in order to examine the magnitude of these trends. The Panel normalized the catch data to the distances of available river kilometers that shad would have traversed during different time periods, following Limburg et al. (2003). This allows us to compare catches among river systems. The Panel notes that the un-normalized trends show similar patterns.

In addition, the Panel can comment on some of the past characteristics of American shad as listed in newspaper accounts from the New York Times Archive, and make note of other past information. The New York Times had many articles about the shad fishery. Archives are available online dating back to 1851 ([www.nytimes.com](http://www.nytimes.com)).

### *Historical Time Series of Catches*

Long-term data were available from the American shad stock assessment report for the states of Maine, Massachusetts, Rhode Island, Connecticut, New York (Hudson River), Maryland (mostly upper Chesapeake), the Potomac River, North Carolina, South Carolina, and the Savannah River, which borders South Carolina and Georgia. These data were normalized by dividing the catches by the amount of available river and estuary kilometers that shad would have traveled to reach their spawning grounds (Figure 1-A). Mostly the river/estuary distances declined over time,

unless a dam passageway was built or a dam was removed. The periods of the two World Wars are included in Figure 1-A to help guide the eye.

Fisheries peaked at different times over the past 120 years, with highest harvests in the 1880s and 1890s in the Hudson River, Maryland, and North Carolina, but peaking later in Maine (1912), Massachusetts (1957), and Connecticut (1946). Considerably lower catches per km were recorded for Rhode Island, South Carolina, and the Savannah River. Catches increased in both Connecticut and New York during the Depression and remained high throughout the post-WWII period, but declined (or possibly collapsed) shortly thereafter.

The Potomac River has data going back to 1814; the maximum harvest from extant records was in 1832, with a total catch of 51,136,364 kg (167,112 kg per river km). If the average shad caught then weighed five pounds (2.27 kg), this amounted to over 10 million fish; if the average shad weighed four pounds (1.82 kg), this would have been over 12 million fish caught in one system in one year. Indeed, it was thought that 22.5 million fish could be caught “in a good year” (Tilp, 1978, cited in the ASMFC report). Later the Potomac fishery peaked in 1898, but as in some other systems, went through a serious of gradual “fishing up” and collapse episodes. Today, that fishery is limited to bycatch and recreational landings, and a stocking program is in place to supplement the remnant population.

If all the time series are placed on one graph with arithmetic axes (Figure 1-B), the scale of the early Potomac fishery to subsequent ones is startling. Log-transforming the landings axis (Y-axis) permits all the time series to be viewed. On this scale, the long-term decline is exponential with a slope of  $-0.035 \text{ yr}^{-1}$  with all the data ( $R^2 = 0.33$ ,  $p < 10^{-5}$ ), or  $-0.033 \text{ yr}^{-1}$  if the early Potomac landings are excluded ( $R^2 = 0.26$ ,  $p < 10^{-5}$ ).

### *American Shad in the 19<sup>th</sup> Century*

There is a large gap in data from 1832 until the 1880s, but the Panel does know from historical and contemporary accounts that the shad fisheries were already in decline by the mid-19<sup>th</sup> century. Fishing regulations had already gone into effect in the 18<sup>th</sup> century in New England, and net lift periods were put in place in the Hudson River in the 1870s.

During this period, the field of scientific aquaculture grew into a major tool that federal and state resource commissions used to enhance flagging fisheries. Seth Green began experimenting with shad culture in 1867 in the Connecticut River, and by 1870 shad eggs were being hatched both in the Connecticut and Hudson Rivers (NYT 1874). Green and his colleagues transported shad to the West Coast by rail (Boyle 1969) and attempted to establish populations in the Great Lakes and Mississippi River (NYT 1874). The American Fish Culturists' Association, which evolved into the American Fisheries Society (AFS), was founded in 1870 and had an initial focus on shad, salmon, and trout. The first scientific report in the Transactions journal was on American shad culture (Clift 1872). By the turn of the century, major aquaculture facilities were in place along several rivers.

Difficult as it is to believe today, American shad were dramatically important as a food source through the 19<sup>th</sup> century and into the early 20<sup>th</sup> century. *“Its [shad] abundance in the early history of the country was such as to excite the unbounded astonishment of those who beheld it for the first time”* (NYT 1874). Charles Minor Blackford wrote in 1916 that, *“...there is probably no fish on earth that surpasses the shad in all the qualities that go to make up an ideal food fish...”* (Blackford 1916). There are many 19<sup>th</sup> century newspaper accounts of the toothsome flavor and appeal of shad. It is no mystery why so much effort was put into its propagation.

Why did American shad catches decline so precipitously in the early 20<sup>th</sup> century? Although it may never be known definitively, there is ample evidence that raw sewage and other noxious pollution became severe and persistent in the period of the 1890s through the 1920s. For example, in November, 1916 the New York Times ran the note:

*“Shad are reported in the Hudson River. They are not many, and they are not edible, tasting of sludge and oil too much. It is not known certainly what is the explanation of their unseasonable appearance, but it serves to recall the time when the shad fisheries of the Hudson were worth as many hundreds of thousands as in recent years they have been worth thousands”* (NYT 1916).

Nineteenth century accounts document repeatedly that American shad were larger and weighed more in the early and mid-century than later. A 1611 account from the Potomac River was of shad measuring a yard long (91 cm) (Tilp 1978, cited in the ASMFC stock assessment). In 1903, the New York Times reported that: *“A few years ago, eleven, twelve, and even fourteen pound shad were not uncommon in the Hudson, but very little is heard of shad of that sort today. The average weight for both sexes, according to the figures of the United States Fish Commission, is between three and four pounds”* (NYT 1903).

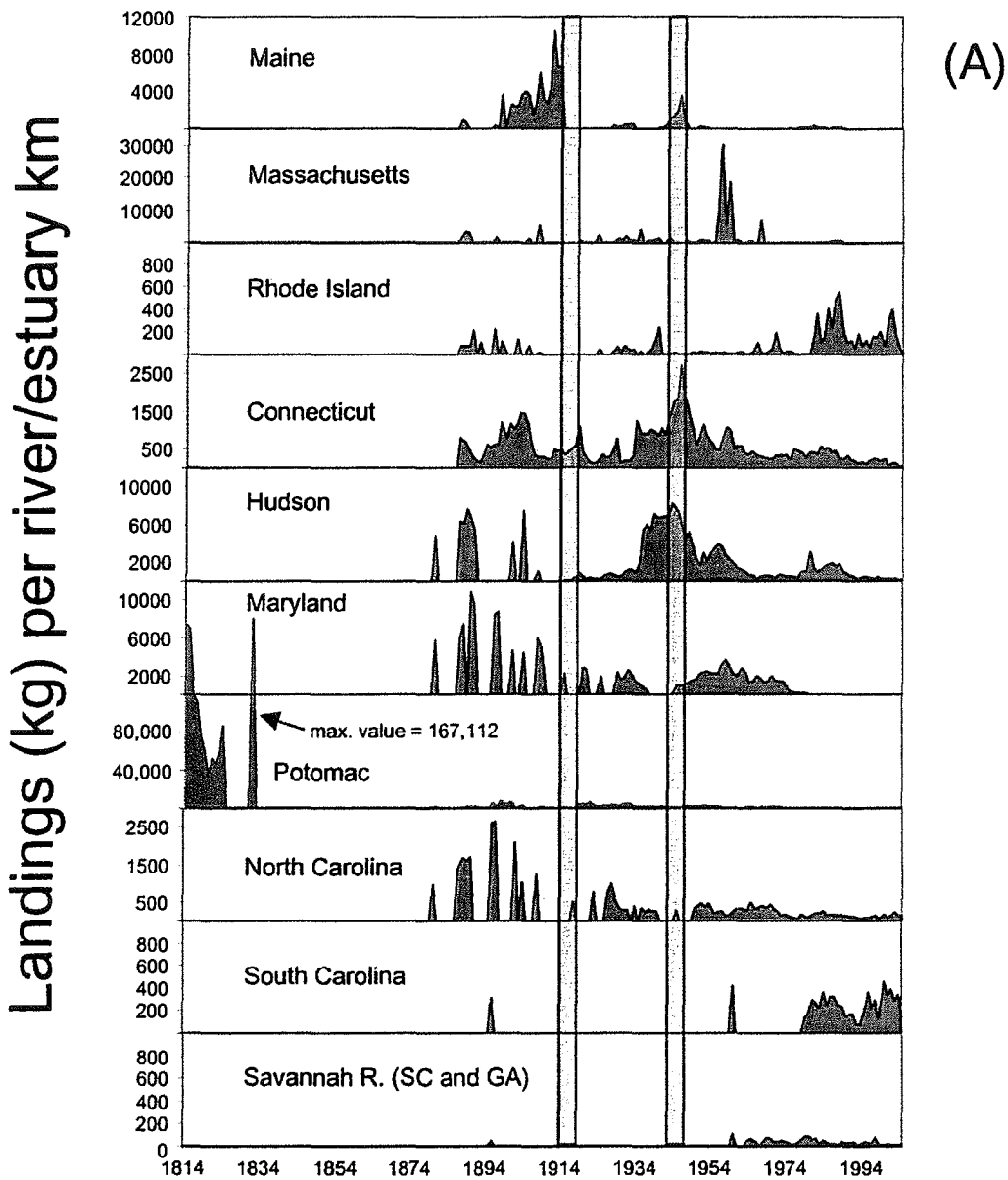
Finally, linkages with marine ecosystems were also apparent and in decline in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. Future ecosystem models that include shad could use some of the historic accounts as a starting point. For example, shad were known to be preyed upon by marine species. *“In the deep sea the horse mackerel, kingfish, and shark work dreadful havoc with the adults. Even the porpoise pursues the shad to shore and devours him just as he reaches the haven of river water”* (NYT 1903). Stevenson (1899) was acutely aware of the linkages between continental watersheds and coastal marine fisheries, and wrote in his monograph on the state of shad fisheries that:

*“The relationship between the different species of fish in the economy of nature is not very well understood, but sufficient is known to indicate that the valuable shore fisheries on the New England coast are intimately associated with the run of shad and similar species up the rivers of that section. Seventy years ago the run of fish up the rivers of the New England States was very much greater than at present, and after the parent fish had disappeared the waters swarmed with the young, which later in the year descended to the sea in enormous schools, attracting the cod, haddock, and other offshore species, which were caught in great abundance within a short distance of the coast, rendering unnecessary the expensive and hazardous trips to distant banks. But with the depletion of shad, alewives, salmon, and kindred species came a corresponding diminution in the number of cod, haddock, etc. near the coast. And it appears that any measures tending to restore the anadromous fishes to their former abundance will also improve the coast fisheries. (pp. 104-105)”*

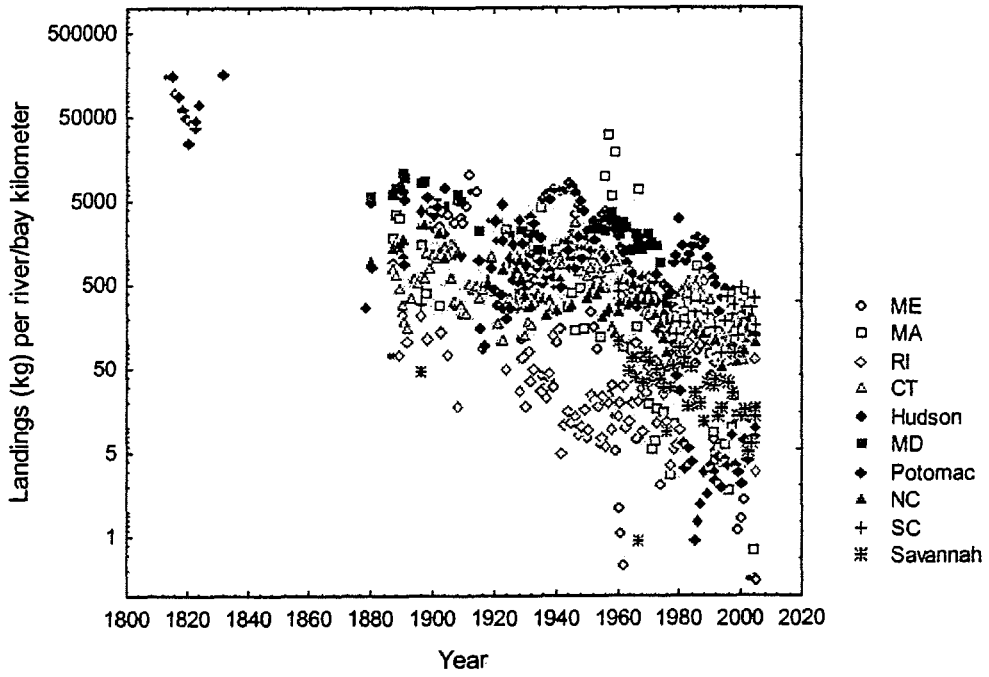
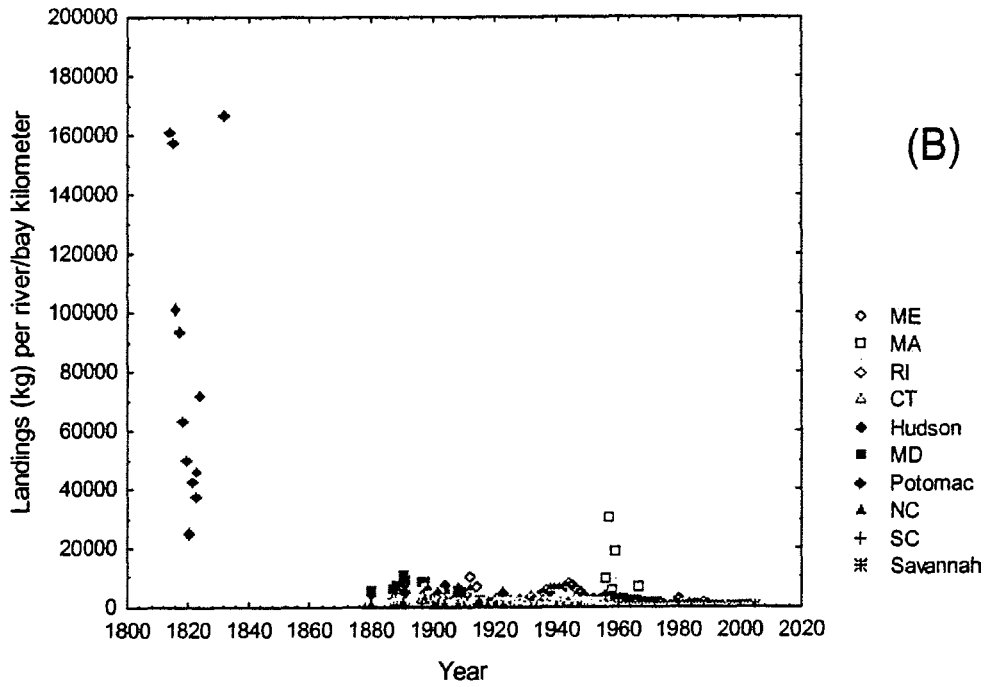
### *Shifting Baselines and Lost Connectivity*

American shad has lost its place as a dominant species in East Coast estuaries and rivers, and has dropped out of commonplace memory in America. Historical reconstructions may help to establish a baseline and benchmarks against which to measure recovery. The late 19<sup>th</sup> century harvests have been suggested as a baseline, but there is evidence that even these fisheries were conducted on depleted populations. In the 21<sup>st</sup> century, American shad could become a bellwether of ecosystem health, managed not only for fisheries, but also to indicate the status of the connectivity and environmental quality of watersheds and coastal oceans.





**Figure 1.** Time trends of American shad landings for selected rivers. Landings have been normalized by dividing by the distance inland that shad could migrate through estuaries and rivers from the sea. (A) Trends shown by individual state or river system; note the differences in y-axis scales. The two World Wars are shown as light gray bars. (B) Trends placed on the same y-axis: arithmetic scale (top) and logarithmic scale (bottom).



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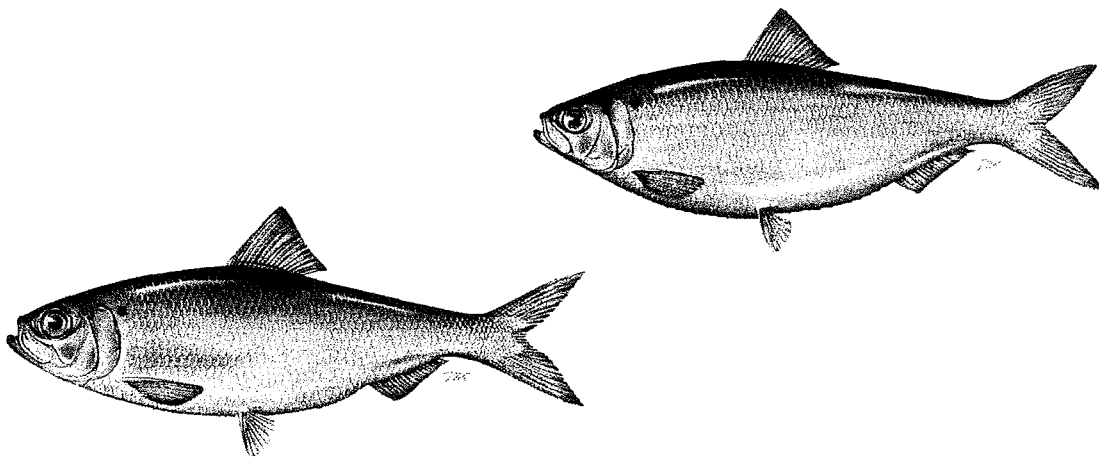
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Stock Assessment Report No. 12-02  
of the

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*Terms of Reference & Advisory Report  
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**March 2012**



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

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Conducted on  
March 14-15, 2012  
Raleigh, North Carolina

Prepared by the  
ASMFC River Herring Stock Assessment Peer Review Panel

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## Preface

### *Summary of the ASMFC Peer Review Process*

The Stock Assessment Peer Review Process, adopted in October 1998 and revised in 2002 and 2005 by the Atlantic States Marine Fisheries Commission (ASMFC or Commission), was developed to standardize the process of stock assessment reviews and validate the Commission's stock assessments. The purpose of the peer review process is to: (1) ensure that stock assessments for all species managed by the Commission periodically undergo a formal peer review; (2) improve the quality of Commission stock assessments; (3) improve the credibility of the scientific basis for management; and (4) improve public understanding of fisheries stock assessments. The Commission stock assessment review process includes an evaluation of input data, model development, model assumptions, scientific advice, and a review of broad scientific issues, where appropriate.

The Benchmark Stock Assessments: Data and Assessment Workshop and Peer Review Process report outlines options for conducting an external peer review of Commission managed species. These options are:

1. The Stock Assessment Workshop/Stock Assessment Review Committee (SAW/SARC) conducted by the National Marine Fisheries Service (NMFS), Northeast Fisheries Science Center (NEFSC).
2. The Southeast Data and Assessment Review (SEDAR) conducted by the National Marine Fisheries Service, Southeast Fisheries Science Center (SEFSC).
3. The Transboundary Resources Assessment Committee (TRAC) reviews stock assessments for the shared resources across the USA-Canada boundary and is conducted jointly through the National Marine Fisheries Service and the Canada Department of Fisheries and Oceans (DFO).
4. A Commission stock assessment Peer Review Panel conducted by 3-5 stock assessment biologists (state, federal, university). The Commission Review Panel will include scientists from outside the range of the species to improve objectivity.
5. A formal review using the structure of existing organizations (i.e. American Fisheries Society, International Council for Exploration of the Sea, or the National Academy of Sciences).

Twice annually, the Commission's Interstate Fisheries Management Program (ISFMP) Policy Board prioritizes all Commission managed species based on species management board advice and other prioritization criteria. The species with highest priority are assigned to a review process to be conducted in a timely manner.

In March 2012, the Commission convened a Stock Assessment Peer Review Panel comprised of scientists with expertise in stock assessment methods and/or diadromous species and their life history. The review of the river herring stock assessment was conducted at the Doubletree Brownstone Hotel in Raleigh, North Carolina from March 14 - 15, 2012. Prior to the Review Panel meeting, the Commission provided the Review

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Panel Members with an electronic copy of the 2012 River Herring Stock Assessment Report.

The review process consisted of an introductory presentation of the completed 2012 stock assessment by river system and from a coast wide perspective. Each presentation was followed by general questions from the Panel. The second day involved a closed-door meeting of the Review Panel during which the documents and presentations were reviewed and a report prepared.

The report of the Review Panel is structured to closely follow the terms of reference provided to the stock assessment team.

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### Acknowledgements

The Peer Review Panel thanks the members of the River Herring Stock Assessment Subcommittee and Shad and River Herring Technical Committee, as well as staff of the Atlantic States Marine Fisheries Commission, particularly Patrick Campfield, for support during the review process.



*Alewives*

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## Introduction

'River herring' is the collective term for two of the anadromous alosine herrings: the alewife, *Alosa pseudoharengus*, and the blueback herring, *A. aestivalis*. These are closely related species, sharing many physical characteristics and broadly overlapping in range (Collette and Klein-Macphée 2002).

'River herring' is also a misleading misnomer, for the anadromous shads spend most of their lives at sea. However, they concentrate in spawning aggregations in rivers, and it is there that traditional fisheries are prosecuted. Furthermore, young fry use riverine, lacustrine, and estuarine habitats as nursery grounds. Thus, these species are recognized for connecting inland watersheds to marine ecosystems, transporting production from one realm to the other and back again at different life stages.

River herring are not as well documented in historical fisheries as were their larger congener the American shad; however, new analyses based on historical accounts suggests that their abundances far exceeded that of American shad (Hall et al. *in press*). Prior to exploitation by Western European colonists, populations of river herring in large river systems likely ran in the hundreds of millions; coastally this would have translated into annual spawning runs in the billions. Seaward emigrating young-of-year also encountered a gauntlet of marine predators (Stevenson 1899); hence these young fish presented a clear trophic link between inland and marine production.

Today, these linkages are largely broken. Stocks of river herring are greatly depleted compared to the early 17<sup>th</sup> century baseline, as well as compared to that of the late 19<sup>th</sup> century. As well, many genotypes are probably extirpated (Chapman 1895), most of them without documentation.

Reviewing the recent history of this species pair from 1950 when harvests began to be reported consistently, river herring are depleted. This most recent decline appears to have begun in a period of large, offshore harvests by a combination of foreign and U.S. fleets (River Herring Stock Assessment Report).

This report reviews components of the recent stock assessment of river herring conducted by the Stock Assessment Subcommittee (SASC). Data collection, standardization of indices, trend analyses, and stock assessment models were undertaken by the SASC, and uncertainties quantified. The Panel commends the SASC on the comprehensive approach and points out some places for improvement in the following sections. The Peer Review Panel concurs with the SASC conclusions, that river herring stocks are depleted, that ocean bycatch is an issue, and that recovery will require management on multiple fronts (e.g., fishery management, watershed management) and will need to be responsive to factors beyond human control (e.g., climate change).

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### Terms of Reference for the River Herring Stock Assessment Peer Review

#### 1. Evaluate the justification for inclusion or elimination of available data sources.

The River Herring Stock Assessment Subcommittee (SASC) cast a wide net to collect and synthesize data from as broad a variety of sources as possible. The approach was inclusive rather than exclusive, and uncertainties and caveats were noted.

For inland/coastal information, 57 systems (mostly rivers) were included in the coast-wide assessment (Table 1). Nine categories of fisheries independent and dependent information were considered by the SASC. Most of the valid information was for northern systems; much information was lacking, particularly in southern states. It was noted that few state surveys actually target river herring per se. Some of the better count data were at fish passage facilities. For select data sets, a change in sampling methodology was a concern, as it limited utility of a data set for temporal trend analysis. Overall, however, there were sufficient data to undertake many of the analyses presented by the SASC.

Historical and modern catch data were obtained state by state and for the entire U.S. coast. NOAA Fisheries maintains data from 1950 onward, while pre-1950 data were from a combination of federal and state sources. Although the first reported catches dated from 1887, both the SASC and the Peer Review Panel noted that large data gaps occur prior to 1950 due to incomplete reporting by state. As an example, the U.S. Fisheries Commission reported river herring harvests in 1892 as coming solely from Massachusetts (3,651,000 lbs or 1,659.5 MT). On the other hand, the New York Times, which reported a great deal on fisheries in the 19th century, listed additional 1892 harvests of river herring from New York, Delaware, Maryland, and North Carolina totaling 19,932 MT – thus, the total harvest for that year was well over 20,000 MT or a factor of 12 larger than reported in U.S. statistics (NYT 1895). The Panel recognizes the difficulties in estimating catch from historical sources, but encourages the SASC to pursue these avenues in the future.

A problem with catch data is that these are generally reported only as ‘river herring’ or even as ‘alewife’. Parsing out the species can be done by making reasonable assumptions about range distributions (cf. Limburg and Waldman 2009). However this was not done for the assessment.

Recreational catch data were not used because the only data source, NOAA’s Marine Recreational Information Program, does not collect data in fresh water where most recreational fishing for river herring occurs. Additionally, there was concern about species misidentification in this dataset.

Trend analyses were conducted on most datasets, including catch-per-unit-effort data (loess smoothed, 11 rivers), run size estimates (23 rivers), young-of-year indices (13 rivers as well as lower Chesapeake Bay and Albemarle Sound), miscellaneous young-of-year, juvenile, and adult surveys (4 rivers), 19 trawl surveys, as well as the biological (mean length, maximum age) and population level (total mortality, Z, computed by age or by repeat spawning marks) information. The Panel noted that while the catch rate series were standardized for effort, analyses of these data would have benefited from use of Generalized Linear Modeling approaches which would have allowed more in-depth

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exploration of the trends in the data as well as their uncertainties. Further comments on the uncertainties in the trend analyses are evaluated in ToRs 3 and 4.

Indices of run sizes based upon visual or electronic counters were available for six states for differing time periods preceding the 2010 surveys. Cluster analyses of three time intervals were conducted (1984-2010, 1999-2010, and 2003-2010) to explore temporal and spatial trends in run size. The first time period allowed for the longest time series to be analyzed but was restricted to 10 rivers (3 Maine, 4 New Hampshire, and 1 each in Massachusetts, Rhode Island, and Connecticut). A reduction in the time period (1999-2010) allowed more recent trends to be examined, increasing the analysis to 15 rivers (3 Maine, 6 New Hampshire, 3 Massachusetts, 2 Rhode Island and 1 Connecticut). The final time series (2003-2010) allowed the inclusion of 19 rivers (4 Maine, 6 New Hampshire, 3 Massachusetts, 3 Rhode Island and 3 Connecticut).

Although the run sizes in most rivers examined exhibited a decline, no geographic relationships could be detected by the cluster analysis. The data from 2003-2010 did show some promise as a geographic predictor of a latitudinal relationship and additional (future) analysis will be needed to bear this out. A problem with analysis of run counts is that the data are subject to both natural (i.e. spring rainfall) and anthropogenic modifications (i.e. river diversion or fishway modification) in upstream accessibility that can be acute or long term. Other confounding factors include the location of any obstruction or fishery component downstream of the census location and the absence of data on whether or not river herring use specific spawning locations within a river.

Length data were available from eight states (Maine, New Hampshire, Massachusetts, New York, Maryland, North Carolina, South Carolina, and Florida) along with the National Marine Fisheries Service Bottom Trawl survey. Sex-specific trends in length over time were examined for Maine through South Carolina; however large gaps in the Florida time series (1973-2001) prevented its inclusion. Although sampling methods were inconsistent between rivers, all trend analyses were based on within system sampling so gear selectivity should not have been a concern.

The trend analysis of the length data found a negative relationship in 4 of 10 rivers for alewife and 5 of 8 for blueback herring. The SASC noted significant trends were more common in times series that began in 1990 or earlier, and hence the length of the time series may be a confounding factor. The potential for a geographic bias may also be present for the two species because the number of rivers sampled was not even between regions. Of the six rivers where significant trends were found, only two were from New England while 8 of the 12 rivers examined were from this region. Evidence for this concern may also be seen in the results of the NEFSC Bottom Trawl survey where coast-wide trends were seen in alewife and "to a lesser extent in the blueback." It should be noted that Marcy (1969; cited as an ageing reference by SASC) notes a latitudinal trend in size that was apparent in the late 1960's. The panel realizes the SASC does not have the power to control data collection but encourages all attempts to obtain data from the under or non-represented states (regions).

River herring age data, determined by scales, were used for maximum age, length-at-age analyses, age at maturity, and associated mortality estimates. Potential problems with growth differences precluded use of length keys to develop age estimates.



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All states cited the methods of Cating's (1953) study of ageing shad scales as part of the methodology for ageing their river herring. Several problems with the use of Cating's method have been discussed in recent years (McBride et al. 2005 and Duffy et al. 2011). Most recently Duffy et al. (2011) found that Cating's method does not reliably account for shad ages over large latitudinal ranges. Some of the discrepancy lies in the use of transverse grooves to establish the freshwater zone and ages one to three. They concluded transverse groove formation is more closely related to scale size (fish size) rather than a function of age. This would create a latitudinal interpretation problem that becomes more acute as the trends in decreasing length noted above develop.

The SASC clearly noted the weaknesses of using ages determined by scales:

"These protocols have not been validated with known-age fish, and there have not been many efforts to standardize river herring ageing across states. As with any ageing method, there is the potential for bias both between labs and within labs over time as personnel change and methods are not consistently standardized."

Additionally, the Panel recognized that in the absence of validation (using known age fish) or alternate aging structures (i.e., otoliths) there were no alternatives. The Panel felt strongly that there is a need to develop a standardized, validated ageing process to reliably provide vital life history data.

Overall, the Panel concluded the SASC adequately justified the inclusion and exclusion of the available data in its analysis.

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State	River	Time series	By species	Harvest	Age
ME	Damariscotta	1943-2010			
	St. George	1943-2010			
	Union	1975-2010			
	Orland	1943-2010			
	Androscoggin	1983-2010			
	Sebasticook	2000-2010			
	Merrymeeting Bay/Tribs	1979-2009			
	Gulf of Maine	2000-2010			
NH	Exeter/Squamscott	1991-2010			
	Lamprey	1991-2010			
	Winnicut	1991-2010			
	Oyster	1991-2010			
	Cocheco	1991-2010			
	Taylor	1991-2010			
	Great Bay Estuary	1997-2010	x		
MA	Mattapoissett	1988-2010			o
	Monument	1980-2010			o
	Nemasket	1996-2010			o
	Parker	1971-1978, 2000-2010			o
	Town	2000-2010			
	Agawam	2006-2010			o
	Back	2007-2010			
	Charles	2008-2009			
	Mystic	2004-2010			
	Quashnet	2004			
	Stony Brook	1978-2004			o
RI	Gilbert Stuart	1981-2010			
	Nonquit	1999-2010			
	Buckeye Brook	2003-2010			
	Pawcatuck	1988-2010			x
	Ocean waters	1979-2010			
	Naragansett Bay	1988-2010			
	Coastal ponds	1992-2010			
CT	Bride Brook	1966-1967, 2003-2011			
	Connecticut River	1975-2011			
	Farmington River	1976-2011			
	Thames River	1996-2011			
NY	Hudson	1975-2010		o	o
DE, NJ, PA	Delaware River	1980-2010	o	o	o
	Delaware Bay	1966-2010	o	o	o
MD	Nanticoke	1959-2010	o		o
	Susquehanna	1972-2010	o		
	Chesapeake Bay	1959-2010			o
MD, VA, DC	Potomac River	1959-2010			
VA	James	1966-2010	o		o
	Rappahannock	1966-2010	o		o
	York	1966-2010	o		o
NC	Albemarle Sound	1972-2009		o	
	Chowan River	1972-2009			
SC	Wynah Bay				
	Santee-Cooper	1969-2010	o		o
	Savannah River				
	Ashley-Combahee-Edisto Basin				
GA	Altamaha River	2010			
	Ogeechee River	2010			
	Savannah River	2010			
FL	St. John's River	2001-2010			



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### 2. Evaluate the estimates of ocean bycatch of river herring and the methods used to develop estimates.

For many years, incidental bycatch in marine fisheries was a known but unquantified mortality source for river herring and shad, and was identified as a high priority in the most recent American shad stock assessment review (ASMFC 2007). For the current river herring assessment, incidental catch - defined as alosines brought aboard and either retained (landed) or discarded at sea - was quantified for the first time. The purpose was to compare the magnitudes of incidental catch from all sources to reported commercial catches.

Data were obtained from the Northeast Fishery Observer Program (NEFOP) and were quantified by fleet for 14 different gear types (see pg. 19 of the stock assessment report), by year, season, geographic area, gear group, and mesh size for each species. Bycatch was estimated by taking the ratio of bycatch weight to caught weight as reported on ships by a NEFOP observer, and then adjusting these by the weight of the sold catch as reported by dealers, which is considered a more accurate weight.

Bycatch was assessed from 1989–2010. However, methodologies changed in 2005 for subsampling bycatch in high-volume midwater trawls and became better estimations. Hence, midwater trawl incidental catches are only included for 2005–2010. Coefficients of variation (CVs) were calculated following Wigley et al. (2007).

#### Incidental vs Reported Catches

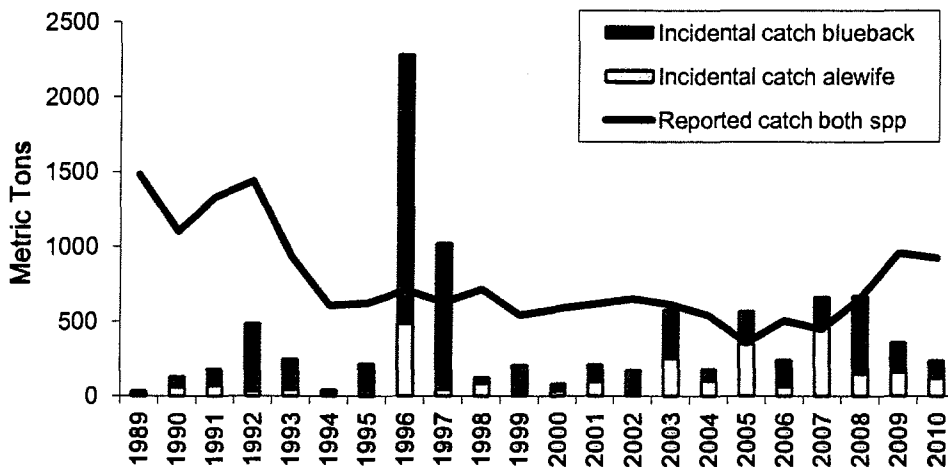


Figure. 1. Incidental catches of blueback herring and alewife, all gears and fleets reported by NEFOP observers, compared to total reported catches, 1989-2010. CVs not shown. Midwater trawl bycatch only included from 2005 onward.

Alewife bycatch ranged from a low of 2.72 MT in 2002 to 482 MT in 1996, with CVs ranging from 0.2–3.86 (20%–386%). Blueback herring bycatch ranged from 19.6 MT in 1989 to a high also in 1996 of 1803.4 MT, with CVs ranging from 0.2 to 2.1. Incidental marine catch estimates came close to or exceeded total reported commercial catches in 6

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out of 22 years (Figure 1). Incidental catches occurred in all seasons, but tended to be highest during October – March. Midwater trawl catches were about equally proportioned between New England and Mid-Atlantic statistical areas, although New England small-mesh trawls took more incidental catch than Mid-Atlantic ones. Overall, New England incidental catches formed the larger part of the total (56%).

An unknown fraction of incidental catch is reported as ‘landed catch’ and thus the actual incidental bycatch reported as alewife and blueback herring is likely a bit lower than shown in Figure 1. However, an additional category of bycatch, called ‘Herring – Unknown’ (2.1 – 328 MT during this period) likely also includes river herring.

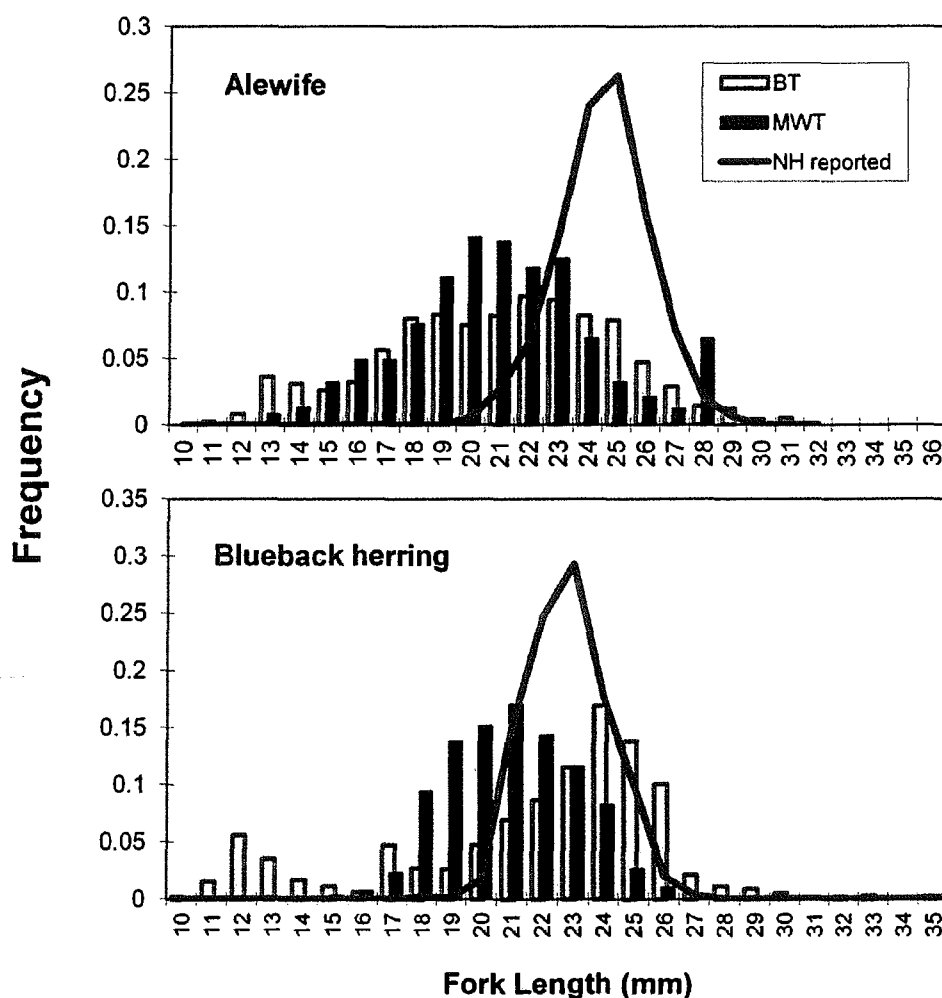


Figure 2. Length frequency distributions of alewife and blueback herring captured in bottom trawls (BT), midwater trawls (MWT), and compared to the spawner length frequency in New Hampshire. Data are from 2005-2010 added together.

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Observers also record the sizes of incidentally caught river herring. It is noteworthy, even if expected, that a far broader range of sizes of both species were caught at sea than is the case in inland fisheries (Figure 2, using New Hampshire inland catches as a typical example of spawner size frequencies). For both species, large proportions of immature individuals were captured at sea. This is cause for concern.

Overall, the Panel considered the approach used by the SASC to assess incidental catches of river herring as reasonable and followed established protocols. Uncertainties were acknowledged. The Peer Review Panel encourages the assessment team to work to reduce uncertainties going forward, noting that CVs were lower in later years of the data presented. This likely is due to improvements in midwater trawl subsampling, among other things.

### **3. Evaluate the methods and models used to estimate population parameters (e.g., $Z$ , biomass, relative abundance) and biological reference points, including but not limited to:**

- a. Evaluate the choice and justification of the preferred model(s) or method(s) of calculation. Was the most appropriate model or method chosen given available data and life history of the species?
- b. If multiple models were considered, evaluate the analysts' explanation of any differences in results.
- c. If appropriate, evaluate model parameterization and specification (e.g. choice of CVs, effective sample sizes, likelihood weighting schemes, calculation/specification of  $M$ , stock-recruitment relationship, choice of time-varying parameters, plus group treatment).
- d. Evaluate the diagnostic analyses performed, including but not limited to:
  1. Sensitivity analyses to determine stability of estimates and potential consequences of major model assumptions
  2. Retrospective analysis

Besides examining trends in fishery-dependent and -independent indices of abundance, the SASC pursued three main categories of analyses to estimate population parameters. The first consisted of the estimation of river-specific total mortality ( $Z$ ). Associated with this was derivation of  $Z$  reference points based upon a Spawner per Recruit (SPR) analysis. The second category consisted of the estimation of both river-specific and coast-wide exploitation rates ( $u$ ). The third category consisted of two sets of population models, one set for specific rivers (Monument, Chowan and Nanticoke) and a second set for the coast-wide stock.

#### *Total Mortality ( $Z$ )*

Age frequency information was available for many of the coast's rivers from a variety of fishery-dependent and -independent sources (see ToR 1). The Chapman-Robson (1960) survival estimator, which is comparable to catch curve analysis but less biased, was applied to the annual age frequency data to provide a total mortality estimate by river,

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species, sex and year. Assumptions were made that sampling was representative of the abundance of each age class, the first age of full recruitment was the age class with the highest frequency, and selectivity for all full recruited ages was one. Z estimates were made from data with three or more age classes, including the first fully recruited age. Trends in the derived estimates were indicated through linear or loess smoothers. The method depends on the accuracy of the ages which was raised as an issue during the assessment. It is also influenced by many of the same issues that affect catch curve analysis, such as potential violation of selectivity assumption as well as variability due to recruitment events. If these are not severe, the method can provide an adequate estimate of annual total mortality along with estimates of uncertainty (CV) for each component of the coastal river herring complex.

A similar analysis of total mortality trends was conducted using the repeat spawner data available for each stock component. Estimates were made from data where three or more repeat spawner classes, including the first fully-recruited class, were deemed valid. This analysis was undertaken to avoid the problem of ageing inaccuracies. The other issues encountered in the age-specific analysis would apply here as well. The Panel was concerned that while this analysis would address the ageing issue, others may be present. Specifically, skip spawning, while not considered likely by the SASC, would produce biased (high) estimates of Z. Interestingly, the repeat spawner Z estimates tended to be higher than the age-based ones, consistent with this potential problem. And, if spawning checks and scale rings were annual, both estimates should be highly correlated, which was not the case. On balance, the Panel preferred the age-based Z estimates notwithstanding the potential ageing uncertainties.

Total mortality reference points were developed to compare to the annual Z estimates using Spawning Stock Biomass per Recruit (SRP) software available in the NMFS assessment toolbox. State-specific estimates of spawner weight-at-age were developed, in some cases converting length-at-age to weight-at-age using state-based length-weight relationships. Fishing and natural mortality were assumed to occur consistently throughout the year, so the fraction of both that elapsed before spawning was estimated by each state based on the month with the highest run count (if available) by species. Fishing selectivity was assumed to be 1 for all ages and represented both in-river adult fishing and juvenile ocean catches. It also includes other sources of mortality such as that due to passage and predation. The SPR model provides estimates of spawning biomass per recruit for a range of fishing mortalities as a percent of the maximum possible ( $F = 0$ ). The Panel considered the methodology appropriate for use with river herring.

### *Exploitation rates*

Exploitation rates (u) were estimated for five New England rivers by dividing the in-river harvest by the total run size (escapement plus harvest) for a given year. This method relies on the quality of escapement and harvest data. If these are reasonably accurate, the method is appropriate. Its utility is limited by the data available, a point highlighted by the fact that estimates were calculated for only five of the over 50 rivers along the coast.

Relative exploitation rates were estimated for the coast-wide river herring population by dividing the annual estimate of total catch by an index of total biomass. A coast-wide

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rather than regional or river-based estimate was calculated due to the inability to partition incidental catch to region or river. The total catch was calculated from the total reported landings, NAFO landings reported from other countries, plus incidental catch (see ToR 2). An index of total annual river herring biomass was based on the minimum swept area biomass of the 1976-2010 spring NEFSC bottom trawl survey. The spring survey was used as river herring are more readily caught during the spring than during the fall. This method has been used in other data-poor situations and is part of the AIM package in the NMFS assessment toolbox. It can produce adequate trends in relative exploitation as long as its assumptions are not severely violated. Here, the catch comes from both freshwater and marine environments while the biomass index is only from the latter at one time of the year (spring). The age/size composition of the catch and survey index may be very different. There is evidence that the size composition of the freshwater landings and marine incidental catch are different (ToR 2) but no evidence on survey size composition was provided. The Panel considered that while the results were interesting, they require further verification of the approach's assumptions before being used.

### *Population Models*

A Statistical Catch at Age (SCAA) model was developed for each of the Monument (MA), Nanticoke (MD), and Chowan (NC) rivers. The choice of these rivers was based upon a combination of data availability and modeling expertise. While not necessarily planned, it is fortunate these three rivers were chosen as they span the geographic range of river herring along the coast. The Monument model was for alewife, the Chowan model was for blueback herring, while the Nanticoke model was for both species. The three models differed significantly in a number of details but overall were innovative implementations. The Monument model used escapement for catch and did not depend upon offshore incidental bycatch, which was incorporated into the model as a component of natural mortality ( $M$ ). Two time blocks were used to capture significant changes in the fishery and population. The model fits to the data were good with no obvious issues. It was the most advanced SCAA implementation of the three models.

The Chowan model had the same general structure as the Monument's, but did not produce as good a fit to the observations. During the review meeting, the SASC indicated this model, while still good, required further development. The SCAA models (each species) for the Nanticoke River were the least developed of the three. Not only was it acknowledged that incidental catch needed to be incorporated before its acceptance, but the fits to the observations exhibited strong residual patterns.

Overall, while none of these models are appropriate to inform management decisions at the coast-wide scale, the Panel considered the SCAA models as innovative and strongly urged further developments. In addition, they provide platforms for the study of alewife and blueback herring population dynamics at both the river and coast-wide scale. For instance, these models could be used to examine river herring-habitat relationships in each river and how these might influence reference points. Comparison of the findings of these models may provide insight on how river-based processes vary along the coast. Further, the model outputs, e.g. biomass and reference points, can be compared to evaluate whether or not each river population is mixing in the one or many discrete



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offshore ‘pools’. The Panel encourages efforts to expand these models to other rivers as data and resources permit.

A depletion-based stock reduction analysis (DB-SRA) was developed for the coast-wide river herring population. It employed the Pella-Tomlinson production function rather than the hybrid function developed by Dick and MacCall (2011). The model inputs included catch (including incidental bycatch), the model shape parameter ( $n$ ), exploitation at MSY ( $U_{MSY}$ ), the carrying capacity ( $K$ ) and the ratio of 2010 to virgin biomass ( $B_{2010}/K$  ratio). Due to the long history of this fishery, initial biomass was set at 75% of  $K$ . Multiple draws were made by the SASC using different distributions of the  $n$ ,  $U_{MSY}$  and  $K$  parameters to determine a value of  $K$  which provides an expected  $B_{2010}/K$  ratio. The SASC informed the Panel that the latter ratio was based on an analysis of catch and run count data which gave a general indication it was on the order of 10%. The base model assumed  $n=2$ ,  $U_{MSY} = 0.1$ ,  $B_0/K = 0.75$  and  $B_{2010}/K = 0.1$ . Sensitivity runs (ToR 4) were conducted to explore the model’s behavior to changes in the data inputs. Also, changes were made to the catch history to examine the impact of historical misreporting. The model outputs indicated  $K$  was robust to data inputs, except catch, being in the order of 634 kt – 707 kt.  $U_{MSY}$  was also relatively stable across input options, varying from 0.055 – 0.073 while  $B_{MSY}$  varied from 312Kt – 355kt.

In a Pacific Fishery Management Council–sponsored workshop to explore assessment methods for data-poor stocks (Dorn, 2011), the DB-SRA was determined to provide reasonable estimates of key population parameters, including stock status, given a range of uncertain data inputs and assumptions. However, as acknowledged by the SASC, the river herring model is strongly constrained by the input assumption on  $B_{2010}/K$ . Thus, in this case, current status is largely influenced by what is assumed to be current status. The Panel also noted that  $U_{MSY}$  of 0.06 appears to be unrealistically low and may be due to a mis-specified production function. This is complicated by the fact that the dynamics of two species (alewife and blueback herring) are being jointly modeled.

In summary, the Panel concurred with the SASC that the DB-SRA model did not adequately model river herring stock conditions and should not be used to assess status. On the other hand, it is a valuable heuristic tool to explore the possible dynamics of the resource and guide future modeling efforts which more explicitly incorporate observational informational as part of an optimization process.

#### **4. Evaluate the methods used to characterize uncertainty in estimated parameters. Ensure the implications of uncertainty in technical conclusions are clearly stated.**

For important parameters and trends estimated, the characterization of uncertainty by the SASC varied across approaches. Uncertainty arises throughout the assessment process in the estimation of various quantities, including: catch (both landed and discarded), indices of abundance, trends in the indices, mortality rates, biological reference points, and population biomass.

In general, the uncertainty in the indices of abundance was not well characterized. Estimates of CPUE from the various fisheries-dependent and -independent surveys were calculated as the total catch divided by the measure of effort. The Panel felt using a more

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statistical approach was warranted to account for uncertainty in these indices in relation to covariates (e.g. estimating CPUE using a GLM).

The ARIMA model used to estimate temporal trends attempts to reduce observation uncertainty in a time series by assuming point estimates are part of an autoregressive process. The resulting fit has a variance below the variance of the fitted time series, and is an accepted way to characterize trends in noisy data over time (Helser and Hayes, 1999). In addition to the fitting of the ARIMA model, the stock assessment team accounted for additional uncertainty in the fit by computing the probability of being below the reference point (the 25th percentile of the fitted series), along with the statistical level of confidence (at the 80% level). The probability and associated confidence limits were calculated using a bootstrap approach. The Panel felt that calculating statistical levels of confidence around the estimated probability was a useful approach. However, there was some concern over the sensitivity of the ARIMA model fits to the first year in the series, and that additional smoothing techniques might be employed in conjunction with the ARIMA model to fits where conclusions in trends are sensitive to the early time period.

Estimating total mortality rates ( $Z$ ) relied on the ability to age river herring using scales. The SASC acknowledged there is a large amount of uncertainty in the ageing process using scales, although it is not possible to quantify this uncertainty at present. Total mortality was also estimated using repeat spawner marks, which the SASC believed might be a less biased approach to estimated  $Z$ . Estimates of uncertainty in  $Z$  estimates were not presented in assessment. The Panel agreed that estimates of uncertainty for these values should be provided, particularly in Table 2 of the assessment that summarizes  $Z$  in relation to reference points by system.

In the stock assessment approaches (the SCAA for 3 rivers, and the coast-wide assessment using DB-SRA; see ToR 3), uncertainty was characterized in different ways. DB-SRA utilizes a Monte Carlo approach, whereby model inputs are drawn from a specified distribution. It is recognized that when using DB-SRA, specification of these input parameters is often ad hoc by necessity. The SASC specified various distributions for the input parameters, all of which were dome-shaped. In addition to the usual distributional inputs, the SASC also added uncertainty into the catch series, assuming catches early in the time series had higher coefficients of variation. Although estimates of uncertainty in the catch were added in an ad hoc manner, the Panel thought it was a significant inclusion to the model, as catches are often assumed known when using this approach. The Panel felt that uncertainty in the inputs and outputs of the DB-SRA model were generally well characterized, although in the future it might be more appropriate to assume uniform distributions for the input parameters, and then allow the model to reject unrealistic values. In addition, the Panel felt the distribution for  $B_{MSY} / K$  was likely too high, being centered at 0.5 and ranging between 0.3 and 0.7. The Panel felt the distribution should have an upper bound closer to 0.5, and be centered around 0.35. Doing so might account for some of the issues in estimates of  $F_{MSY}$  (see ToR 3).

As noted in ToR 3, SCAA models were developed for 3 river systems for one or both species of river herring: the Monument River in Massachusetts (alewife only), the Nanticoke River in Maryland (both alewife and blueback herring), and the Chowan River in North Carolina (blueback only). It was acknowledged by the SASC that the models

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for the Monument and Chowan Rivers were more developed, and the model for the Nanticoke was a work in progress. All assessment models were developed in AD Model Builder (Fournier, 2011). Uncertainty in the inputs in the Monument and Chowan models was accounted for in the likelihood weighting, whereby catch and survey indices of abundance were weighted by their CV. In addition, an iterative reweighting procedure was conducted to account for the potential impacts of the individual likelihood components to the overall model fitting procedure McAllister and Ianelli (1997). Uncertainty in model estimates were reported for all quantities based on the AD Model builder-estimated standard errors in model parameters and derived quantities. The Panel recognized the characterization of uncertainty in the assessments was sound, although the standard errors in the estimates is likely biased low due to various model assumptions (e.g. fixed M, Beverton-Holt recruitment relationship).

In summary, the Panel felt the characterization of uncertainty was variable across approaches. Uncertainty was generally well addressed in the population models (DB-SRA, SCAA models) and in the trend analyses. However, uncertainty was not well accounted for in the calculation of CPUE indices. The Panel recommends using a more statistical framework, such as a GLM, when calculating CPUEs from surveys.

### **5. Evaluate recommended estimates of stock biomass, abundance (relative or absolute), mortality, and the choice of reference points from the assessment for use in management; if appropriate, recommend changes or specify alternative estimation methods.**

No estimates of biomass, abundance (relative or absolute), or fishing mortality were recommended by the SASC. All population models considered were in some stage of development. The SCAA models were developed to describe alewife and blueback herring dynamics at the river scale. While they may have utility to inform specific management decisions at this scale, at least two of them require further development. And, their reference points are applicable to the river and not coastal scale. The DB-SRA model of coast-wide river herring dynamics was not considered to provide credible estimates of biomass and fishing mortality. The Panel felt that while the trend in historical biomass estimated by this model is likely close to the truth - relatively high prior to the 1960s after which it declined rapidly - there is considerable uncertainty in more recent trends, with some formulations suggesting a small increase and others indicating relative stability. The DB-SRA model also suggests exploitation was low until the mid-1960s, rapidly rose to a peak in the early 1970s and then, according to the base model, steadily declined until the present. The estimates of both the in-river and relative exploitation rate also exhibited declines during this period, although the detailed patterns are different. Thus, while the Panel agreed biomass is lower than historical levels and fishing mortality has likely declined more recently, the extent of these reductions is highly uncertain. And, the reference points estimated by the DB-SRA were not considered credible and thus are not useful to the determination of stock status.

The SASC provided three reference points based upon total mortality ( $Z$ ):  $Z_{\text{COLLAPSE}}$ , the amount of mortality that would cause a stock to collapse;  $Z_{20\%}$ , the amount that would

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reduce the biomass per recruit to 20% of the unfished stock; and  $Z_{40\%}$ , reduced biomass to 40% of unfished biomass. A number of  $Z_{\text{COLLAPSE}}$  estimates were proposed, all being generally based upon the fishing mortality ( $F$ ) at a percent SPR determined by the inverse of the slope at the origin of a Beverton and Holt stock-recruitment relationship. Total mortality is determined by adding an assumed level of natural mortality. Here, an  $M$  of 1.0 was assumed. Values of  $Z_{\text{COLLAPSE}}$  for alewife across rivers ranged 2.0 – 3.0 while those for blueback herring for a more limited number of rivers ranged from 1.6 – 3.2. These were well in excess of the annual estimates of age-based  $Z$ . The Panel considered the  $Z_{\text{COLLAPSE}}$  reference point a useful upper limit to total mortality but it must be considered with caution given its dependence on uncertain stock-recruit relationships and assumptions on natural mortality.

The  $Z_{20\%}$  and  $Z_{40\%}$  reference points are analogous to the widely used  $F_{20\%}$  and  $F_{30\%}$  proxies of  $F_{\text{MSY}}$ . In the case of river herring, fishing mortality is assumed to include a combination of fishing and other anthropogenic and non-anthropogenic sources of mortality, most of which cannot be quantified. The percentage of maximum spawning potential used for the determination of the mortality reference point is based upon the productivity characteristics of the species, with lower percentages (15 – 20%) sustainable for highly productive species and higher percentages (35 – 40%) used for less productive species. Punt et al. (2008) determined that the percent SPR at MSY is an inverse function of the steepness parameter of the Beverton and Holt stock-recruitment relationship. A meta-analysis of steepness parameters by Myers et al. (1999) indicated the median estimate of steepness for Clupeids (such as alewife and blueback herring) was 0.71. Based on the analysis of Punt et al. (2008), this implies percentages on the order of 35 – 40% are more appropriate for river herring reference points. The Panel thus recommends that  $Z_{40\%}$ , rather than  $Z_{20\%}$ , be used as the total mortality reference point.

The  $Z_{20\%}$  and  $Z_{40\%}$  reference points are very sensitive to assumptions of  $M$ . The SASC developed two sets of  $Z$  reference points based on  $M$  equal to 0.3 and 0.7. It based these on a comprehensive study of published relationships between natural mortality and growth parameters such as  $K$  (Brody growth coefficient),  $t_{\text{max}}$  (the maximum age), and average temperature experienced during a year (Table 2). These growth parameters were developed with data from 1973-1983. This analysis indicated estimates of  $M$  based on longevity ( $t_{\text{max}}$ ) were much lower than those based on  $K$ . The basis for this could not be determined but may indicate that elevated natural mortality is being expressed through changes in growth. The  $M$  options of 0.3 and 0.7 were considered to bracket the processes implied by this analysis.

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**Table 2.** Estimates of river herring natural mortality ( $M$ ) developed by the SASC for determination of  $Z$  reference points (provided to Panel at review meeting).

Method	Equation	Required Parameters					M
		L inf	K	t max	P	temp	
Alverson and Carney 1975	$M = 3K/(\exp(0.38 \cdot K \cdot t_{\max}) - 1)$		X	X			0.164
Pauly 1980	$M = \exp[-0.0152 + 0.6543 \cdot \ln(K) - 0.279 \cdot \ln(L_{\text{inf}}/10) + 0.4634 \cdot \ln(\text{Temp})]$	X	X			X	1.212
Hoenig 1983 (regression)	$M = \exp(1.44 - 0.982 \cdot \ln(t_{\max}))$			X			0.401
Hoenig 1983 (rule-of-thumb)	$M = -\ln(P)/t_{\max}$			X	X		0.382
Raiston 1987 (linear regression)	$M = 0.0189 + 2.06 \cdot K$		X				1.234
Jensen 1996 (theoretical)	$M = 1.50 \cdot K$		X				0.885
Jensen 1996 (derived from Pauly 1980)	$M = 1.60 \cdot K$		X				0.944
Hewitt and Hoenig 2005	$M = 4.22/t_{\max}$			X			0.384

For  $M = 0.3$ , the  $Z_{40\%}$  reference point ranged 0.46 – 0.48 for alewife and blueback herring across the rivers along the coast. For  $M = 0.7$ , this reference point ranged from 1.11 – 1.15. It is clear the determination of natural mortality is critical to the setting of  $Z$  reference points. There is good evidence that total mortality is high. The issue is how much of this is due to fishing and how much due to natural mortality. There is evidence from various sources that fishing mortality has likely been declining over a long period. Some of the growth parameters based on 1973-1983 data suggest  $M$  is high. It is possible that due to the depleted state of river herring stocks, multiple sources are causing high apparent natural mortality. These species are forage for many predators and are exposed to many anthropogenic threats (e.g. dams, culverts and other barriers, etc). The Panel considered that  $Z_{40\%}$  for  $M = 0.7$ , as proposed by the SASC, is a useful reference point against which to measure total mortality.

### 6. Evaluate stock status determination from the assessment; if appropriate, recommend changes or specify alternative methods/measures.

Coast wide status of the stock (biomass and exploitation rates) in relation to management reference points could not be determined. The SASC attempted to estimate coast wide status using the DB-SRA model, but recognized that using estimates of current biomass and exploitation rates were dependent upon the input parameter of  $B_{\text{CURRENT}} / K$ . The Panel agreed with this conclusion, and also noted estimates of  $F_{\text{MSY}}$  and historical exploitation rates were likely too low, suggesting that at its peak, the fishery was removing only 20% of the stock per year. While the Panel felt the current DB-SRA model was not to be relied on, it believed this model should be further developed, and may be a useful heuristic tool (see ToR 3).

Determination of coast wide status therefore relied on a variety of approaches, including the statistical catch at age models for individual rivers, trend analyses, and estimation of total mortality across rivers. The statistical catch at age models for individual rivers all showed sharp declines in river herring biomass. For the Monument River, alewife spawning biomass declined from a peak of around 35 MT in the mid-1990s to early 2000s to about 7 MT currently. For the Chowan River, spawning biomass of blueback herring declined from a peak of 5225 MT in the early 1980s to a current estimate of 95 MT. The models for alewife and blueback herring in the Nanticoke River, while

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considered less developed than the other models, suggested similar declines in magnitude, from about 60 and 70 MT in 1989 (for alewife and blueback, respectively), to about 5 MT in recent years for both species.

In addition to the assessment approaches, the SASC explored trends in indices of abundance, mean length, mean length-at-age, and maximum age. In many systems, mean length and maximum age were lower in recent years, and length-at-age for at least one age class showed a decline. For juvenile and adult surveys indices of abundance, trends were variable.

Where total mortality ( $Z$ ) could be estimated for a river system, it was compared to reference points of  $Z_{20\%}$  and  $Z_{40\%}$ , assuming an  $M$  of 0.7 (Table 2 in the assessment). These estimates showed that in recent years (2008-2010), the average  $Z$  was higher than the  $Z_{40\%}$  reference point in all cases, and higher than  $Z_{20\%}$  in most cases. The Panel felt the  $Z_{20\%}$  reference point was likely too high, and a  $Z$  reference point between 35-40% was more appropriate (see ToR 5), such that mortality is likely too high in all systems where  $Z$  could be estimated.

Based on the weight of evidence from these approaches, the SASC concluded the coast wide meta-complex of river herring is depleted to near historic lows. The Panel agreed with the SASC conclusion that coast wide, river herring are depleted, and current total mortality rates were too high. The SASC concluded that of the 52 in-river stocks included in their analyses, 22 are depleted, 1 is increasing, and 28 have unknown status (Table 1 in the assessment). The Panel agreed with these general findings.

The SASC and Panel also noted that one stock – the Connecticut River – was not categorized (51 of 52 were assigned to either depleted, increasing, or unknown status categories). The SASC, in conjunction with each jurisdiction's technical committee representation, determined what the most appropriate status determination for each river system. A consensus could not be reached between the SASC and Connecticut's technical committee representation. The Panel agreed with the SASC that the Connecticut River's status was depleted.

The SASC also noted that a northward shift in distribution in both species might be occurring, perhaps in relation to warming water. The SASC noted that for alewife only, stable or increasing trends in juvenile and adult indices of abundance were observed in the northern areas, while stable or decreasing trends were observed in the southern areas. The NMFS trawl survey seemed to support this notion for both species, showing increases in the north and decreases in south.

**7. Review the research, data collection, and assessment methodology recommendations and make additional recommendations as warranted. Clearly prioritize the activities needed to inform and maintain the current assessment, and provide recommendations to improve the reliability of future assessments.**

The Review Panel considered the SASC's research recommendations in four functional categories (population dynamics, monitoring, assessment, and implementation) but maintained their time frame suggestions. Recommendations in the stock assessment and some added by the Panel are ranked as low, moderate, or high priority with comments on justification in Table 3.

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**Table 3.** Review Panel evaluation and prioritization of American eel research recommendations. \* indicates recommendations added by the Panel.

Research recommendation	Time period	Priority	Review Panel comment
<b>Assessment</b>			
*Analyze the consequences of interactions between the offshore bycatch fishery and population trends in the rivers	Short term	High	This would allow informed decisions on future mitigation measures
Improve methods to develop biological benchmarks used in assessment modeling (fecundity-at-age, mean weight-at-age for both sexes, partial recruitment vector/maturity schedules) for river herring stocks	Short term	Moderate	Panel agrees there is a need but other recommendations will have a greater impact
Explore use of peer-reviewed stock assessment models for use in additional river systems in the future as more data become available	Long term	Moderate	In addition, further develop existing models to understand coast wide differences in dynamics, etc.
<b>Implementation</b>			
Develop better fish culture techniques and supplemental stocking strategies for river herring	Long term	Low	Success rate in other stocking programs (e.g. Atlantic salmon, shad, etc.) has been low
Encourage studies to quantify and improve fish passage efficiency and support the implementation of standard practices	Long term	High	Dams and other impediments will continue to impact river herring; improving passage efficiency is critical to sustaining/restoring runs

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Table 3, cont'd.

<b>Population dynamics</b>			
Investigate contribution of landlocked versus anadromous produced fish.	Long Term	Low	Peripheral to management of coastal population
Continue genetic analyses to determine population stock structure along the coast and enable determination of river origin of incidental catch in non-targeted ocean fisheries.	Short term	High	Research underway in combination with otolith chemistry
Determine and quantify stocks impacted by mixed stock fisheries (including bycatch fisheries). Methods to be considered could include otolith microchemistry, oxytetracycline otolith marking, genetic analysis, and/or tagging.	Long Term	High	Combined with above.
Develop models to predict the potential impacts of climate change on river herring distribution and stock persistence.	Short term	Low	Premature given state of data and model developments; need to link to population dynamics
Validate [better estimate] the different values of <i>M</i> for river herring stocks and improve methods for calculating <i>M</i> .	Long term	High	Important to understand sources of high <i>M</i> (e.g. predation, habitat, etc)
Continue to assess current ageing techniques for river herring, using known-age fish, scales, otoliths, and spawning marks.	Short term	High	Review panel fully supports this recommendation
Conduct biannual ageing workshops to maintain consistency and accuracy in ageing fish sampled in state programs.	Long term	High	Important for ageing program quality assurance
Summarize existing information on predation by striped bass and other species; quantify consumption through modeling (e.g., MSVPA), diet, and bioenergetics studies.	Long term	Moderate	Important but sort out <i>M</i> issue (above) first
Investigate the relation between juvenile river herring production and subsequent year class strength, with emphasis on the validity of juvenile abundance indices, rates and sources of immature mortality, migratory behavior of juveniles, and life history requirements.	Long term	High	Has potential to indicate relative role of production (catch plus growth) and environment in recruitment strength, however, not easily achievable
Evaluate the performance of hatchery fish in river herring restoration.	Long term	Low	Due to low current hatchery production



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Table 3, cont'd.

Research recommendation	Time Period	Priority	Research Panel Comments
<b>Monitoring</b>			
Improve reporting of harvest by water body and gear.	Short term	High	The Panel agrees this should be a priority at all levels.
Investigate additional sources of historical catch data of the U.S. small pelagic fisheries to better represent or construct earlier harvest of river herring.	Short term	Moderate	Would assist current model formulation but would not facilitate interpretation of current status
Develop and implement monitoring protocols and analyses to determine river herring population responses and targets for rivers undergoing restoration (dam removals, fishways, supplemental stocking, etc.).	Short term	High	Also should be assessing success of moratoria
Develop comprehensive angler use and harvest survey techniques for use by Atlantic states with open or future fisheries to assess recreational harvest of river herring.	Long term	Low	It is a higher priority to address issues in larger fisheries
Expand observer and port sampling coverage to quantify additional sources of mortality for alosine species, including bait fisheries, as well as rates of incidental catch in other fisheries.	Long term	High	However, first undertake statistical study of observer allocation and coverage (see Hanke et al., 2011 for example)
Evaluate and ultimately validate large-scale hydroacoustic methods to quantify river herring escapement (spawning run numbers) in major river systems.	Long term	Moderate	Considered an adjunct to current monitoring systems and would have to be implemented in tandem
* Explore the sources of and provide better estimates of incidental catch in order to reduce uncertainty in incidental catch estimates.	Short term	High	Explore existing data but also observer coverage analysis as indicated above
*Develop bottom and mid-water trawl CPUE indices of offshore biomass.	Short term	Moderate	This is exploratory, data are available and may or may not provide useful indices
*Consider the use of GLM to provide better trend estimates and to better characterize uncertainty in trends.	Short term	Moderate	GLM provides a general statistical structure to the description of uncertainty in stock indices

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### **8. Recommend timing of the next benchmark assessment and updates, if necessary, relative to the life history and current management of the species.**

The Panel completely agrees with the SASC's recommended time frame and justification for an update of the trend analysis in 5 years followed by a benchmark assessment in 10 years.

“We recommend an update of trend analyses in 5 years and the next benchmark assessment for river herring be conducted in 10 years (finalized in 2022). Due to the high variability of fisheries independent surveys, a benchmark assessment at a shorter timeframe (e.g. 5 years) will likely not show any significant changes in indices of abundance. Any population changes resulting from closures of fisheries in 2012; improved access to historic spawning grounds; and additional beneficial management measures, such as sustainable fishing plans and action by the federal councils, cannot be expected to result in any population change until at least one cohort of river herring has grown to maturity (assuming age at maturity is 3 – 6 years). A 10 year timeframe for the next benchmark assessment will also allow a longer time series of estimated total incidental catch in non-targeted ocean fisheries to be evaluated.” (Sec 3.2 Stock Assessment Report)

In addition, the Panel also believes that the 5 year interval prior to the trend assessment will allow for the results of more recent fishing moratoria to be evaluated.

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## Advisory Report

### A. Status of stocks: Current and projected, where applicable

The coast wide meta-complex of river herring is depleted to near historic lows. Analysis of trends in abundance, mean length, and maximum age, as well as estimates of total mortality for 52 in-river stocks of alewife and blueback herring for which data were available indicated that 22 were depleted, 1 stock was increasing, and the status of 28 stocks could not be determined because the time-series of available data was too short (see response to ToR 6 for more on status determination). In addition, stock assessments for 3 rivers (the Monument, Nanticoke, and Chowan), representing a broad geographic range, indicate populations are at very low levels. Total mortality rates in all systems explored were higher than the benchmark  $Z_{40\%}$ , and most were above the  $Z_{20\%}$  benchmark. The Panel felt a benchmark closer to  $Z_{40\%}$  was more appropriate, such that mortality is likely too high in all systems where it was estimated. Determining the relative contribution of various factors to this mortality is difficult given the limited data, but it is likely that a number of factors will need to be addressed, including fishing (both in-river and ocean bycatch), water passageways, water quality, predation, and climate change, to allow for the recovery of river herring.

### B. Stock Identification and Distribution

There are no formal reports of stock identification for alewife and blueback herring. An ongoing study, funded by the National Fish and Wildlife Foundation (NFWF), is currently assessing both genetic and otolith biomarkers to associate both species back to specific regions and, where possible, specific watersheds. However, existing data suggest anadromous alewife exchange genes between adjacent watersheds (cf. Palkovacs et al. 2008). This implies genetic markers will not be able to resolve populations to the level of individual rivers, although one goal of the NFWF project is to determine whether there is greater ability to identify stocks in large rivers vs. small, coastal streams.

Alewife and blueback herring have extensive ranges along the North American east coast (Schmidt et al. 2003). Alewife range from Newfoundland to North Carolina; blueback herring are found from New Brunswick, Canada as far south as the St. Johns River in Florida (McBride et al. 2010). Alewife is more common in the northern end of their range overlap, and blueback herring is more common in the southern end.

### C. Management Unit

River herring are managed on a state or watershed level, as coordinated by the ASMFC. Genetic work to verify distinct populations by river is ongoing (see B above; E. Palkovacs, Duke University, personal communication), but as with American shad it appears reasonable. It is also reasonable to consider a regional scale, within which rivers are grouped by geography and physiography, with particular attention to how spawning adults might encounter a river via ingress from the ocean, sounds (e.g., Albemarle, Pamlico, Long Island), or bays (e.g., Chesapeake, Cape Cod).

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### D. Landings

Total coast-wide landings of river herring in the U.S. averaged 18.5 million pounds from 1887 to 1928; although landings information was sparsely reported in many areas, likely under-reported (see ToR 1), and not available in some years. Reported values during this period ranged from 22,000 pounds to a high of 85.5 million pounds. Landings from this period were predominately reported from Maryland, North Carolina, Virginia, and Massachusetts. Overall landings during this period are likely underestimates due to inconsistent reporting.

Coast wide landings increased sharply from lows in the early 1940s to more than 50 million pounds by 1951 and peaked at 74.9 million pounds in 1958. Severe declines in landings began coast wide in the early 1970s and domestic landings are now a fraction of what they were at their peak, having remained at persistently low levels since the mid-1990s. Moratoria have been enacted in Massachusetts (commercial and recreational in 2005), Rhode Island (commercial and recreational in 2006), Connecticut (commercial and recreational in 2002), Virginia (for waters flowing into North Carolina in 2007), and North Carolina (commercial and recreational in 2007). As of January 1, 2012 river herring fisheries in states or jurisdictions without an approved sustainable fisheries management plan, as required under ASMFC Amendment 2 to the Shad and River Herring FMP, were closed. As a result, prohibitions on harvest (commercial or recreational) were extended to the following states: New Jersey, Delaware, Pennsylvania, Maryland, D.C., Virginia (for all waters), Georgia and Florida.

River herring are caught incidentally (termed incidental catch) in a number of different ocean fisheries. Some incidental catch is retained, and the remainder is discarded, but quantifying the total incidental catch and the amount retained versus discarded is problematic. Although estimates of incidental catch are available starting in 1989, the sampling of mid-water trawl (MWT) vessels was sparse prior to 2005. Since MWT vessels collect a large portion of the total incidental catch, estimates of total incidental catch prior to 2005 are deemed unreliable. There are additional factors adding to the uncertainty in the estimation of incidental catch of river herring. First is the error in identifying river herring by species. Second is an unidentified category of incidental catch labeled herring NK (for not known), which also includes Atlantic herring, and the relative proportion of river herring in this category is unknown. Finally, it is unknown how much of the estimated incidental catch also gets reported as landed catch, such that estimates of incidental catch may be biased high in certain years.

Estimation uncertainty notwithstanding, from 2005-2010, the total annual incidental catch of alewife ranged from 19.0-473.3 MT in New England and 8.9-256.2 MT in the Mid-Atlantic. Estimates of precision (coefficients of variation) exhibited substantial interannual variation and ranged from 0.28-3.12 across gears and regions.

Total annual blueback herring incidental catch from 2005-2010 ranged from 13.9-176.5 MT in New England and 1.2-382.6 MT in the Mid-Atlantic. During this period, estimates of total incidental catch are of comparable magnitude to commercial landings. Given the high estimates of incidental catch (and the high degree of uncertainty in these estimates), particularly in relation to total landings, the Review Panel felt that obtaining a

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better understanding of the incidental catch of river herring is imperative (see Research Recommendations in ToR 7).

Recreational catches of river herring remains largely unknown. The Marine Recreational Information Program (MRIP) estimates the numbers of river herring harvested and released by anglers, but estimates are very imprecise, show little trend, and are deemed not useful for management purposes. MRIP concentrates their sampling strata in coastal waters and does not capture data on recreational fisheries occurring in inland waters. Few states conduct creel surveys or other consistent survey instruments (diary or log books) in inland waters to collect data on recreational catch of river herring. Some data are reported in the state chapters of the current stock assessment, but data are too sparse to conduct systematic comparisons of trends.

### E. Data and Assessment

#### *Data*

Fishery dependent data were deemed of limited use by the SASC due to problems with documentation of mixed species, data gaps, combined sexes, and variable catchability of gear over time (see ToR 1). The Panel believes that the increasing number of state fishing moratoria will continue to reduce this source of data. Fishery independent data were considered more reliable and used for state and coast wide trend analyses of catch per unit effort. The absence of consistent trends in the fishery-independent data was observed as decreases in regions south of Long Island and increase in northern locations. The reason for this discrepancy may be due to the relatively short duration of the time series available as noted in ToR 1. By the next assessment, time series should provide a more complete indication of state and coast wide trends in both river herring species.

The SASC utilized the biological data (age, length, weight) to its fullest practical extent in their trend analyses as well as mortality estimates. The Panel would like to emphasize the need for caution in the analyses that use age data and believe the need for a standardized and validated ageing method would enhance the use of life history traits in future assessments (see ToR 1).

Overall, the Review Panel believes the SASC made good use of the reliable data that were available.

#### *Assessment*

Besides examining trends in fishery-dependent and -independent indices of abundance, the SASC pursued three main categories of analyses to estimate population parameters: 1) river-specific total mortality ( $Z$ ) with associated  $Z$  reference points based upon a Spawner per Recruit (SPR) analysis; 2) estimation of both river-specific and coast wide exploitation rates ( $u$ ), and 3) two sets of population models, one set for specific rivers (Monument, Chowan, and Nanticoke) and a second set for the coast wide stock.

The  $Z$  estimates were based on application of the Chapman-Robson (1960) survival analysis to age frequency information available for many of the coast's rivers from a variety of fishery-dependent and -independent sources. The method makes a number of

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assumptions including representative sampling of the abundance of each year-class, the first age of full recruitment as the age class with the highest frequency of occurrence, and the selectivity for all fully recruited ages being one. In addition, as with all age-based methods, accuracy in the ageing data is assumed. Problems in age reading of river herring scales have been noted and thus the SASC undertook an analysis of repeat spawner data available for each stock component. The Panel was concerned that while this analysis would address the ageing issue, other issues may be present. Specifically, skip spawning would produce biased (high) estimates of  $Z$ . If spawning checks and scale rings were annual, both estimates should be highly correlated, which was not the case. On balance, the Panel preferred the age-based  $Z$  estimates for use with the  $Z$  reference points noted below.

Regarding exploitation rates, river-specific values were estimated for five New England rivers by dividing the in-river harvest by the total run size (escapement plus harvest) for a given year. While useful for these rivers, the approach has limited broader utility due to the lack of data. Relative exploitation rates were estimated for the coast-wide river herring population by dividing the annual estimate of total catch by an index of total biomass. A coast wide rather than regional or river-based estimate was calculated due to the inability to partition incidental catch to region or river. This method can produce adequate trends in relative exploitation as long as its assumptions are not severely violated. Here, the catch comes from both freshwater and marine environments while the biomass index is only from the latter at one time of the year (spring). The age/size composition of the catch and survey index may be very different. There is evidence that the size composition of the freshwater landings and marine incidental catch are different (ToR 2) but no evidence on survey size composition was provided. The Panel considered that while the results were interesting, they require further verification of the approach's assumptions before being used.

Regarding the population models, the set of Statistical Catch at Age (SCAA) models developed for the Monument (MA), Chowan (NC), and Nanticoke (MD) rivers differed significantly in a number of details but overall were innovative implementations. The Monument model was the most advanced while the Nanticoke model was the least developed. Overall, while none of the models are appropriate to inform management decisions at the coast wide scale, the Panel considered the SCAA models innovative and strongly urged further developments. In addition, they provide platforms for the study of alewife and blueback herring population dynamics at both the river and coast wide scale (see ToR 3). Further efforts to expand SCAA models to other rivers as data and resources permit are strongly encouraged.

The depletion-based stock reduction analysis (DB-SRA) developed for the coast-wide river herring population, while also innovative (see ToR for details), was strongly constrained by the input assumption on current depletion (assumed to be on the order of 10% of virgin biomass). The model also produced an estimate of  $U_{MSY}$  (0.06) which appears to be unrealistically low. This may be due to a mis-specified production function. A further complication is that the dynamics of two species (alewife and blueback herring) are being jointly modeled. In summary, the DB-SRA model did not adequately model river herring stock conditions and should not be used to assess status. On the other hand, it is a valuable heuristic tool to explore the possible dynamics of the

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resource and guide future modeling efforts which more explicitly incorporated observational informational as part of an optimization process.

Overall, data were insufficient to allow assessment of the coast wide state of the river herring resource, requiring resort to the description of abundance and mortality trends in the river-specific fishery dependent and independent indices.

### F. Biological Reference Points

It is only possible to reach consensus on total mortality ( $Z$ ) reference points associated with the analysis of the annual age-frequency data available by state, river, species, sex and year. The SASC provided three reference points based upon total mortality ( $Z$ ):  $Z_{\text{COLLAPSE}}$ , the amount of mortality that would cause a stock to collapse;  $Z_{20\%}$ , the amount that would reduce the biomass per recruit to 20% of the unfished stock; and  $Z_{40\%}$ , reduced biomass to 40% of unfished biomass. These were all based upon an analysis of spawner per recruit dynamics (see ToR 5 for details).

Values of  $Z_{\text{COLLAPSE}}$  for alewife across rivers ranged from 2.0-3.0 while those for blueback herring for a more limited number of rivers ranged 1.6-3.2. The Panel considered the  $Z_{\text{COLLAPSE}}$  reference point as a useful upper limit to total mortality but must be considered with caution given its dependence on uncertain stock-recruit relationships and assumptions on natural mortality.

The  $Z_{20\%}$  and  $Z_{40\%}$  reference points are analogous to the widely used  $F_{20\%}$  and  $F_{30\%}$  proxies of  $F_{\text{MSY}}$  in which the percentage of maximum spawning potential used for the determination of the mortality reference point is based upon the productivity characteristics of the species, with lower percentages (15-20%) sustainable for highly productive species and higher percentages (35-40%) used for less productive species. Based on a meta-analysis of Pacific groundfish stocks (Punt et al, 2008) which examined how optimal harvest rates change with a stock's production dynamics, the Panel recommends that  $Z_{40\%}$ , rather than  $Z_{20\%}$ , be used as the total mortality reference point. The  $Z_{40\%}$  reference point is very sensitive to assumptions of  $M$ . The SASC developed two sets of reference points based on natural mortality ( $M$ ) equal to 0.3 and 0.7. There is good evidence that total mortality ( $Z$ ) is high and there is evidence from various sources that fishing mortality has likely been declining over a long period. This suggests that  $M$  is closer to 0.7 than 0.3. The Panel therefore considered  $Z_{40\%}$  for  $M = 0.7$ , as proposed by the SASC, as a useful reference point against which to measure total mortality.

### G. Fishing Mortality

Estimation of coast wide exploitation on the river herring meta-complex was not possible. Attempts were made using DB-SRA, but precise estimates from this model were deemed unreliable by the Review Panel. The DB-SRA model resulted in very low estimates of exploitation, suggesting that only 20% of the population was removed each year during peak exploitation in the late 1960s and early 1970s. Comparisons of temporal  $F$  values and estimates of  $F_{\text{MSY}}$  from the DB-SRA model with estimates from

## **DRAFT FOR MANAGEMENT BOARD REVIEW**

the statistical catch at age (SCAA) models for the Monument, Nanticoke, and Chowan Rivers suggest DB-SRA values are likely very low.

While the magnitude of DB-SRA estimates of exploitation is unreliable, the trends in recent years may not be. Most of the DB-SRA runs showed peak exploitation rates in the late 1960s and early 1970s, followed by a decline in recent years. This declining trend in exploitation rates is supported by the index of relative exploitation calculated using data from the Spring NMFS trawl survey. Also, exploitation rates estimated from the statistical catch-at-age model for blueback herring in the Chowan River showed a slight declining trend from 1999 to 2007 at which time a moratorium was instituted. There appears to be support among various assessment methodologies that exploitation has decreased in recent times. The Review Panel concurred with the notion of a decline in exploitation rates, particularly over the past decade because more restrictive regulations or moratoria have been enacted by states.

### **H. Recruitment**

Recruitment trends were examined using Cluster Analysis in the time series of the state-run Young-of-Year (YOY) seine surveys conducted on a number of rivers along the coast. For 1980-2007 and 1993-2007, the analysis identified five groups based upon abundance trends over time. However, these groups were not geographically based (e.g. group 1 consisting of rivers in the northern part of the stock range) but rather, different temporal patterns occurred along the extent of the coast. Overall, of the rivers included in the analysis, for alewife, six exhibited either no change in abundance or a decline with only one exhibiting an increase in abundance. For blueback herring, all eight rivers exhibited either no change or a decline. The extent to which the YOY surveys indicate recruitment to the population is not clear, being indices of the young of the year, a life stage which experiences significant mortality. Thus, trends must be interpreted with caution.

### **I. Spawning Stock Biomass**

Coast wide status of the stock biomass in relation to management reference points could not be determined. While coast wide biomass was relatively high prior to the 1960s, after which it declined rapidly, there is considerable uncertainty in more recent trends, with some DB-SRA model formulations suggesting a small increase, while others indicated relative stability. The base DB-SRA model also suggested exploitation was low until the mid-1960s, rapidly rose to a peak in the early 1970s, and then steadily declined until the present. Thus, while biomass is lower than historical levels and fishing mortality has likely declined more recently, the extent of these reductions is highly uncertain.

### **J. Bycatch**

See ToR 2 above.

### **K. Other Comments – None.**



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v.  
John BRYSON,<sup>1</sup> in his official capacity as  
Secretary of the Department of Commerce, et al.,  
Defendants.

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#### Opinion

### MEMORANDUM OPINION

GLADYS KESSLER, District Judge.

\*1 Plaintiffs Michael S. Flaherty, Captain Alan A. Hastbacka, and the Ocean River Institute bring this suit against Defendants Commerce Secretary Gary Locke, the National Oceanic and Atmospheric Administration (“NOAA”), and the National Marine Fisheries Service (“NMFS”). Plaintiffs allege that Amendment 4 to the Atlantic Herring Fishery Management Plan violates the Magnuson–Stevens Fishery Conservation and Management Act (“MSA”), 16 U.S.C. §§ 1801 *et seq.*, the National Environmental Policy Act (“NEPA”), 42 U.S.C. §§ 4321 *et seq.*, and the Administrative Procedure Act (“APA”), 5 U.S.C. §§ 702 *et seq.*

This matter is now before the Court on Cross–Motions for Summary Judgment [Dkt. Nos. 17, 19]. Upon consideration of the Motions, Oppositions, Replies, Oral Argument, Supplemental Briefs, the entire record herein, and for the reasons stated below, Plaintiffs’ Motion for Summary Judgment is **granted in part and denied in part** and Defendants’ Motion for Summary Judgment is **granted in part and denied in part**.

## I. BACKGROUND

### A. Statutory Background

#### 1. The Magnuson–Stevens Act

Congress first enacted the MSA in 1976 “to take immediate action to conserve and manage the fishery resources found off the coasts of the United States.” 16 U.S.C. § 1801(b)(1). The Act provides a “national program” designed “to prevent overfishing, to rebuild overfished stocks, to insure conservation, to facilitate long-term protection of essential fish habitats, and to realize the full potential of the Nation’s fishery resources.” *Id.* § 1801(a)(6).

In order to balance the need for “a cohesive national policy and the protection of state interests,” the MSA establishes eight Regional Fishery Management Councils composed of federal officials, state officials, and private parties appointed by the Secretary of Commerce. *C & W Fish Co. v. Fox*, 931 F.2d 1556, 1557 (D.C.Cir.1991); 16 U.S.C. § 1852. These councils are responsible for developing fishery management plans (“FMPs”) for fisheries in federal waters within the United States Exclusive Economic Zone, which includes ocean water from three to two hundred miles offshore. *Id.* § 1853.

Each council must prepare and submit to NMFS<sup>2</sup> an FMP and any amendments that may become necessary “for each fishery under its authority that requires conservation and management.” *Id.* § 1852(h)(1). FMPs must include the “conservation and management measures” that are “necessary and appropriate for the conservation and management of the fishery, to prevent overfishing and rebuild overfished stocks, and to protect, restore, and promote the longterm health and stability of the fishery.”<sup>3</sup> *Id.* § 1853(a)(1)(A). FMPs must also be consistent with the ten “National Standards” provided for in the MSA, as well as all other provisions of the MSA, and “any other applicable law.” *Id.* § 1853(a)(1)(C); *see also id.* § 1851 (setting forth National Standards).

\*2 Once a council has developed a plan, NMFS must review the plan to determine whether it comports with the ten National Standards and other applicable law. *Id.* § 1854(a)(1)(A). Next, after a period of notice and comment, NMFS must “approve, disapprove, or partially approve a plan or amendment,” depending on whether the plan or amendment is consistent with the Standards and applicable law. *Id.* § 1854(a)(3). Even if NMFS disapproves the proposed FMP or amendment, it may not rewrite it. That responsibility remains with the council, except under specifically defined circumstances. *Id.* §§ 1854(a)(4), (c). If NMFS approves the plan or does not express disapproval within 30 days, the FMP becomes effective. *Id.* § 1854(a)(3).

At the beginning of 2007, Congress re-authorized and amended the MSA. Magnuson–Stevens Fishery Conservation and Management Reauthorization Act of 2006 (“MSRA”), P.L. 109–479, 120 Stat. 3575 (2007). One of the goals of the MSRA was to “set[ ] a firm deadline to end overfishing in America.” 2007 U.S.C.C.A.N. S83, S83. To accomplish this purpose, Congress added provisions to the MSA calling for science based limits on total fish caught in each fishery.

The amended MSA requires the regional councils to add to all FMPs mechanisms for setting the limits, termed Annual Catch Limits (“ACLs”), on the amount of fish caught and accountability measures (“AMs”) for ensuring compliance with the ACLs. 16 U.S.C. § 1853(a)(15). These limits and accountability measures must take effect “in fishing year 2011” for most fisheries, including the Atlantic herring fishery.<sup>4</sup> Pub.L. No. 109–479, § 104(b), 120 Stat. 3575, 3584.

## 2. The National Environmental Policy Act

Congress enacted NEPA in order “to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may ... fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.” 42 U.S.C. § 4331(b). To accomplish that goal, NEPA requires all federal agencies to prepare an Environmental Impact Statement (“EIS”) whenever they propose “major Federal actions significantly affecting the quality of the human environment.” *Id.* § 4332(2)(C).

To determine whether an EIS must be prepared, the agency must first prepare an environmental assessment (“EA”). 40 C.F.R. § 1501.4(b). An EA must “[b]riefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.” *Id.* § 1508.9(a). Even if the agency performs only an EA, it must still briefly discuss the need for the proposal, the alternatives, and the environmental impacts of the proposed action and the alternatives. *Id.* § 1508.9(b). If the agency determines, after preparing an EA, that a full EIS is not necessary, it must prepare a Finding of No Significant Impact (“FONSI”) setting forth the reasons why the action will not have a significant impact on the environment. *Id.* §§ 1501.4(e), 1508.13.

## B. Factual Background

\*3 Plaintiffs challenge Amendment 4 to the Atlantic Herring Fishery Management Plan, developed by the New England Fishery Management Council (the “Council”). 76 Fed.Reg. 11373 (Mar. 2, 2011). Atlantic herring (*Clupea harengus*) have been managed through the Atlantic Herring FMP since January 10, 2001. Administrative Record (“AR”) 5578.

Atlantic herring inhabit the Atlantic Ocean off of the East coast of the United States and Canada, ranging from North Carolina to the Canadian Maritime Provinces. *Id.* at 6091. Atlantic herring can grow to about 15.6 inches in length and live 15–18 years. *Id.* at 6092. Atlantic herring play a vital role in the Northwest Atlantic ecosystem, serving as a “forage species,” i.e. food, for a number of other fish, marine mammals, and seabirds. *Id.* at 6111.

Human beings also hunt Atlantic herring. Fishermen and women predominantly catch Atlantic herring using midwater trawl gear, paired midwater trawls, and purse seines. AR 6146. To do this, boats working alone or in tandem drag nets through the water scooping up fish as they go. Not surprisingly, these nets snare large numbers of other fish and marine wildlife at the same time. *Id.* at 6146–48, 6170–80.

Of particular concern to Plaintiffs are four species, often caught incidentally with Atlantic herring, collectively referred to as “river herring”: (1) blueback herring (*Alosa aestivalis*), (2) alewife (*Alosa pseudoharengus*), (3) American shad (*Alosa sapidissima*), and (4) hickory shad (*Alosa mediocris*). See Pls.’ Mot. 1. River herring are apparently so-called because they are anadromous—that is, they spawn in rivers but otherwise spend most of their lives at sea, whereas Atlantic herring spend their entire lives at sea. *Id.* It is undisputed that river herring play a similar role to Atlantic herring, providing forage for large fish and mammals, including cod, striped bass, bluefin tuna, sharks, marine mammals, and seabirds. *Id.* at 1, 8; see also AR 763–64. The Atlantic Herring Fishery Management Plan, as updated by Amendment 4, provides ACLs and AMs for Atlantic herring but not for river herring.

## C. Procedural Background

On May 8, 2008, NMFS published a Notice of Intent, announcing that the Council would be preparing Amendment 4 to the Atlantic Herring FMP as well as an Environmental Impact Statement. AR 5577. The Notice explained that the MSRA required that ACLs and AMs be established by 2011 for all fisheries not subject to overfishing. *Id.* at 5578. Because the Atlantic herring fishery had not been determined to be subject to

overfishing, Amendment 4 was “necessary to update the Herring FMP in a manner ... consistent with the new requirements of the MSRA” and was required to be in place by 2011. *Id.*

The Notice also indicated measures under consideration by the Council. Specifically, the Notice stated that Amendment 4 might address as many as five objectives:

- \*4 1. To implement measures to improve the long-term monitoring of catch (landings and bycatch) in the herring fishery;
2. To implement ACLs and AMs consistent with the MSRA;
3. To implement other management measures as necessary to ensure compliance with the new provisions of the MSRA;
4. To develop a sector allocation process or other LAPP [“Limited Access Privilege Program”] for the herring fishery; and
5. In the context of objectives 1–4 (above), to consider the health of the herring resource and the important role of herring as a forage fish and a predator fish throughout its range.

*Id.*

However, on December 28, 2009, NMFS and the Council changed course. At that time, NMFS issued a second Notice of Intent explaining that “only the ACL/AM components will move forward as Amendment 4, and that the Council intends to prepare EA for the action.” *Id.* at 5640–41. In addition, “[a]ll other proposed measures formerly included in Amendment 4, including the catch monitoring program for the herring fishery, measures to address river herring bycatch, criteria for midwater trawl access to groundfish closed areas, and measures to address interactions with the mackerel fishery, will now be considered in Amendment 5.” *Id.* at 5641. The Notice also promised that those “measures will be analyzed in an EIS” to be issued with Amendment 5. *Id.*

In short, the Government dropped from Amendment 4 any attempt to add protections for fish other than the Atlantic herring, such as the river herring of concern to Plaintiffs in this litigation, electing only to address Atlantic herring ACLs and AMs.

On March 2, 2011, NMFS published Amendment 4 as a Final Rule in the Federal Register. *Id.* at 6325. In keeping with the December 28, 2009 Notice of Intent, Amendment 4 designated Atlantic herring as the only “stock in the

fishery” and did not provide for any measures specifically targeted at protecting river herring. *Id.* at 6326. The Final Rule implemented an Interim Acceptable Biological Catch (“ABC”) Control Rule for Atlantic herring, from which ACLs could then be determined. *Id.* at 6327. The Final Rule also established three AMs: (1) when a threshold amount of Atlantic herring is caught, NMFS is to close relevant management areas; (2) if a certain amount of haddock is incidentally caught, vessels are to face restrictions; and (3) if the total amount of Atlantic herring caught in a year exceeds any ACL or sub-ACL, the ACL or sub-ACL is to be reduced by a corresponding amount in the year after the calculation is made. *Id.*

On April 1, 2011, Plaintiffs filed their Complaint [Dkt. No. 1]. Plaintiffs allege that: (1) Defendants violated the MSA and APA by failing to include catch limits for river herring in Amendment 4; (2) Defendants violated the MSA and APA by failing to set adequate ACLs for Atlantic herring in Amendment 4; (3) Defendants violated the MSA and APA by failing to set adequate AMs for Atlantic herring in Amendment 4; and (4) Defendants violated NEPA by failing to develop an EIS for Amendment 4. Compl. ¶¶ 70–113.

\*5 On September 9, 2011, Plaintiffs filed their Motion for Summary Judgment (“Pls.’ Mot.”) [Dkt. No. 17]. On October 7, 2011, Defendants filed their Opposition to Plaintiffs’ Motion and Cross-Motion for Summary Judgment (“Def.’ Mot.”) [Dkt. No. 19]. On October 28, 2011, Plaintiffs filed their Reply to Defendants’ Opposition and Opposition to Defendants’ Motion (“Pls.’ Reply”) [Dkt. No. 20]. On November 18, 2011, Defendants filed their Reply to Plaintiffs’ Opposition (“Def.’ Reply”) [Dkt. 22]. On January 4, 2012, oral argument on the cross-motions was heard by this Court. On January 11, 2012, with the Court’s permission, Defendants and Plaintiffs filed respective Supplemental Memoranda (“Def.’ Supp. Mem.” and “Pls.’ Supp. Mem.”) [Dkt. Nos. 27 and 28].

## II. STANDARD OF REVIEW

Summary judgment will be granted when there is no genuine issue as to any material fact. *See* Fed.R.Civ.P. 56(c). Because this case involves a challenge to a final administrative decision, the Court’s review on summary judgment is limited to the Administrative Record. *Holy Land Found. for Relief and Dev. v. Ashcroft*, 333 F.3d 156, 160 (D.C.Cir.2003) (citing *Camp v. Pitts*, 411 U.S. 138, 142, 93 S.Ct. 1241, 36 L.Ed.2d 106 (1973)); *Richards v. INS*, 554 F.2d 1173, 1177 (D.C.Cir.1977) (“Summary judgment is an appropriate procedure for resolving a challenge to a federal agency’s administrative

decision when review is based upon the administrative record.”).

Agency decisions under the Magnuson–Stevens Act and NEPA are reviewed pursuant to Section 706(2) of the APA. 16 U.S.C. § 1855(f)(1)(B) (“the appropriate court shall only set aside” actions under the MSA “on a ground specified in [5 U.S.C. §§ ] 706(2)(A), (B), (C), or (D).”); *Oceana, Inc. v. Locke*, —F.3d —, No. 10–5299, 2011 WL 2802989, at \*2 (D.C.Cir. July 19, 2011); *C & W Fish*, 931 F.2d at 1562; *Oceana v. Locke*, F.Supp.2d, No. 10–744(JEB), 2011 WL 6357795, at \*8 (D.D.C. Dec.20, 2011). In relevant part, 5 U.S.C. § 706(2) requires a court to hold agency action unlawful if it is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.”

The arbitrary and capricious standard of the APA is a narrow standard of review. *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 416, 91 S.Ct. 814, 28 L.Ed.2d 136 (1971). It is well established in our Circuit that the “court’s review is ... highly deferential” and “we are ‘not to substitute [our] judgment for that of the agency’ but must ‘consider whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment.’” *Bloch v. Powell*, 348 F.3d 1060, 1070 (D.C.Cir.2003) (quoting *S. Co. Servs., Inc. v. FCC*, 313 F.3d 574, 579–80 (D.C.Cir.2002)); see also *United States v. Paddock*, 825 F.2d 504, 514 (D.C.Cir.1987). However, this deferential standard cannot permit courts “merely to rubber stamp agency actions,” *NRDC v. Daley*, 209 F.3d 747, 755 (D.C.Cir.2000), nor be used to shield the agency’s decision from undergoing a “thorough, probing, in-depth review.” *Midtec Paper Corp. v. United States*, 857 F.2d 1487, 1499 (D.C.Cir.1988) (internal citations and quotations omitted).

\*6 An agency satisfies the arbitrary and capricious standard if it “examine [s] the relevant data and articulate[s] a satisfactory explanation for its action including a ‘rational connection between the facts found and the choice made.’” *Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43, 103 S.Ct. 2856, 77 L.Ed.2d 443 (1983) (quoting *Burlington Truck Lines v. United States*, 371 U.S. 156, 168, 83 S.Ct. 239, 9 L.Ed.2d 207 (1962)); *Lichoulas v. FERC*, 606 F.3d 769, 775 (D.C.Cir.2010). Finally, courts “do not defer to the agency’s conclusory or unsupported suppositions.” *McDonnell Douglas Corp. v. U.S. Dep’t of the Air Force*, 375 F.3d 1182, 1186–87 (D.C.Cir.2004).

### III. ANALYSIS

#### A. Standing

Defendants argue that Plaintiffs’ suit must be dismissed because they lack Article III standing. Defs.’ Mot. 13–15. The doctrine of standing reflects Article III’s “fundamental limitation” of federal jurisdiction to actual cases and controversies. *Summers v. Earth Island Inst.*, 555 U.S. 488, 493, 129 S.Ct. 1142, 173 L.Ed.2d 1 (2009). The doctrine “requires federal courts to satisfy themselves that ‘the plaintiff has alleged such a personal stake in the outcome of the controversy as to warrant his [or her] invocation of federal-court jurisdiction.’” *Id.* (quoting *Warth v. Seldin*, 422 U.S. 490, 498–99, 95 S.Ct. 2197, 45 L.Ed.2d 343 (1975)) (emphasis on “his” in original).

To obtain the injunctive relief they seek, Plaintiffs must show that (1) they have “suffered an ‘injury in fact’ that is (a) concrete and particularized and (b) actual or imminent, not conjectural or hypothetical; (2) the injury is fairly traceable to the challenged action of the defendant; and (3) it is likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision.” *Friends of the Earth, Inc. v. Laidlaw Envtl. Servs.*, 528 U.S. 167, 180–81, 120 S.Ct. 693, 145 L.Ed.2d 610 (2000); see also *Summers*, 555 U.S. at 493; *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560, 112 S.Ct. 2130, 119 L.Ed.2d 351 (1992); *Shays v. FEC*, 414 F.3d 76, 83 (D.C.Cir.2005). Defendants contend that Plaintiffs have failed to demonstrate that their alleged injury is “imminent” or “traceable.” Defs.’ Mot. 13. They have not challenged any of the other requirements for standing.

#### 1. Injury in Fact–Imminence

Plaintiffs claim that they are harmed (1) because they are unable to fish for or observe river herring and (2) because, due to the decline of river and Atlantic herring as forage, they are less able to fish for or observe striped bass. Flaherty Decl. ¶¶ 2, 4–5, 12–13; Hastbacka Decl. ¶¶ 6–9, 14–16; Moir Decl. ¶¶ 14, 16–17 [Dkt. No. 17–2]. Defendants argue that the injury associated with striped bass is not actual or imminent because Plaintiffs have failed to assert that they are “actually unable to fish for striped bass as a result of NMFS’ actions.” Defs.’ Mot. 13 (emphasis in original).

Defendants are incorrect. Captain Alan Hastbacka has asserted that the fish his clients target, which include striped bass, are “more abundant, bigger, and healthier” when “there are adequate forage fish” and that he can “sell more tackle ... when the fishing is good.” Hastbacka Decl. ¶ 6. During at least one fishing season, the fish targeted by Captain Hastbacka and his clients, including striped bass, disappeared when the Atlantic herring stock

in the area was depleted. *Id.* ¶ 9. Michael Flaherty similarly states that “Defendants’ failures challenged in this case. negatively impact the health and population levels of the striped bass I fish for.” Flaherty Decl. ¶ 12.

\*7 In other words, Plaintiffs claim that their ability to fish striped bass for sport or business has been, and will continue to be, harmed by the state of the Atlantic herring fishery because adequate conservation measures to protect the herring upon which striped bass feed have not been adopted. *See, e.g., N.C. Fisheries Ass’n, Inc. v. Gutierrez*, 518 F.Supp.2d 62, 82 (D.D.C.2007) (economic harm “is a canonical example of injury in fact sufficient to establish standing.”) (citing *Nat’l Wildlife Fed’n v. Hodel*, 839 F.2d 694, 704 (D.C.Cir.1988)).

Indeed, Defendants themselves have amply made the point that Atlantic herring serve as an important forage species for striped bass and other ocean predators. AR 6111. In its analysis of Amendment 4, the Council stated that its actions “should acknowledge the role that Atlantic herring plays in the Northwest Atlantic ecosystem and address the importance of herring as a forage species for many fish stocks, marine mammals, and seabirds.” *Id.* According to the Council, “[o]ne of the objectives of this amendment ... is ... to consider the health of the herring resource and the important role of herring as a forage fish.” *Id.* at 6111–12. Hence, there is no doubt that Plaintiffs face imminent harm to their interests in striped bass, should Defendants fail to properly manage Atlantic herring.

Defendants attempt to analogize this case to *FCC v. Branton*, 993 F.2d 906 (D.C.Cir.1993). They argue that, “[a]s in *Branton*, where the plaintiff did not have standing because his injury was based on a possibility that he may someday be exposed to harm, Captain Hastbacka’s concern that he may ‘someday’ be unable to fish for striped bass as a result of the actions that NMFS took in Amendment 4 is patently insufficient to satisfy the ‘injury in fact’ requirement.” Defs.’ Mot. 13–14.

Defendants’ analysis is not convincing. *Branton* pointed out that “[i]n order to challenge official conduct one must show that one ‘has sustained or is immediately in danger of sustaining some direct injury’ in fact as a result of that conduct.” 993 F.2d at 908 (quoting *Golden v. Zwickler*, 394 U.S. 103, 109, 89 S.Ct. 956, 22 L.Ed.2d 113 (1969)). The plaintiff in *Branton* alleged “that he was injured because he was subjected to indecent language over the airwaves” on one past occasion. *Id.* at 909. Our Court of Appeals held that “a discrete, past injury cannot establish the standing of a complainant ... who seeks neither damages nor other relief for that harm, but instead requests the imposition of a sanction in the hope of

influencing another’s future behavior.” *Id.* The allegation of a single incident of indecent language is obviously very different from the ongoing scenario presented here, where Plaintiffs state that the striped bass which they and their clients fish and observe are now and will in the future be threatened by overfishing of the Atlantic and river herring.

Plaintiffs in this case have alleged continuous and ongoing harm to their ability to fish for species dependant on the Atlantic and river herring. The harm to striped bass stemming from improper regulation of forage fish presents a concrete explanation for how Plaintiffs will be injured by Defendants’ actions. *Lujan*, 504 U.S. at 564; *N.C. Fisheries Ass’n*, 518 F.Supp.2d at 81 (in addressing the injury in fact prong, “courts ask simply whether the plaintiff has ‘asserted a present or expected injury that is legally cognizable and non-negligible.’”) (quoting *Huddy v. FCC*, 236 F.3d 720, 822 (D.C.Cir.2001)).

## 2. Traceability

\*8 Defendants next argue that Plaintiffs’ injuries are not traceable to Amendment 4 because they “occurred long before NMFS issued the final rule implementing Amendment 4” and “because they concern species beyond the scope of the Amendment.” Defs.’ Mot. 14.

The first argument is easily disposed of. As explained above, Plaintiffs have stated that they continue to suffer from the depletion of river herring stocks and from the negative impact that depletion of river and Atlantic herring has on striped bass. *See supra* Part III.A.1; Hastbacka ¶¶ 6, 9; Flaherty Decl. ¶ 12. Plaintiffs need demonstrate neither proximate causation nor but-for causation to establish traceability; they must only show that “‘the agency’s actions materially increase[d] the probability of injury.’” *N.C. Fisheries Ass’n*, 518 F.Supp.2d at 83 (quoting *Huddy*, 236 F.3d at 722); *see also Nat’l Audubon Soc’y v. Davis*, 307 F.3d 835, 849 (9th Cir.2002) (to be “fairly traceable,” chain of causation must be plausible). Again, Defendants themselves have acknowledged the chain of causation between under-regulation of herring fishing and the abundance and health of predator fish. AR 6111–12. Plaintiffs’ contention that Defendants’ choices in Amendment 4 will materially increase the probability of their injury is far more than merely plausible.

Further, taken to its logical conclusion, Defendants’ argument would preclude anyone from challenging FMPs, since the decline of the nation’s fisheries began before the MSA was enacted with the purpose of stopping that deterioration. *See* 16 U.S.C. § 1801(b)(1). Therefore, the

fact that the injuries may have begun before issuance of Amendment 4 is no obstacle to Plaintiffs' standing.

Defendants' next argument is no more persuasive. As to river herring, the claim that Plaintiffs' injury cannot be traced to Amendment 4 because Amendment 4 does not address management of river herring is plainly circular when the essence of Plaintiffs' challenge is to Defendants' substantive decision not to include that species. Plaintiffs claim that Defendants' decision not to manage river herring violated the MSA and APA. The harm caused by depletion of river herring by commercial fishing is clearly traceable to Defendants' decision not to restrict river herring catch. Moreover, there is no doubt that increased regulation of river herring catch would contribute to the rebuilding of that stock. *Branton*, 993 F.2d at 910 (traceability and redressability "tend to merge ... in a case such as this where the requested relief consists solely of the reversal or discontinuation of the challenged action.") (citing *Allen v. Wright*, 468 U.S. 737, 759 n. 24, 104 S.Ct. 3315, 82 L.Ed.2d 556 (1984)).

As to striped bass, the fact that Amendment 4 does not specifically regulate striped bass is of no moment. As previously explained, Plaintiffs have articulated a perfectly plausible explanation for how harm to their ability to fish or observe striped bass is traceable to Defendants' claimed deficiencies in regulating herring. *N.C. Fisheries Ass'n*, 518 F.Supp.2d at 83.

\*9 In short, Plaintiffs have shown a causal connection between Defendants' regulatory choices in Amendment 4 and the health of river herring and striped bass stocks. Further, Plaintiffs have demonstrated that (1) they have "suffered an 'injury in fact' that is (a) concrete and particularized and (b) actual or imminent, not conjectural or hypothetical; (2) the injury is fairly traceable to the challenged action of the defendant; and (3) it is likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision." *Friends of the Earth*, 528 U.S. at 180-81. They therefore have standing to challenge Amendment 4.

#### B. Stocks in the Fishery

Plaintiffs challenge Defendants' decision to approve Amendment 4 because the Amendment includes only Atlantic herring, and excludes river herring, as a stock in the fishery. Once a fish is designated as a "stock in the fishery," the Council must develop conservation and management measures, including ACLs and AMs, for that stock. *Pls.' Mot.* 14; 16 U.S.C. § 1853(a). Hence, the Atlantic Herring FMP includes no protective measures for river herring.

As described above, the MSA requires the Council to prepare an FMP "for each fishery under its authority that requires conservation and management." 16 U.S.C. § 1852(h)(1). The Act defines a "fishery" as "one or more stocks of fish which can be treated as a unit for purposes of conservation and management and which are identified on the basis of geographical, scientific, technical, recreational, and economic characteristics." *Id.* § 1802(13). A "stock of fish" is "a species, subspecies, geographical grouping, or other category of fish capable of management as a unit." *Id.* § 1802(42). The Council determines which "target stocks" (fish that are deliberately caught), and/or "non-target stocks" (fish that are incidentally caught), to include in the fishery. 50 C.F.R. § 600.310(d)(1).

In other words, in developing an FMP, the Council must decide which species or other categories of fish are capable of management as a unit, and therefore should be included in the fishery and managed together in the plan. This decision entails two basic determinations. The Council must decide (1) which stocks "can be treated as a unit for purposes of conservation and management" and therefore should be considered a "fishery" and (2) which fisheries "require conservation and management." 16 U.S.C. §§ 1802(13), 1852(h)(1). The Council must then set ACLs and AMs for all stocks in the fishery. *Id.* § 1853(a)(15). After the Council completes its proposed plan or amendment, NMFS must review it for compliance with applicable law and standards. *Id.* § 1854(a)(1)(A).

Plaintiffs contend that Amendment 4 contravenes the Act's requirements by failing to include river herring as a stock in the Atlantic herring fishery. *Pls.' Mot.* 15. Consequently, Plaintiffs argue, Defendants have violated the MSA and APA by erroneously concluding that Amendment 4 comports with the provisions of the MSA. *Pls.' Mot.* 20; *see also* 16 U.S.C. § 1854(a)(1)(A) (NMFS must determine whether FMPs are consistent with provisions of MSA); *N.C. Fisheries Ass'n*, 518 F.Supp.2d at 71-72 ("Secretarial review of a FMP or plan amendment submitted by a regional council focuses on the proposed action's consistency with the substantive criteria set forth in, and the overall objectives of, the MSA.").

\*10 The Court must now consider whether NMFS acted arbitrarily and/or capriciously in approving Amendment 4. 16 U.S.C. § 1855(f)(1); 5 U.S.C. § 706(2). The Court's "task is not to review *de novo* whether the amendment complies with [the MSA's] standards but to determine whether [NMFS's] conclusion that the standards have been satisfied is rational and supported by the record." *C & W Fish*, 931 F.2d at 1562; *see also Blue Ocean Inst. v. Gutierrez*, 585 F.Supp.2d 36, 43 (D.D.C.2008).



Defendants argue that the Administrative Record fully supports their decision and rely on two basic rationales. First, Defendants argue that, because of the imminence of the 2011 statutory deadline for completion of Amendment 4, the decision to postpone consideration of inclusion of river herring in the fishery until development of Amendment 5 was reasonable. Second, Defendants argue that NMFS properly deferred to the Council's determination as to the makeup of the fishery.

### 1. Delay Due to Statutory Deadline

Defendants first point to the pressure imposed by the MRSA's deadline. Defendants state that, in June 2009, they determined that consideration of measures specifically designed to protect river herring should be delayed so that they could meet the 2011 statutory deadline for providing measures to protect Atlantic herring. Defs.' Mot. 17, 38; see AR 6325–26 (“In June 2009, the Council determined there was not sufficient time to develop and implement all the measures originally contemplated in Amendment 4 by 2011, so it decided that Amendment 4 would only address ACLs and AMs requirements and specification issues.”). Defendants' logic was that because time was limited and the MSA required ACL and AM rules for all stocks in the fisheries and Atlantic herring had already been identified as a stock in the fishery, they could best comply with the MSA by formulating only the Atlantic herring regulations and postponing consideration of regulations for the management of river herring. See Pub.L. No. 109–479, § 104(b), 120 Stat. 3575, 3584 (requiring that FMPs including processes for setting ACLs and AMs take effect “in fishing year 2011 for all ... fisheries” not determined to be overfished, including the Atlantic herring fishery).

While it is correct that the MRSA did impose the 2011 deadline, Defendants fail to provide any explanation or analysis from which the Court can conclude that the delay in considering the composition of the fishery, which entailed exclusion of river herring, was reasonable. *McDonnell Douglas Corp.*, 375 F.3d at 1186–87 (“we do not defer to the agency's conclusory or unsupported suppositions.”). The MSRA was signed at the beginning of 2007. Defendants identify nothing in the Administrative Record that explains why, when the Council had more than four years to meet the statutory deadline for fishing year 2011, it could not address whether river herring, in addition to Atlantic herring, were in need of ACLs and AMs and still meet its deadline.

\*11 The Administrative Record discloses only vague and conclusory statements that “there was not sufficient time to develop and implement all the measures originally

contemplated in Amendment 4 by 2011.” AR 6325; see also AR 5641. The closest Defendants come to providing a substantive explanation is to quote a slide from a January 26, 2011, meeting regarding proposed Amendment 5, which reads, “the Herring [Plan Development Team] cannot generate a precise enough estimate of river herring catch on which to base a cap.” AR 5361. That document does not explain why an estimate could not have been generated prior to issuance of Amendment 4, nor why the Council could not at the very least have devised an interim Acceptable Biologic Catch control rule based on the best available science, as it did in Amendment 4 for Atlantic herring. Defendants point to no other evidence in the Administrative Record to explain why the Council was unable to address management of river herring in the four years of lead time that elapsed between the signing of the MSRA and the final promulgation of Amendment 4.

The reason that Defendants' failure matters is that the MRSA requires ACLs and AMs for *all* stocks in need of conservation and management, not just for those stocks which were part of the fishery prior to passage of the MRSA. Although the MRSA does not explicitly require the Council to reassess the makeup of the fishery, it does require the Council and NMFS to set ACLs and AMs by 2011 “such that overfishing does not occur in the fishery.” 16 U.S.C. § 1853(a)(15). The setting of ACLs and AMs necessarily entails a decision as to which stocks require conservation and management. *Id.* §§ 1802(13), 1853(a)(15). Hence, Defendants must provide some meaningful explanation as to why it was not possible to consider which stocks, other than Atlantic herring, should be subject to the ACLs and AMs which are so central to effective fishery management and avoidance of overfishing. *NetCoalition v. SEC*, 615 F.3d 525, 539 (D.C.Cir.2010) (“an agency may not shirk a statutory responsibility simply because it may be difficult.”).

Moreover, Defendants have not explained why the information in the Administrative Record cited by Plaintiffs was deemed insufficient to justify including river herring as a stock, as urged in many comments submitted on the Proposed Regulation, or to permit setting at least an interim Acceptable Biological Catch limit for the species, just as was done for Atlantic herring. See Pls.' Mot. 18–19 (citing AR 154, 157, 315, 407, 645, 665, 755, 779, 780, 795, 903, 1257, 1288, 1506, 1978, 2550, 2571, 2602, 2806, 3789, 6341).

In short, Defendants themselves cite to no evidence or facts supporting the Council's excuse that “there was not sufficient time” to consider the fishery's composition. AR 6325; *Kristin Brooks Hope Ctr. v. FCC*, 626 F.3d 586, 588 (D.C.Cir.2010) (“The agency's explanation cannot ‘run [ ] counter to the evidence,’ ... and it must ‘enable us

to conclude that the [agency's action] was the product of reasoned decisionmaking.' ") (quoting Motor Vehicle Mfrs. Ass'n, 463 U.S. at 43, 52).

\*12 While a looming statutory deadline may in some instances provide justification for an agency's delay in decision-making, it does not relieve Defendants of the duty to "articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made"—especially when the agency was given a four-year lead time to meet that deadline and failure to meet it could have serious consequences for the species to be protected. Motor Vehicle Mfrs. Ass'n, 463 U.S. at 43 (internal quotation omitted). Defendants' conclusory statement that river herring would simply have to wait until a future amendment does not suffice. Kristin Brooks Hope Ctr., 626 F.3d at 588; McDonnell Douglas Corp., 375 F.3d at 1186–87.

## 2. Deference to the Council

Defendants also argue that river herring were not designated as a stock in the fishery because the Council decided to include only target stocks in the fishery, and river herring is a non-target stock. Defs.' Mot. 17 (citing AR 6067). According to Defendants, NMFS deferred to the Council's decision not to include any non-target stocks in the fishery, and needed to do no more. AR 6256, 6330. The crux of Defendants' argument is that under both the structure of the MSA and the agency's own regulations, unless a species is determined by NMFS to be "overfished" or the Council's decision is in clear violation of the MSA,<sup>5</sup> NMFS should simply defer to the Council's determination of what stocks are in the fishery rather than conduct an independent review of whether that determination complies with the MSA's provisions and standards. Defs.' Mot. 15–16; Defs.' Reply 4–9.

### a. Statutory Provisions

Defendants argue that the "Magnuson–Stevens Act entrusts the Councils with the responsibility to prepare FMPs for those fisheries requiring conservation and management" and that the "inclusion of a species ... in a fishery management unit is based on a variety of judgment calls left to the Council." Defs.' Mot. 15. Defendants rely on 16 U.S.C. § 1852(h), giving the Council the responsibility to prepare and submit FMPs and amendments, and on 16 U.S.C. § 1854(e), requiring an FMP only where NMFS has determined that a fishery is "overfished." Therefore, Defendants contend, in the absence of a finding of overfishing, council decisions about the make-up of a fishery are unreviewable by

NMFS and are entitled to deference.

Plaintiffs view Defendants' argument as "threaten[ing] to unravel the entire fabric of the Act." Pls.' Mot. 17. They caution that, under the Defendants' interpretation of the MSA, "councils would be left with the sole discretion to include any, or no, stocks in their FMPs, regardless of whether there is scientific information demonstrating the need for their conservation and management." *Id.*

Defendants are correct that "it is the Council that has the responsibility to prepare the FMP in the first instance for those fisheries requiring conservation and management," which includes describing the species to be managed. Defs.' Reply 4–5 (citing 16 U.S.C. §§ 1852(h)(1), 1853(a)(2)) (emphasis in original). As explained above, except in special circumstances,<sup>6</sup> the council prepares and submits proposed FMPs and amendments to NMFS. 16 U.S.C. § 1852(h)(1).

\*13 What Defendants fail to fully appreciate, however, is that once the council completes its work, the MSA requires NMFS to review its plan to determine whether it comports "with the ten national standards, the other provisions of [the Act], and any other applicable law." *Id.* § 1854(a)(1)(A). Thus, it is Defendants' responsibility to decide whether an FMP, including the composition of its fishery, satisfies the goals and language of the MSA. *N.C. Fisheries Ass'n*, 518 F.Supp.2d at 71–72 ("Secretarial review of a FMP or plan amendment submitted by a regional council focuses on the proposed action's consistency with the substantive criteria set forth in, and the overall objectives of, the MSA."). While Defendants are correct that it is the Council's role to name the species to be managed "in the first instance," it is NMFS's role, in the second instance, to ensure that the Council has done its job properly under the MSA and any other applicable law.

It is true that the MSA requires management measures when NMFS finds overfishing. But it certainly does not follow that in the absence of overfishing NMFS may simply rubber stamp the Council's decisions. Section 1854(a) is clear: NMFS must examine whether the FMP "is consistent with the national standards, the other provisions of [the MSA], and any other applicable law." 16 U.S.C. § 1854(a)(1)(A). While NMFS may defer to the Council on policy choices, the Act plainly gives NMFS the final responsibility for ensuring that any FMP is consistent with the MSA's National Standards, and "the overall objectives" of the Act. *N.C. Fisheries Ass'n*, 518 F.Supp.2d at 71–72.

Defendants' responsibilities therefore include ensuring compliance with Section 1852(h)'s requirement that the

Council prepare an FMP or amendment for any stock of fish that “requires conservation and management.” 16 U.S.C. § 1852(h)(1). That Section requires FMPs and necessary amendments for all “stocks of fish which can be treated as a unit for purposes of conservation and management” and which are in need of conservation and management. *Id.* §§ 1802(13)(a), 1852(h)(1). Thus, NMFS must make its own assessment of whether the Council’s determination as to which stocks can be managed as a unit and require conservation and management is reasonable. *Motor Vehicle Mfrs. Ass’n*, 463 U.S. at 52 (“agency’s explanation ... [must] enable us to conclude that [its decision] was the product of reasoned decisionmaking.”).

There is no basis for concluding, as Defendants do, that the structure of the MSA weakens Section 1854’s command that NMFS review proposed plans and amendments for compliance with the statute. The standards to be applied in reviewing NMFS’s conclusion that Amendment 4 complies with Section 1852(h) are therefore no different than review of NMFS’s conclusion that an amendment complies with the National Standards. See *N.C. Fisheries Ass’n*, 518 F.Supp.2d at 71–72 (“Secretarial review of a FMP or plan amendment submitted by a regional council focuses on the proposed action’s consistency with the substantive criteria set forth in, and the overall objectives of, the MSA.”). Merely deferring to the Council’s exclusion of non-target species like river herring without any explanation for why that exclusion complies with the MSA fails to meet APA standards. *Motor Vehicle Mfrs. Ass’n*, 463 U.S. at 43 (agency must “examine the relevant data and articulate a satisfactory explanation for its action”); *Tourus Records, Inc. v. DEA*, 259 F.3d 731, 737 (D.C.Cir.2001) (“A fundamental requirement of administrative law is that an agency set forth its reasons for decision; an agency’s failure to do so constitutes arbitrary and capricious agency action.”) (internal quotations omitted).

#### b. Defendants’ Regulation

\*14 National Standard 1 of the MSA states, “Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the U.S. fishing industry.” 16 U.S.C. § 1851(a)(1). Defendants cite to 50 C.F.R. § 600.310(d)(1), which interprets that Standard, and states: “[t]he relevant Council determines which specific target stocks and/or non-target stocks to include in a fishery.” According to Defendants, this provision justifies NMFS’s failure to explain why the Council’s decision comports with the MSA. *Defs.’ Mot.* 15.

However, Section 1854 states in no uncertain language that NMFS must “determine whether [the plan or amendment] is consistent with the national standards, the other provisions of this chapter, and any other applicable law.” 16 U.S.C. § 1854(a)(1)(A). A mere regulation can never override a clear Congressional statutory command—i.e., that NMFS shall review FMP amendments for compliance with all provisions of the MSA. *Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 843 n. 9, 104 S.Ct. 2778, 81 L.Ed.2d 694 (1984); *Nat’l Ass’n of Clean Air Agencies v. EPA*, 489 F.3d 1221, 1228 (D.C.Cir.2007). Nor, it should be noted, need 50 C.F.R. § 600.310(d)(1) be interpreted as Defendants do. It is absolutely correct that under the MSA, the councils do have the responsibility to determine what stocks to include in the fishery. But that is not the end of the process. After the councils make their determination, NMFS must still make its final compliance review.

Simply put, 50 C.F.R. § 600.310(d)(1) cannot be understood to permit NMFS to ignore its duty to ensure compliance with the MSA. The councils do not have unlimited and unreviewable discretion to determine the make-up of their fisheries.

Therefore, Defendants were required to review Amendment 4 for compliance with the MSA. Defendants need not prove that the decision to designate only target stocks as stocks in the fishery was the best decision, but they must demonstrate that they reasonably and rationally considered whether Amendment 4’s definition of the fishery complied with the National Standards and with the MSA’s directive that FMPs be generated for any fisheries requiring conservation and management. Mere deference to the Council, with nothing more, does not demonstrate reasoned decision-making. *Motor Vehicle Mfrs. Ass’n*, 463 U.S. at 56 (agency’s decision was arbitrary and capricious because it failed to analyze the issue); *Am. Equity Inv. Life Ins. Co. v. SEC*, 613 F.3d 166, 179 (D.C.Cir.2010) (same); *Sierra Club v. U.S. Army Corps of Eng’rs*, 772 F.2d 1043, 1051 (2d Cir.1985) (“agency’s action is held to be arbitrary and capricious when it ... utterly fails to analyze an important aspect of the problem.”).

#### C. Bycatch

Plaintiffs also contend that Amendment 4 fails to minimize bycatch, in violation of National Standard 9. 16 U.S.C. § 1851(a)(9). “Bycatch” refers to “fish which are harvested in a fishery, but which are not sold or kept for personal use” including “economic discards and regulatory discards.” *Id.* § 1802(2). In other words, fish

incidentally caught in a trawler's net and then later thrown away are bycatch. "In simple terms, bycatch kills fish that would otherwise contribute toward the well-being of the fishery or the nation's seafood consumption needs." *Conservation Law Found. v. Evans*, 209 F.Supp.2d 1, 14 (D.D.C.2001).

\*15 The Final Rule implementing Amendment 4 addresses bycatch in one sentence: "[b]y catch in the herring fishery will continue to be addressed and minimized to the extent possible, consistent with other requirements of the MSA." 76 Fed.Reg. 11373, 11374; AR 6326. Plaintiffs argue that this one sentence is insufficient under the MSA, because the Act "requires that all FMPs and FMP amendments contain concrete conservation and management measures to minimize bycatch and bycatch mortality to the extent practicable." Pls.' Mot. 21. Defendants respond that (1) Plaintiffs have waived their claim under National Standard 9 by failing to raise an objection during the administrative process; and (2) the Council and NMFS have sufficiently minimized bycatch based on the best available science. Defs.' Mot. 19–21.

Defendants' first argument is, to put it mildly, hyper-technical, and without merit. Defendants concede that Plaintiffs did comment on bycatch during the administrative process, but only before Defendants issued their second Notice of Intent, limiting Amendment 4's scope to addressing ACLs and AMs for Atlantic herring. Defs.' Reply 10. Nonetheless, Defendants contend that Plaintiffs' failure to raise the issue again, after NMFS announced that Amendment 4 would proceed in its reduced form, bars them from bringing the claim. *Id.* That is, Defendants argue that Plaintiffs waived their bycatch claim by not raising it a *second* time, after Defendants had already made clear that they would not consider bycatch in Amendment 4.

This argument finds no support in caselaw—nor for that matter in fundamental fairness. Certainly it is true "that a party will normally forfeit an opportunity to challenge an agency rulemaking on a ground that was not first presented to the agency for its initial consideration." *Advocates for Highway & Auto Safety v. Fed. Motor Carrier Safety Admin.*, 429 F.3d 1136, 1150 (D.C.Cir.2005). But Defendants cite no authority requiring parties to raise the ground repeatedly after the agency has rejected their suggestion or after each new version of the proposed action is issued.

Moreover, by raising the bycatch issue before Amendment 4 was reduced in scope, Plaintiffs clearly satisfied the purposes of this issue waiver rule. Plaintiffs "alert[ed] the agency to [their] position and contentions,"

in order to allow the agency to give the issue meaningful consideration." *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 764, 124 S.Ct. 2204, 159 L.Ed.2d 60 (2004) (quoting *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 553, 98 S.Ct. 1197, 55 L.Ed.2d 460 (1978)); see also *Advocates for Highway & Auto Safety*, 429 F.3d at 1150 (the two reasons for an "issue exhaustion" or "issue waiver" rule are that (1) "the role of the court is to determine whether the agency's decision is arbitrary and capricious for want of reasoned decisionmaking" and (2) "'[s]imple fairness ... requires as a general rule that courts should not topple over administrative decisions unless the administrative body ... has erred against objection made at the time appropriate under its practice.'" (quoting *United States v. L.A. Trucker Lines, Inc.*, 344 U.S. 33, 37, 73 S.Ct. 67, 97 L.Ed. 54 (1952))). Consequently, the Court concludes that Plaintiffs have not waived their claim under National Standard 9.

\*16 Defendants' second argument is more substantive. They contend that, in fact, they have satisfied their responsibility to minimize bycatch to the extent practicable.

National Standard 9 requires that "[c]onservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch." 16 U.S.C. § 1851(a)(9). While each FMP must attempt to minimize bycatch to the extent practicable, it must also "balance competing environmental and economic considerations" as embodied in the ten National Standards. *Ocean Conservancy v. Gutierrez*, 394 F.Supp.2d 147, 157 (D.D.C.2005); *Pacific Coast Fed'n of Fishermen's Ass'n v. Locke*, No. C 10–04790 CRB, 2011 WL 3443533, at \*9 (N.D.Cal. Aug.5, 2011). Nonetheless, to meet their responsibility to ensure compliance with the National Standards, Defendants must demonstrate that they have evaluated whether the FMP or amendment minimized bycatch to the extent practicable. *Conservation Law Found.*, 209 F.Supp.2d at 14.

Defendants argue that they have met this burden because the FMP as a whole minimizes bycatch.<sup>7</sup> Defs.' Mot. 20–21. Defendants point to (1) Amendment 1 to the FMP, which "prohibits midwater trawling vessels from fishing in a designated area for Atlantic herring from June 1 to September 30 of each year," (2) the haddock incidental catch cap, which addresses haddock bycatch and was developed through Framework 43 of the Northeast Multispecies FMP,<sup>8</sup> and (3) the limits generally placed on the herring fishery by the interim ABC control rule. *Id.* None of these three examples demonstrate that Defendants undertook any effort to consider whether Amendment 4, or the FMP as amended by Amendment 4,

minimized bycatch to the extent practicable.

The first measure identified by Defendants, Amendment 1, simply bans use of midwater trawling vessels in one of the Atlantic herring fishery's four management areas for four months of the year. 72 Fed.Reg. 11252, 11257 (Mar. 12, 2007). While this rule, issued in March of 2007, does reduce the use of a type of boat that causes substantial bycatch, it does so for only four months per year in only one management area. The second measure, the haddock incidental catch cap, which was issued as part of the Northeast Multispecies FMP, only considers haddock bycatch, and gives no incentive for minimizing bycatch of other species, such as river herring. AR 6153. Finally, the third measure is merely the limits on Atlantic herring catch and in no way limits fishing to minimize river herring or other bycatch. Thus, this measure only has the ancillary benefit of reducing bycatch and bycatch mortality of river herring and other fish by generally limiting the amount of fishing in the Atlantic herring fishery.

The existence of an earlier rule to reduce bycatch and two measures that, at best, have only an incidental effect on bycatch does not show that NMFS ever considered the significant issue of whether the Atlantic Herring FMP minimizes bycatch or bycatch mortality to the extent practicable based on the best available science. 16 U.S.C. §§ 1851(a)(2), (9). While each of these three measures may have some impact on total bycatch in the Atlantic herring fishery, none of them indicate that Defendants have considered the issue in any substantive manner.

\*17 Defendants also quote from two sections of Amendment 4 that discuss bycatch. First, Defendants point to the section of the Council's substantive analysis of Amendment 4 that ostensibly discusses National Standard 9. Defs.' Mot. 20–21. This single paragraph explains that “the Council made the decision to include only [Atlantic] herring as a stock with the knowledge that other mechanisms exist to deal with non-targets [sic] species caught,” and “one of the objectives of Amendment 5 to the Atlantic Herring FMP, which is under development, is to develop a program which effectively and efficiently monitors bycatch and potentially acts to reduce it.” AR 6087. “The amendment therefore specifies that bycatch is to be monitored and minimized accordingly.”<sup>9</sup> *Id.* If anything, this statement makes it clear that neither the Council nor NMFS made any effort to consider whether bycatch was minimized to the extent practicable. 16 U.S.C. § 1851(a)(9).

Second, Defendants point to the section of their analysis of the “Environmental Impacts of Management Alternatives” dealing with the “Impacts on Non-target

Bycatch Species.” AR 6193–95. Defendants quote: “Amendment 4 ‘limit [s] the catch of non-target/bycatch species, particularly through the limit to the fishery placed by the interim ABC control rule.’ “ Defs.’ Mot. 20–21 (quoting AR 6193). In context, all that the document actually says is that, because of Amendment 4's interim limits on the total catch allowed for Atlantic herring, there will be less incidental catch of non-target species than under “the no action alternative.” AR 6193–94. Again, this conclusion does not reflect any examination or consideration of whether the FMP, as amended, actually minimizes bycatch to the extent practicable. 16 U.S.C. § 1851(a)(9).

Finally, Defendants state that they chose to defer consideration of National Standard 9 due to the 2011 statutory deadline for Amendment 4. Defs.' Mot. 21. For the reasons discussed at length above, *supra* Part III.B.1., this rationale does not suffice to demonstrate reasoned analysis of the bycatch issue. In sum, there is no evidence that the agency “thoroughly reviewed the relevant scientific data on bycatch and consulted with participants in the fishery to determine whether the proposed regulations would be effective and practical,” as they must do to satisfy their responsibilities to ensure compliance with the National Standards. *Ocean Conservancy*, 394 F.Supp.2d at 159; *Conservation Law Found.*, 209 F.Supp.2d at 14. Therefore, Defendants' approval of Amendment 4, without addressing the minimization of bycatch to the extent practicable, was in violation of the MSA and APA.

#### D. ACLs for Atlantic Herring

Plaintiffs claim that Amendment 4's annual catch limit (“ACL”)<sup>10</sup> for Atlantic herring violates the MSA because it fails to prevent overfishing and is not based upon the best available science. 16 U.S.C. §§ 1851(a)(1), (2). As detailed above, the MRSA significantly enlarged the Council's and NMFS's duties by requiring all FMPs to include “a mechanism for specifying annual catch limits ... at a level such that overfishing does not occur in the fishery.” *Id.* § 1853(a)(15). The new ACLs are to set specific limits on the total fish caught in each fishery.

\*18 The setting of an ACL entails a rather laborious process intended to generate a scientific basis for the final catch limit. First, the Council must define an overfishing limit (“OFL”), which, to simplify, is an estimate of the rate of fishing at which a fishery will not be sustainable.<sup>11</sup> 50 C.F.R. §§ 600.310(e)(1)(i)(A)–(2)(i)(E).

Second, the Council must determine the acceptable biological catch (“ABC”), which is the amount of fish that

may be caught without exceeding the overfishing limit, after taking into account scientific uncertainty. *Id.* § 600.310(f)(2)(ii). In order to set the ABC, the Council must first establish an “ABC control rule,” which explains how the Council will account for scientific uncertainty when setting the ABC. 50 C.F.R. § 600.310(f)(4). The objective of the ABC control rule is to create a buffer between OFL and ABC so that there is a low risk that OFL will be exceeded. *See id.* §§ 600.310(b)(v)(3), (f)(4).

Third, and finally, the Council must set the ACL, which is the amount of fish that may be caught without exceeding the ABC, after taking into account management uncertainty, such as late reporting, misreporting, and underreporting of catch.<sup>12</sup> *Id.* § 600.310(f)(1). In mathematical terms, the entire process can be described as  $OFL \geq ABC \geq ACL$ . AR 6061. In plain English, the ABC must be equal to or less than OFL, to account for scientific uncertainty, and the final ACL must be equal to or less than ABC, to take into account management uncertainty. 50 C.F.R. §§ 600.310(e)-(f).

Further, each council must establish a scientific and statistical committee (“SSC”), whose members must include Federal and State employees, academicians, or independent experts with “strong scientific or technical credentials and experience.” 16 U.S.C. §§ 1852(g)(1)(A), (C). The SSC provides “ongoing scientific advice” for fishery management decisions, including the setting of ABC and OFL. *Id.* § 1852(g)(1)(B). In particular, the Council must create its ABC control rule based on scientific advice from the SSC. 50 C.F.R. § 600.310(f)(4). Additionally, ACLs “may not exceed the fishing level recommendations” of the Council’s SSC. 16 U.S.C. § 1852(h)(6). To summarize, in the process of setting the final ACL, the council must solicit scientific advice from the SSC and, based on that advice, establish a rule for acceptable biological catch to account for scientific uncertainty, and then set an ACL that permits no greater fishing levels than the SSC recommends.

Finally, ACLs must, of course, be consistent with the National Standards. *Id.* § 1853(a)(1)(C). Plaintiffs argue that the Atlantic herring ACL fails to comply with National Standards 1 and 2. National Standard 1 requires that “[c]onservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.” *Id.* § 1851(a)(1). Hence, they argue, NMFS’s conclusion that the Atlantic herring ACL prevents overfishing while achieving optimum yield must be “rational and supported by the record.” *C & W Fish*, 931 F.2d at 1562; *Blue Ocean Inst.*, 585 F.Supp.2d at 43.

\*19 National Standard 2 instructs, “[c]onservation and

management measures shall be based upon the best scientific information available.” *Id.* § 1851(a)(2). National Standard 2 “requires that rules issued by the NMFS be based on a thorough review of all the relevant information available at the time the decision was made ... and insures that the NMFS does not ‘disregard superior data’ in reaching its conclusions.” *Ocean Conservancy*, 394 F.Supp.2d at 157 (quoting *Building Indus. Ass’n v. Norton*, 247 F.3d 1241, 1246–47 (D.C.Cir.2001)).

This rule “is a practical standard requiring only that fishery regulations be diligently researched and based on sound science.” *Ocean Conservancy*, 394 F.Supp.2d at 157. Further, “[c]ourts give a high degree of deference to agency actions based on an evaluation of complex scientific data within the agency’s technical expertise.” *Am. Oceans Campaign v. Daley*, 183 F.Supp.2d 1, 4 (D.D.C.2000) (citing *Baltimore Gas & Elec. Co. v. NRDC*, 462 U.S. 87, 103, 103 S.Ct. 2246, 76 L.Ed.2d 437 (1983)). Therefore, “[l]egal challenges to the Secretary’s compliance with National Standard 2 are frequent and frequently unsuccessful” and Plaintiffs face a “high hurdle.” *N.C. Fisheries Ass’n*, 518 F.Supp.2d at 85.

Amendment 4’s ABC control rule, which is intended to account for scientific uncertainty, sets the ABC for Atlantic herring at the three-year average annual catch measured from 2006–2008, or at 106,000 metric tons (“mt”). AR 6068–69. In other words, the ACL for Atlantic herring will be equivalent to the average yearly catch from 2006 to 2008, minus a buffer for management uncertainty. Plaintiffs argue that this ABC control rule violates National Standards 1 and 2. Plaintiffs claim that using this three-year average, without any further discount to reflect scientific uncertainty, will not prevent overfishing and is not based on the best available science.<sup>13</sup> Pls.’ Mot. 22–27.

To the contrary, the Administrative Record demonstrates that the Council properly considered the advice of its SSC and, after review of the best scientific information then available, selected an ABC control rule. The Administrative Record indicates that the SSC identified “considerable scientific uncertainty” in attempting to assess the size of the Atlantic herring stock, and therefore “recommended that the ABC be set based on recent catch, and asked the Council [to] determine the desired risk tolerance in setting the ABC.” AR 6068. In accordance with the SSC’s advice, the Council considered three options for defining recent catch: (1) the most recent, available single-year catch figure of 90,000 mt in 2008; (2) the most recent, available three-year annual average of 106,000 mt from 2006–2008; and (3) the most recent, available five-year annual average of 108,000 mt from 2004–2008. *Id.*

The Council ultimately decided to use the three-year catch figure to estimate ABC, based on four rationales. First, a three-year average is commonly used to estimate “recent” trends in a fishery. *Id.* Second, the 2008 catch “was one of the lowest on record for many years” and using the one-year estimate may fail to account for general variability in annual catch. *Id.* Third, because the three-year average is lower than the five-year average, it provides a more conservative estimate, and is therefore preferable in order to account for other factors, such as “the importance of herring as a forage species.” *Id.* Fourth, and finally, the specification of the ABC at 106,000 mt provides a 27% buffer from the maximum sustainable fishing mortality rate of 145,000 mt for 2010, in order to account for scientific uncertainty. *Id.* at 6069.

\*20 Plaintiffs point to no evidence that the agency ignored superior or contrary data, as they must to succeed in a National Standard 2 challenge.<sup>14</sup> *N.C. Fisheries Ass’n*, 518 F.Supp.2d at 85. Instead, Plaintiffs protest that “Defendants arbitrarily ignored at least two approaches for setting ABC that were scientifically superior.” Pls.’ Reply 12. First, Plaintiffs claim that Defendants did not adopt an earlier recommendation by the SSC that the ABC control rule include a 40% buffer between OFL and ABC. Second, Plaintiffs state that Defendants refused to accept the approach they identified to set the ABC at 75% of recent average catch. Pls.’ Reply 12 (citing AR 3909, 5615). But, as explained above, the Council provided perfectly rational explanations, based on the best available science, for selecting its ABC control rule, which accounted for scientific uncertainty and comported with the SSC’s recommendations. AR 6088–89. National Standard 2 demands no more. *Ocean Conservancy*, 394 F.Supp.2d at 157.

Nor, finally, does National Standard 1 provide any independent reason for invalidating the ABC control rule. National Standard 1 requires that “each Council must establish an ABC control rule based on scientific advice from its SSC” and that “[t]he determination of ABC should be based, when possible, on the probability that an actual catch equal to the stock’s ABC would result in overfishing.” 50 C.F.R. § 600.310(f)(4). The Council considered the advice of its SSC, examined several options for setting the ABC control rule, and made a reasoned determination that using the three-year average catch offered the best approach. The Court must defer to an agency’s rational decision when supported by the Administrative Record, as here, and particularly when that decision involves the type of technical expertise relied upon in this case. *Bloch*, 348 F.3d at 1070; *C & W Fish*, 931 F.2d at 1562; *Am. Oceans Campaign*, 183 F.Supp.2d at 4.

Although Plaintiffs may be correct that the Council could have selected a more conservative ABC control rule, which would have resulted in a more conservative ACL, Plaintiffs must do far more than simply show that Defendants did not take their preferred course of action. *See N.C. Fisheries Ass’n*, 518 F.Supp.2d at 85; *Am. Oceans Campaign*, 183 F.Supp.2d at 14 (“the fact that Plaintiffs would have preferred a more detailed analysis does not compel the conclusion that the Secretary’s action was arbitrary and capricious.”). Plaintiffs must show “some indication that superior or contrary data was available and that the agency ignored such information.” *N.C. Fisheries Ass’n*, 518 F.Supp.2d at 85. Plaintiffs have made no showing other than that the agency did not select their favored control rule. Therefore, Defendants’ adoption of Amendment 4’s ABC control rule and resultant ACLs was not arbitrary and/or capricious.

#### E. AMs for Atlantic Herring

In order to enforce the new ACLs, the amended MSA requires all FMPs to include “measures to ensure accountability.” 16 U.S.C. § 1853(a)(15). “AMs are management controls to prevent ACLs ... from being exceeded, and to correct or mitigate overages of the ACL if they occur.” 50 C.F.R. § 600.310(g)(1). Therefore, whenever possible, FMPs should include AMs “to prevent catch from exceeding ACLs” and “when an ACL is exceeded ... as soon as possible to correct the operational issue that caused the ACL overage, as well as any biological consequences to the stock or stock complex resulting from the overage.” *Id.* §§ 600.310(g)(2), (3).

\*21 Just like ACLs, AMs must satisfy the National Standards, including National Standard 2. As explained at greater length above, National Standard 2 “is a practical standard requiring only that fishery regulations be diligently researched and based on sound science.” *Ocean Conservancy*, 394 F.Supp.2d at 157. And of course, “[c]ourts give a high degree of deference to agency actions based on an evaluation of complex scientific data within the agency’s technical expertise.” *Am. Oceans Campaign*, 183 F.Supp.2d at 4.

Plaintiffs argue that Amendment 4’s AMs are deficient for two reasons. First, Plaintiffs claim that the existing monitoring system used to detect when ACLs are reached, is insufficient. Pls.’ Mot. 28–31. Second, Plaintiffs contend that the actual group of AMs included in the Atlantic herring FMP “are fundamentally flawed and insufficient to minimize the frequency and magnitude of catch in excess of the ACLs for Atlantic herring.” *Id.* at 31–33. Each claim is considered in turn.

## 1. Monitoring System

Currently, owners or operators of vessels with permits to fish for Atlantic herring are required to make a weekly report of herring they catch through an “Interactive Voice Response” (“IVR”) system. 50 C.F.R. § 648.7(b)(2)(I). The reports are verified by comparing them to weekly dealer data. AR 6255. According to Defendants, “there is an incentive for fishermen to report catch accurately” “[b]ecause payment for catch is often tied to vessel/dealer reports.” Defs.’ Reply 17. Additionally, federal observers on board fishing boats monitor bycatch. Pls.’ Mot. 9; Defs.’ Reply 17. Between 2005 and 2007, the annual percentage of trips observed ranged from 8% to 26%, for an annual average of 16%.<sup>15</sup> AR 653.

Plaintiffs argue that this monitoring system violates the MSA because “[a]ccurate catch limits are impossible at present in the Atlantic herring fishery because monitoring in the fishery is based heavily on unverified reports of catch and landings.” Pls.’ Mot. 30. Further, “accurate estimates cannot be accomplished because even on trips where a federal observer is on board the vessel, vessels are not required to bring all catch onboard [sic] for sampling and inspection” and “the ability to extrapolate catch and bycatch up to fleetwide estimates is impossible because there are insufficient observer coverage levels and at-sea dumping of unsampled catch occurs, even on otherwise observed trips.” *Id.*

However, Plaintiffs offer no evidence to demonstrate “some indication that superior or contrary data was available and that the agency ignored such information.” *N.C. Fisheries Ass’n*, 518 F.Supp.2d at 85; *Ocean Conservancy*, 394 F.Supp.2d at 157 (National Standard 2 requires “only that fishery regulations be diligently researched and based on sound science.”). Indeed, Plaintiffs again cite no evidence in the Administrative Record to support their claims that “accurate catch limits are impossible,” that “accurate estimates cannot be accomplished,” or that “the ability to extrapolate catch and bycatch up to fleetwide estimates is impossible.” Pls.’ Mot. 30.

\*22 Rather than cite to evidence that the Council or NMFS disregarded the best available science, Plaintiffs advance two legal arguments. First, Plaintiffs claim that Defendants have admitted that the current monitoring system is inadequate. Pls.’ Mot. 17. But the Administrative Record citations provided by Plaintiffs say no such thing. All that they do say is that the Council was considering measures “to improve catch monitoring.” AR 5587; see also AR 380–83, 2883, 2886. The statement that monitoring could, potentially, be improved, certainly does not amount to a concession that the current system is

legally insufficient. Nor, it should be pointed out, would it benefit the notice and comment process if an agency were unable to consider possible policy improvements for fear that even soliciting comments would be considered an admission that current policies are legally inadequate.

Second, Plaintiffs claim that “vessel catch reports have been found time and again to be unreliable,” citing a decision by this Court. Pls.’ Reply 17. However, *Conservation Law Foundation*, the case cited by Plaintiffs, merely observed that the defendants in that case *conceded* that there were problems with their bycatch monitoring and that the New England Council’s Multispecies Monitoring Committee concluded that commercial fishers unlawfully underreport bycatch. 209 F.Supp.2d at 13, 13 n. 25. Certainly, the conclusion of a different council committee, based on a separate factual record in a separate fishery, does not preclude this Council from concluding that observer coverage constitutes one of several sufficient monitoring mechanisms.

The Administrative Record contains evidence that Defendants did in fact consider Plaintiffs’ comments and determined that the current monitoring system is sufficient. AR 6255, 6328. Specifically, in her “Decision Memorandum,” NMFS’s Regional Administrator Patricia A. Kurkul stated that, after considering comments expressing concerns regarding the monitoring, she “conclude[d] that current reporting and monitoring is sufficient to monitor catch against ACLs/sub-ACLs.” *Id.* at 6255. She explained that herring quotas can be monitored by weekly reports with verification by comparison to dealer reports, and stated that the agency would continue to develop improvements to the reporting system in Amendment 5. *Id.* While NMFS may not have performed an in-depth analysis, it reasonably relied on a policy that has been in place since 2004 and which underwent its own notice and comment process before being adopted. See 69 Fed.Reg. 13482 (Mar. 23, 2004).

Most importantly, though, Plaintiffs provide no evidence—in this case—that this longstanding monitoring system, while far from perfect, was not “diligently researched and based on sound science.” *Ocean Conservancy*, 394 F.Supp.2d at 157; *N.C. Fisheries Ass’n*, 518 F.Supp.2d at 85. While there are serious concerns about the efficacy of the current monitoring system, see AR 651, the Court must nonetheless afford “a high degree of deference to agency actions based on an evaluation of complex scientific data.” *Am. Oceans Campaign v. Daley*, 183 F.Supp.2d at 4. Therefore, Plaintiffs have not demonstrated that Defendants’ approval of Amendment 4’s monitoring system was arbitrary and/or capricious.



## 2. Specific Accountability Measures

\*23 Amendment 4 designates three management measures—two measures which were previously in place and one new policy—as AMs for the Atlantic herring fishery. AR 6327; 50 C.F.R. § 648.201(a). The first AM is a management area closure device intended to prevent ACL overages. This AM prohibits vessels from catching more than 2000 lbs of Atlantic herring per day once NMFS has determined that catch will reach 95% of the annual catch allocated to the given management area. 50 C.F.R. § 648.201(a)(1). The second AM, known as the haddock incidental catch cap, attempts to prevent ACL overages by limiting Atlantic herring catch to 2000 lbs per day once NMFS has determined that the limit on incidental haddock catch has been reached. *Id.* § 648.201(a)(2). The third, and final, AM aims to mitigate ACL overages by deducting the amount of any overage from the relevant ACL or sub-ACL for the fishing year following NMFS’s determination of the overage. *Id.* § 648.201(a)(3). Plaintiffs argue that each of these AMs is fundamentally flawed. Pls.’ Mot. 31–33.

### a. Management Area Closure

Plaintiffs criticize the management area closure measure because it has not always prevented ACL overages in the past. *Id.* at 31. Plaintiffs claim that the measure “has already proven to be ineffective,” *id.*, and that “Defendants acknowledge that [it] has already failed to work.” Pls.’ Reply 18. Plaintiffs erroneously characterize a more nuanced response from Defendants as a significant concession. What the Administrative Record actually demonstrates is that NMFS recognized that in 2010, a particular management area experienced an overage of 138% of its quota, but that “[w]hen there is a pulse of fishing effort on a relatively small amount of unharvested quota ... the chance of quota overage exists, regardless of reporting or monitoring tools.”<sup>16</sup> AR 6328; Defs.’ Mot. 28. Indeed, the Council considered this issue and concluded that, “[w]hile some overages have been experienced, the frequency and degree of overage has not been significant enough to compromise the health of the resource complex as a whole.” AR 6077.

Plaintiffs nonetheless argue that the management area closure measure violates the MSA because it permits some overages despite MSA’s requirements (1) that ACLs be set at levels to prevent overfishing and (2) that AMs prevent catch from exceeding ACLs. Pls.’ Reply 18–19 (citing 16 U.S.C. § 1853(a)(15); 50 C.F.R. § 600.310(g)(2)).<sup>17</sup> This argument is unconvincing.

First, the existence of an ACL overage does not mean that

overfishing is occurring. *See* 16 U.S.C. § 1802(34) (defining overfishing as “a rate or level of fishing mortality that jeopardizes the capacity of a fishery to produce the maximum sustainable yield on a continuing basis.”). In other words, an overage does not necessarily establish that the capacity of a fishery to produce the maximum sustainable yield on a continuing basis is being jeopardized. Indeed, the entire purpose of the process by which ACLs are generated is to create an effective buffer between ACLs and overfishing limits. *See supra* Part III.D.

\*24 Second, the National Standard 1 guidelines cited by Plaintiffs do not, as Plaintiffs claim, state that “NMFS must ‘prevent catch from exceeding ACLs.’” Pls.’ Reply 19 (quoting 50 C.F.R. § 600.310(g)(2)). The full text of that provision reads, “[w]henver possible, FMPs should include inseason monitoring and management measures to prevent catch from exceeding ACLs.” 50 C.F.R. § 600.310(g)(2) (emphasis added). Indeed, these guidelines specifically require AMs that can correct ACL overages when they occur. *Id.* § 600.310(g)(3). Such AMs would hardly be necessary if NMFS was under an obligation to guarantee that overages never occur. In sum, Plaintiffs have not demonstrated that the one example of an admittedly very high overage in 2010 demonstrates that the use of the management area closure AM is fundamentally flawed.

### b. Haddock Incidental Catch Cap

Plaintiffs argue that because the haddock incidental catch cap “is an accountability measure for haddock, which is managed in the Northeast Multispecies FMP,” it “is irrelevant as an accountability measure for the Atlantic herring ACL.” Pls.’ Mot. 31. Defendants respond that, even though the cap only covers incidental catch of haddock, it “is likely to have real benefits to the herring stock” and that “[a]ccountability measures are management tools that work together to help prevent a fishery from exceeding its ACL.” Defs.’ Mot. 28–29. Simply put, Plaintiffs argue that only measures designed to enforce ACLs or mitigate ACL overage can be considered AMs, while Defendants claim that any measure that might have the effect of reducing catch, and thereby helping to keep it at a level within an ACL, can constitute an AM.

Plaintiffs have the better of this argument. The statute requires, in unambiguous language, that FMPs include “measures to ensure accountability” with “annual catch limits.” 16 U.S.C. § 1853(a)(15). “Accountability” means “the quality or state of being accountable, liable, or responsible.” Webster’s Third New International

Dictionary 13 (1993). The management area closure measure discussed above clearly fits this definition: it holds fishermen and women accountable for abiding by Atlantic herring ACLs by restricting the amount of fish they catch when they get close to the limit on Atlantic herring. The haddock catch cap has no such effect. It merely holds fishermen and women accountable for incidentally catching too much haddock by limiting their ability to fish when the cap is reached. Fishermen and women may far exceed any Atlantic herring ACL and still happily fish for herring so far as the incidental haddock catch cap is concerned, as long as they have not accidentally caught too much haddock.

Hence, standing alone, the haddock incidental catch cap does not fulfill the MSA's demand that FMPs include measures to ensure accountability for ACLs. 16 U.S.C. § 1853(a)(15). Nonetheless, it should be noted that nothing prevents NMFS or the Council from considering the effect of the haddock incidental catch cap when determining whether the FMP's AMs satisfy the MSA by, *inter alia*, ensuring accountability with ACLs and preventing overfishing. *Id.* §§ 1851(a), 1853(a)(15); see also 50 C.F.R. § 600.310(g).

### c. Overage Deduction

\*25 The overage deduction AM is intended to satisfy Defendants' responsibility, when an ACL is exceeded, "as soon as possible to correct the operational issue that caused the ACL overage, as well as any biological consequences to the stock or stock complex resulting from the overage when it is known." 50 C.F.R. § 600.310(g)(3). The overage deduction AM provides that any overage in a given year is subtracted from a subsequent year's ACL or subACL, so that violating catch limits in one year lowers the permissible catch in a future year. 50 C.F.R. § 648.201(a)(3). The logic of this AM is simple: the effects of catching too much fish will be corrected by reducing the amount of fish caught in the future.

Plaintiffs argue that this AM violates the mandate to correct ACL overages "as soon as possible" because the overage deduction is taken not in the fishing year immediately following the overage, but rather in the year after. Pls.' Mot. 32; AR 6327. Defendants contend that "[i]t is not possible to require payback of overages in the next year because the final data is not available immediately." Defs.' Mot. 29.

The issue presented is whether the decision that a year-long delay is necessary was "rational and supported by the record," *C & W Fish*, 931 F.2d at 1562, and was "diligently researched and based on sound science."

*Ocean Conservancy*, 394 F.Supp.2d at 157. In response to concerns over the delay, NMFS explained that "[t]he herring fishing year extends from January to December." AR 6328. Because the "fishery can be active in December," "information on bycatch of herring in other fisheries is not finalized until the spring of the following year," and NMFS must "provide sufficient notice to the industry," the overage deduction cannot be taken in the year immediately following the year of the overage. *Id.* That is, Defendants just do not have all the necessary information nor the necessary time to calculate overages when one fishing year ends in December and the next begins in January.<sup>18</sup>

In addressing the issue, the Council and NMFS did consider the impact of the delay on the fishery. The Final Rule explains that "[h]erring is a relatively long-lived species (over 10 years) and multiple year classes are harvested by the fishery." *Id.* "These characteristics suggest that the herring stock may be robust to a single year delay in overage deductions." *Id.* More importantly, "[t]here is no evidence that a single year delay is more likely to affect the reproductive potential of the stock than an overage deduction in the year immediately following the overage." *Id.*

Plaintiffs do not offer any evidence that the necessary calculations for the Herring fishery can be completed in time to avoid the delay in overage deduction, nor do they offer "some indication that superior or contrary data was available and that the agency ignored such information." *N.C. Fisheries Ass'n*, 518 F.Supp.2d at 85. Instead, Plaintiffs assert that "corrective measures in the fishery are not routinely delayed," Pls.' Mot. 32, and that Defendants "have implemented next-year overage deductions in other fisheries." Pls.' Reply 20. These claims are not enough to show that Defendants' analysis of the needs of *this* fishery, as outlined above, were unreasonable or based on unreliable information. *Bloch*, 348 F.3d at 1070; *C & W Fish*, 931 F.2d at 1562; *Ocean Conservancy*, 394 F.Supp.2d at 157.

\*26 In sum, Amendment 4 includes two AMs, supplemented by the haddock incidental catch cap, designed to prevent ACL overages and to correct overages when they occur. 50 C.F.R. § 600.310(g). While Plaintiffs have identified what they perceive to be weaknesses with the AMs, they have failed to offer evidence that undermines Defendants' own showing of a reasonable decisionmaking process or that demonstrates Defendants' rejection of superior information. Particularly in light of the need for deference in this technical and complex area, the Court must defer to Defendants' conclusion that Amendment 4's AMs satisfy the requirements of the MSA. *Am. Oceans Campaign*, 183

F.Supp.2d at 14.

#### F. Compliance with NEPA

Finally, Plaintiffs argue that Defendants' Environmental Assessment ("EA") and Finding of No Significant Impact ("FONSI") violate NEPA. NEPA's requirements are "procedural," calling upon "agencies to imbue their decisionmaking, through the use of certain procedures, with our country's commitment to environmental salubrity ." *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 193–94 (D.C.Cir.1991). "NEPA does not mandate particular consequences." *Id.* at 194.

Under NEPA, agencies must prepare an EIS for "major Federal actions significantly affecting the quality of the human environment ." 42 U.S.C. § 4332(2)(C). In an EIS, the agency must "take a 'hard look' at the environmental consequences before taking a major action." *Baltimore Gas & Elec. Co.*, 462 U.S. at 97 (1983) (citations omitted).

However, NEPA provides agencies with a less burdensome alternative—in certain situations, an EA, which is a less thorough report, may suffice. *Monsanto Co. v. Geerston Seed Farms*, — U.S. —, —, 130 S.Ct. 2743, 2750, 177 L.Ed.2d 461 (2010) (citing 40 C.F.R. §§ 1508.9(a), 1508.13). An EA is a "concise public document" that "[b]riefly provide[s] sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact." 40 C.F.R. § 1508.9(a).<sup>19</sup> After completion of an EA, an agency may conclude that no EIS is necessary. If so, it must issue a FONSI, stating the reasons why the proposed action will not have a significant impact on the environment. *Id.* § 1501.4(e).

In reviewing an EA or FONSI, courts consider four factors. Courts must determine whether the agency:

"(1) has accurately identified the relevant environmental concern, (2) has taken a hard look at the problem in preparing its [FONSI or Environmental Assessment], (3) is able to make a convincing case for its finding of no significant impact, and (4) has shown that even if there is an impact of true significance, an EIS is unnecessary because changes or safeguards in the project sufficiently reduce the impact to a minimum."

*Sierra Club v. Van Antwerp*, 661 F.3d 1147, 1154 (D.C.Cir.2011) (quoting *TOMAC v. Norton*, 433 F.3d

852, 861 (D.C.Cir.2006)) (alterations in *Van Antwerp* ).

\*27 Courts review EAs and FONSI's under the familiar arbitrary or capricious standard of the APA. *Van Antwerp*, 661 F.3d at 1154; *see also Pub. Citizen*, 541 U.S. at 763 ("An agency's decision not to prepare an EIS can be set aside only upon a showing that it was arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law."); *Town of Cave Creek, Ariz. v. FAA*, 325 F.3d 320, 327 (D.C.Cir.2003).

Plaintiffs allege a host of deficiencies with Defendants' EA and FONSI. Their claims fall into two categories: (1) Defendants unlawfully segmented their decisionmaking and prejudged the environmental impacts of Amendment 4 to avoid preparing an EIS; and (2) Defendants failed to take a hard look at Amendment 4's environmental consequences.<sup>20</sup> Pls. Mot. 34–44.

#### 1. Segmented Decisionmaking & Prejudgment

Plaintiffs advance two arguments that Defendants' EA was procedurally improper. First, Plaintiffs claim that Defendants unlawfully divided certain actions between Amendments 4 and 5 in order to cast Amendment 4 as insignificant and escape the EIS requirement. Pls.' Mot. 38–39. Plaintiffs are correct that "[a]gencies may not evade their responsibilities under NEPA by artificially dividing a major federal action into smaller components, each without significant impact." *Jackson Cnty., N.C. v. FERC*, 589 F.3d 1284, 1290 (D.C.Cir.2009) (quoting *Coal. on Sensible Transp., Inc. v. Dole*, 826 F.2d 60, 68 (D.C.Cir.1987)); *see also* 40 C.F.R. § 1508.25(a)(1) ("Connected actions" are actions that are "closely related and therefore should be discussed in the same impact statement."). However,

"The rule against segmentation ... is not required to be applied in every situation. To determine the appropriate scope for an EIS, courts have considered such factors as whether the proposed segment (1) has logical termini; (2) has substantial independent utility; (3) does not foreclose the opportunity to consider alternatives, and (4) does not irretrievably commit federal funds for closely related projects."

*Jackson Cnty.*, 589 F.3d at 1290 (quoting *Taxpayers Watchdog, Inc. v. Stanley*, 819 F.2d 294, 298 (D.C.Cir.1987)).

There is no evidence whatsoever in the Administrative

Record that Defendants sought to escape their responsibilities under NEPA “by disingenuously describing [the Atlantic herring FMP] as only an amalgamation of unrelated smaller projects.” *Nat’l Wildlife Fed’n v. Appalachian Reg’l Comm’n*, 677 F.2d 883, 890 (D.C.Cir.1981). Although the Court has rejected the basis for NMFS’s decision not to consider certain issues before the 2011 statutory deadline, *supra* Part III.B.1., there is no suggestion that NMFS reduced the scope of Amendment 4 to avoid preparing an EIS. Amendment 4 sets out ACLs and AMs for Atlantic herring. Amendment 5 has been proposed to consider, *inter alia*, the composition of the fishery and updated monitoring systems. There is no doubt that Amendment 4 has logical termini, has substantial independent utility, does not foreclose future alternatives, and does not irretrievably commit federal funds for closely related projects. *Jackson Cnty.*, 589 F.3d at 1290.

\*28 Second, Plaintiffs argue that Defendants “unlawfully predetermined that only an EA would be necessary for Amendment 4.” Pls.’ Mot. 40. In this context, “predetermination occurs only when an agency *irreversibly and irretrievably* commits itself to a plan of action that is dependent upon the NEPA environmental analysis producing a certain outcome.” *Forest Guardians v. U.S. Fish and Wildlife Serv.*, 611 F.3d 692, 714 (10th Cir.2010) (emphasis in original); *see also Air Transp. Ass’n of Am., Inc. v. Nat’l Mediation Bd.*, 663 F.3d 476, 488 (D.C.Cir.2011) (“ ‘strong’ evidence of ‘unalterably closed minds’ [is] necessary to justify discovery into the Board’s decisionmaking process” on the basis of prejudice); *C & W Fish*, 931 F.2d at 1565 (“an individual should be disqualified from rulemaking ‘only when there has been a clear and convincing showing that the Department member has an unalterably closed mind on matters critical to the disposition of the proceeding.’ ”) (quoting *Ass’n of Nat’l Advertisers, Inc. v. FTC*, 627 F.2d 1151, 1170 (D.C.Cir.1979)).

Plaintiffs have not met the “high standard to prove predetermination.” *Forest Guardians*, 611 F.3d at 714. Plaintiffs’ only evidence that Defendants had unalterably closed minds is (1) the statement in the December 17, 2009 memorandum by NMFS’s Assistant Regional Administrator for Sustainable Fisheries that “I have determined that, based on our initial review of the proposed subject project and the criteria provided in Sections 5.04 and 6.03 d.2 of NAO 216–6, an environmental assessment is the appropriate level of NEPA review for that project,” AR 5639, and (2) the line in the December 28, 2009 Notice of Intent, announcing the narrowed scope of Amendment 4, that “the Council intends to prepare an EA for the action.” AR 5641. Neither of these statements rises to the level of

irreversibly or irretrievably committing NMFS to a certain course of action. *Forest Guardians*, 611 F.3d at 714. An administrator’s statement of an opinion, based upon review of the action’s subject matter and relevant regulatory guidance, suggests conscious thought rather than prejudice, and does not lead to the conclusion that the administrator would not change his or her mind upon review of the full EA.

In sum, Plaintiffs have failed to demonstrate that Defendants unlawfully avoided the responsibility of preparing an EIS by either improperly segmenting their actions or predetermining the outcome of the EA.

## 2. Hard Look

In order to pass muster under NEPA, Defendants’ EA and FONSI must have “taken a hard look at the problem.” *Van Antwerp*, 661 F.3d at 1154. Defendants argue that NMFS took a “hard look” at the environmental impact of its action, including the effects on relevant ecosystem components, the Atlantic herring stock, the essential fish habitat, protected species, and non-target/bycatch species, as well as economic and social impacts. Defs.’ Mot. 34–35 (citing AR 6032, 6185–201). Plaintiffs do not challenge these arguments. Rather, the thrust of Plaintiffs’ argument is that Defendants failed to consider the potential impact of reasonable alternatives. Pls.’ Mot. 36, 42–44.

\*29 Environmental Assessments must include a “brief discussion ... of alternatives ... [and] of the environmental impacts of the proposed action and alternatives.” 40 C.F.R. § 1508.9(b). In considering the analogous requirement for an EIS, our Court of Appeals explained that “the agency’s choice of alternatives are ... evaluated in light of [its reasonably identified and defined] objectives; an alternative is properly excluded from consideration in an environmental impact statement only if it would be reasonable for the agency to conclude that the alternative does not ‘bring about the ends of the federal action.’ ” *City of Alexandria, Va. v. Slater*, 198 F.3d 862, 867 (D.C.Cir.1999) (quoting *Citizens Against Burlington*, 938 F.2d at 195). Although an EA generally imposes less stringent requirements on an agency than an EIS, it is clear that an EA’s “hard look” must include consideration of reasonable alternatives. *Am. Oceans Campaign*, 183 F.Supp.2d at 19–20; *Citizens Exposing Truth About Casinos v. Norton*, No. CIV A 02–1754 TPJ, 2004 WL 5238116, at \*9 (D.D.C. Apr.23, 2004); *Fund for Animals v. Norton*, 281 F.Supp.2d 209, 225 (D.D.C.2003).

Plaintiffs argue that Defendants should have, but failed to

consider the impacts of (1) ACLs and AMs for river herring, (2) potential alternative ABC control rules, (3) potential improvements to the current monitoring system, and (4) alternatives for addressing bycatch. Pls.' Mot. 35–36, 43–44. As to the failure to consider ACLs or AMs for river herring<sup>21</sup> or alternatives for addressing bycatch, the Court concludes that, for the reasons stated *supra* Parts III.B–C, Defendants have failed to include a discussion of reasonable alternatives. 40 C.F.R. § 1508.9(b). Defendants have not provided a reasoned explanation for why they could not and did not consider these alternatives, which clearly would “bring about the ends of the federal action,” *City of Alexandria*, 198 F.3d at 867 (internal quotation omitted), which were “to bring the FMP into compliance with new [MSA] requirements” by setting ACLs and AMs. AR 6325.

As to alternatives to the ABC control rule and monitoring, Defendants argue that it was reasonable to delay further consideration until Amendment 5.<sup>22</sup> Defs.' Mot. 40–41. This response is unsatisfactory. A central function of NEPA's requirements is for the agency to consider environmental impacts “[b]efore approving a project.” *City of Alexandria*, 198 F.3d at 866. Therefore, delaying consideration of relevant and reasonable alternatives until a future date violates the “hard look” requirement. 40 C.F.R. § 1508.9(b); *Am. Oceans Campaign*, 183 F.Supp.2d at 19–20; *see also Found. on Econ. Trends v. Heckler*, 756 F.2d 143, 158 (D.C.Cir.1985) (“agency determinations about EIS requirements are supposed to be forward-looking”); *Nat'l Wildlife Fed'n*, 677 F.2d at 889 (“ ‘the basic function of an EIS is to serve as a forward-looking instrument to assist in evaluating proposals for major federal action’ ”) (quoting *Aersten v. Landrieu*, 637 F.2d 12, 19 (1st Cir.1980)).

\*30 More importantly, Defendants' EA demonstrates a total failure to consider the environmental impacts of alternatives to the proposed ABC control rule or AMs. The EA does contain a section entitled “Environmental Impacts of Management Alternatives,” but this section only compares the effects of the proposed ACL and AM rules to “no action” alternatives. AR 6037, 6185–95. As the EA itself admits, the “no action” alternative is in fact no alternative at all—taking no action would result in a plain violation of the MSA's ACL and AM requirements.<sup>23</sup> 16 U.S.C. § 1853(a)(15); AR 6185. Obviously, actions that would violate the MSA cannot be reasonable alternatives to consider. *Am. Oceans Campaign*, 183 F.Supp.2d at 20 (finding failure to consider reasonable alternatives where EAs did “not even consider any alternatives besides the status quo (which would violate the FCMA).”).

Equally conspicuous is the fact that while Amendment 4

does contain analysis of rejected alternatives in its substantive sections, there is no related consideration of environmental impacts in its Environmental Assessment. For example, the Council considered alternate ABC control rules, such as use of a one-year or five-year average for defining recent catch, and AMs, such as closure of management areas at a lower percentage of ACL, establishment of a threshold/trigger for an in-season adjustment to ACL, and establishment of a lower trigger for closing the fishery in the following year, to name a few. AR 6083–84, 6088. Tellingly, none of these alternatives receive any treatment in the Environmental Assessment.

In the absence of consideration of alternatives, the Court cannot say that Defendants took a “hard look” at Amendment 4's environmental impacts. 40 C.F.R. § 1508.9(b); *Van Antwerp*, 661 F.3d at 1154; *Am. Oceans Campaign*, 183 F.Supp.2d at 20. Therefore, Defendants' reliance on Amendment 4's EA and resulting FONSI was arbitrary and capricious. *Van Antwerp*, 661 F.3d at 1154; *Pub. Citizen*, 541 U.S. at 763.

#### G. Remedy

The question of the appropriate remedy in this case presents substantial complexities. Plaintiffs argue that the Court “has the power to design a remedy that both establishes a deadline and directs the Defendants to take specific actions to comply with the law” and that the Court ought to vacate Amendment 4. Pls.' Supp. Mem. 4–5. Defendants argue that Plaintiffs' requests “conflict [ ] with the law of this Circuit” and urge the Court to remand to the agency for further consideration. Defs.' Mot. 42. The question of remedy is further complicated by the fact that many of Amendment 4's deficiencies may be remedied by Amendment 5, which is already under consideration, with a targeted implementation date of January 1, 2013. Defs.' Mot., Ex. 2. At oral argument, the parties requested an opportunity to further brief the remedy issue, should Plaintiffs' prevail in any of their claims. Therefore, the Court will withhold judgment on the question of remedy. The accompanying Order contains a briefing schedule to resolve this issue.

#### IV. CONCLUSION

\*31 For the reasons set forth above, Plaintiffs' Motion for Summary Judgment is **granted in part and denied in part** and Defendants' Motion for Summary Judgment is **granted in part and denied in part**.

An Order will issue with this opinion.

United States District Court,  
District of Columbia.

1 Secretary Bryson is substituted for Gary Locke pursuant to Federal Rule of Civil Procedure 25(d).

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2 The Secretary of the Department of Commerce has delegated the authority and stewardship duties of fisheries management under the MSA to NMFS, an agency within the Department. Compl. ¶ 13. On behalf of the Secretary, NMFS reviews FMPs and FMP amendments and issues implementing regulations. *Id.*

3 The Act defines “conservation and management” as: all of the rules, regulations, conditions, methods, and other measures (A) which are required to rebuild, restore, or maintain, and which are useful in rebuilding, restoring, or maintaining, any fishery resource and the marine environment; and (B) which are designed to assure that—  
(i) a supply of food and other products may be taken, and that recreational benefits may be obtained, on a continuing basis;  
(ii) irreversible or long-term adverse effects on fishery resources and the marine environment are avoided; and  
(iii) there will be a multiplicity of options available with respect to future uses of these resources.

16 U.S.C. § 1802(5).

4 The MSRA sets an earlier deadline of “fishing year 2010 for fisheries determined by [NMFS] to be subject to overfishing.” Pub.L. No. 109-479, § 104(b), 120 Stat. 3575, 3584. The statute defines “overfishing” or “overfished” as “a rate or level of fishing mortality that jeopardizes the capacity of a fishery to produce the maximum sustainable yield on a continuing basis.” 16 U.S.C. § 1802(34). NMFS has not determined the Atlantic herring fishery to be overfished.

5 Defendants have not been consistent in explaining what sort of review NMFS must apply to the Council’s determination of the composition of a fishery. In their Motion, Defendants concede that NMFS must review FMPs and amendments for consistency with the National Standards and applicable law, but argue that “[t]he inclusion of a species not determined to be overfished in a fishery management unit is based on a variety of judgment calls left to the Council.” Defs.’ Mot. 15-16. Hence, Defendants appear to be arguing

that the Council’s decision to exclude a species from a fishery is unreviewable. Later, at oral argument, however, Defendants agreed that the Council’s decision must not be arbitrary or capricious.

6 For example, NMFS may develop its own FMP if a council fails to do so within a reasonable time for a fishery in need of conservation and management, or NMFS may order a council to take action to end overfishing and rebuild stocks if it finds that a fishery is overfished or approaching a condition of being overfished. 16 U.S.C. §§ 1854(c)(1), (e).

7 Defendants make much of the distinction that “as a legal matter, the Magnuson-Stevens Act requires that the overall fishery management plan be consistent with National Standard 9—not that each separate *amendment* contain measures to minimize bycatch.” Defs.’ Mot. 20 (citing 16 U.S.C. § 1851(a)(9)) (emphasis in original). While it may be correct that Amendment 4’s compliance with National Standard 9 should be viewed in the context of the entire FMP, it is also clear, as discussed earlier, that NMFS was required to review Amendment 4 “to determine whether it is consistent with the national standards.” 16 U.S.C. § 1854(a)(1)(A). Hence, NMFS’s review of Amendment 4 had to include some analysis of whether the FMP minimized bycatch “to the extent practicable.” *Id.* § 1851(a)(9). As discussed at length below, Defendants have identified nothing in the Administrative Record demonstrating such examination.

8 The haddock incidental catch cap specifies an “incidental haddock catch allowance” for the season for the herring fishery. AR 6153. In simple terms, when a vessel has reached the allowance for incidental haddock catch, it is prohibited from fishing for, possessing, or landing more than 2,000 pounds of herring per trip for the rest of the year. *Id.*

9 The paragraph in full reads:  
National Standard 9 states that bycatch must be minimized and that mortality of such bycatch must be minimized. As such, the Council made the decision to include only herring as a stock with the knowledge that other mechanisms exist to deal with non-targets [sic] species caught by the herring fishery. The amendment therefore specifies that bycatch is to be monitored and minimized accordingly. This amendment also includes the haddock catch cap, being implemented as an AM, which is another way in

which bycatch is considered and minimized without the haddock stock being defined as a part of the fishery. Furthermore, one of the objectives of Amendment 5 to the Atlantic Herring FMP, which is under development, is to develop a program which effectively and efficiently monitors bycatch and potentially acts to reduce it with collaboration from the fishing industry. The measure maximizes the flexibility provided to the Council so that it can utilize the best scientific information available at the time when the new amendment is implemented. For these reasons the Council decided that until such time that evidence is brought to the Council which indicates that another species needs to be added to the definition of a stock within the herring FMP in order to be managed acceptably, Atlantic herring will be the only defined stock in the fishery.

AR 6087.

- 10 Amendment 4 permits the Council to establish both an overall ACL for the Atlantic herring fishery, and sub-ACLs for specific management areas. AR 6072–73, 6090.
- 11 Even this first step entails a number of complex and technical calculations and analyses. For example, in order to determine an OFL, one must, among other things, consider (1) the Maximum Sustainable Yield (“MSY”), defined as “the largest long-term average catch or yield that can be taken from a stock or stock complex under prevailing ecological, environmental conditions and fishery technological characteristics ..., and the distribution of catch among fleets,” (2) the MSY fishing mortality rate (“Fmsy”), defined as “the fishing mortality rate that, if applied over the long term would result in MSY,” and (3) the MSY stock size (“Bmsy”), defined as “the long-term average size of the stock or stock complex, measured in terms of spawning biomass or other appropriate measure of the stock’s reproductive potential that would be achieved by fishing at Fmsy.” 50 C.F.R. § 600.310(e)(1)(i).
- 12 Again, the Court must emphasize that even this complex explanation, abridged for the purposes of comprehension, omits details of the considerably more complicated process. See 50 C.F.R. § 600.310(f).
- 13 Plaintiffs also object to Defendants’ adoption of an “Interim” ABC control rule. Pls.’ Mot. 22. Defendants correctly point out that “nothing in the MSA ... precludes the use of an interim rule” and, of course, all

ABC control rules are interim in the sense that the agency can, and should, revise their rules as superior or more recent information becomes available. Defs.’ Mot. 25 (emphasis in original). Perhaps most importantly, the decision to label the rule “interim” with the expectation that the Council can develop a new control rule in the 2013–2015 herring specifications based on a 2012 stock assessment was perfectly rational and supported by the Administrative Record. *C & W Fish*, 931 F.2d at 1562; see 76 Fed.Reg. 11373, 13375; AR 6088–89.

- 14 Plaintiffs claim that Defendants failed “to account for the role of forage in the ecosystem” when setting its ABC control rule. Pls.’ Mot. 25–27. However, the Council’s analysis of Amendment 4 states that Atlantic herring’s role as a forage species was an “Important Consideration” for the SSC and Council when considering the ABC control role and definition of ABC. AR 6051–52, 6054. Indeed, the Council selected the three-year average approach in part because it felt that it best accounted for “other factors identified by the SSC, including recruitment, biomass projections, and the importance of herring as a forage species.” *Id.* at 6088.
  - 15 Plaintiffs claim that since the 1990’s, “observer coverage has ranged from less than one percent of the total annual fishing trips taken in many years to roughly twenty percent in a handful of years.” Pls.’ Mot. 9 (citing AR 651, 653, 779). The only citation that supports this claim is a report by the Herring Alliance stating that the coverage rate “has fluctuated from 1 to 17 percent of total fishing trips since the mid–1990s, but are typically between 3 and 6 percent.” AR 779. Defendants state that this report, produced by “ ‘a coalition of environmental organizations that formed ... to protect and restore ocean wildlife ... by reforming the Atlantic herring fishery,’ “ is not peer-reviewed or approved by NMFS or the Atlantic States Marine Fisheries Commission. Defs.’ Mot. 8 n. 6 (quoting [www.herringalliance.org/about-our-work](http://www.herringalliance.org/about-our-work)).
- More importantly, the Herring Alliance’s estimate is contradicted by the data presented by the Maine Department of Marine Resources and Massachusetts Division of Marine Fisheries. That data demonstrates that 26% of trips were covered in 2005, 14% of trips in 2006, and 8% of trips in 2007, thus supporting Defendants’ claim of 16% annual coverage over the three-year period. AR 653.
- Plaintiffs also claim that “NMFS has never provided observer coverage levels sufficient to derive accurate catch and bycatch estimates.” Pls.’ Mot. 9 (citing AR 651, 653). Although one of the slides cited contains a line reading “Low samples [sic] sizes means power to detect low,” it is unclear how Plaintiffs concluded

that NMFS has never been able to derive accurate catch and bycatch estimates. AR 651.

will have to reassess this conclusion after taking a 'hard look' at Amendment 4's impacts.

16 According to Defendants, there were a total of three management area overages in the four Atlantic herring management areas between 2007 and 2010. Defs.' Reply, 18, 18 n. 20. In addition to the 38% overage Plaintiffs focus on, one management area experienced only a 1% overage in 2009 and another management area experienced only a 5% overage in 2010. Defs.' Reply, Ex. 2.

17 Plaintiffs actually cite to 50 C.F.R. § 600.310(g)(3), but both the language quoted and the relevant substance is contained in § 600.310(g)(2).

18 Defendants also point out in their briefing that "Federal dealer data is not finalized until the spring of the following year and state dealer data is finalized even later," and this data is used in confirming overage calculations. Defs.' Reply 21.

19 Regulations interpreting NEPA's EIS and EA requirements have been promulgated by the Council of Environmental Quality ("CEQ"). See 40 C.F.R. § 1500.1 *et seq.* Although "the binding effect of CEQ regulations is far from clear," *TOMAC v. Norton*, 433 F.3d at 861 (D.C.Cir.2006), both agencies and courts have consistently looked to them for guidance. See, e.g., *Sierra Club v. Van Antwerp*, 661 F.3d 1147, 1154-55 (D.C.Cir.2011); *Town of Cave Creek, Ariz. v. FAA*, 325 F.3d 320, 327-332 (D.C.Cir.2003); *Grand Canyon Trust v. FAA*, 290 F.3d 339, 341-42 (D.C.Cir.2002).

20 Because the Court concludes, for the reasons given below, that Defendants' failed to take a "hard look at the problem," *Van Antwerp*, 661 F.3d at 1154, it will not reach the third set of Plaintiffs' NEPA claims, namely that Defendants erroneously concluded that Amendment 4 will not have a significant environmental impact. Plaintiffs argue that Defendants failed to evaluate the cumulative impacts of Amendment 4, as they must when determining significance, and that Defendants' determination that the action had insignificant effects was in error. Pls.' Mot. 34-38, 41-42. Defendants' main response is that Amendment 4's adoption of an ABC control rule and AMs was procedural only, and did not substantively affect the fishery. Defs.' Mot. 39-40. In any case, Defendants

21 Defendants have directed the Court's attention to the decision in *Oceana*, 2011 WL 6357795. Defs.' Notice of Supp. Authority [Dkt. No. 25]. In that case, the court held that NEPA did not require NMFS to consider the composition of the fishery in its EIS. *Id.* at \*28-30. However, in *Oceana*, the court focused on the challenged amendment's purpose to implement " 'a broad range of measures designed to achieve mortality targets, provide opportunities to target healthy stocks, mitigate (to the extent possible) the economic impacts of the measures, and improve administration of the fishery,' " and concluded that the defendants acted within the scope of the amendment's objectives. *Id.* at \*29 (quoting the final amendment) (emphasis in *Oceana* ).

In contrast, in this case, Amendment 4's purpose is "to bring the FMP into compliance with new [MSA] requirements" by setting ACLs and AMs. AR 6325; see also AR 5640 (purpose of Amendment 4 is "to bring the FMP in compliance with [MSA] requirements to specify annual catch limits (ACLs) and accountability measures (AMs) ."). For the reasons spelled out above, *supra* part III.B, Defendants could not fulfill the purpose of their proposed Amendment 4 to comply with the strict new MSA requirements without giving some reason for their decision to name only Atlantic herring as a stock in the fishery.

22 Defendants also claim that it was proper to delay consideration of a permanent ABC control rule until obtaining "a proper scientific basis." Defs.' Mot. 41. This argument misses the point. Even if setting an "interim" ABC control rule, Defendants could have considered alternative interim ABC control rules. See Pls.' Mot. 43.


23 This is another reason that *Oceana* is not applicable to this case. In *Oceana*, the so-called " 'no-action' alternative" actually entailed using the MSY Control Rule as the ABC control, thereby fulfilling the MSA's mandate to set in place a process for establishing ACLs. 2011 WL 6357795, at \*31-35. By contrast, in this case, in Defendants' own words, "[u]nder the no action alternative no process for setting ACLs would be established" and therefore "the alternative fails to comply with the MSA or NSI Guidelines." AR 6185. Hence, in *Oceana*, the no action alternative was legally permissible, whereas for Amendment 4 the no action alternative is not a legally viable option.



End of Document

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**Filings (2)**

<b>Title</b>	<b>PDF</b>	<b>Court</b>	<b>Date</b>	<b>Type</b>
<b>1. Complaint for Declaratory and Injunctive Relief</b> Michael S. FLAHERTY, Captain Alan A. Hastbacka, Ocean River Institute, Plaintiffs, v. Gary LOCKE, in his official capacity as Secretary of the Department of Commerce, National Oceanic And Atmospheric Administration, National Marine Fisheries Service, Defendants. 2011 WL 1235745		D.D.C.	Apr. 1, 2011	Pleading
<b>2. Docket 1:11cv00660</b> FLAHERTY ET AL v. LOCKE ET AL	—	D.D.C.	Apr. 1, 2011	Docket



## Atlantic States Marine Fisheries Commission

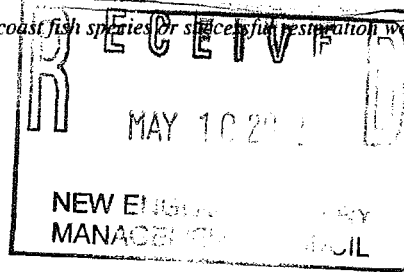
1050 N. Highland Street • Suite 200A-N • Arlington, VA 22201  
703.842.0740 • 703.842.0741 (fax) • www.asmf.org

Paul J. Diodati, (MA), Chair

Dr. Louis B. Daniel, III, (NC), Vice-Chair

John V. O'Shea, Executive Director

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



May 10, 2012

Daniel S. Morris  
Acting Regional Administrator  
NMFS, Northeast Regional Office  
55 Great Republic Drive  
Gloucester, Massachusetts 01930-2276

Dear Mr. Morris,

I am writing on behalf of the Atlantic States Marine Fisheries Commission to comment on Draft Amendment 5 to the Fishery Management Plan for Atlantic Herring (Amendment 5). The Commission held its Spring Meeting last week and developed comments based on the input from the Atlantic Herring Section and Shad and River Herring Management Board. The comments are attached.

Thank you for the opportunity to comment. We look forward to continuing to work with you and the New England Fisheries Management Council on the management of Atlantic herring and river herring.

Sincerely,

Handwritten signature of John V. O'Shea in black ink.  
John V. O'Shea

Attachments: ASMFC Comments to Draft Amendment 5

cc: Atlantic Herring Section  
Shad and River Herring Management Board  
Captain Paul Howard – NEFMC

MAINE • NEW HAMPSHIRE • MASSACHUSETTS • RHODE ISLAND • CONNECTICUT • NEW YORK • NEW JERSEY • DELAWARE  
PENNSYLVANIA • MARYLAND • VIRGINIA • NORTH CAROLINA • SOUTH CAROLINA • GEORGIA • FLORIDA

## **ATLANTIC STATES MARINE FISHERIES COMMISSION COMMENTS ON DRAFT AMENDMENT 5 TO THE FISHERY MANAGEMENT PLAN FOR ATLANTIC HERRING**

The Commission recommends that the New England and Mid-Atlantic Fishery Management Councils strive for the highest level of consistency possible in approving the final management measures in Amendments 5 and Draft Amendment 14 to the Atlantic Mackerel, Squid, and Butterfish Fishery Management Plan. Where consistency is not possible, the Councils should select measures that will provide the least amount of discord.

**3.1 ADJUSTMENTS TO THE FISHERY MANAGEMENT PROGRAM** – The Commission is supportive of any measures that will improve accuracy of catch reporting and ensure accounting for all species, including river herring, as well as reduce river herring bycatch where it is occurring. The Commission does not have any specific recommendations on Section 3.1.

### **3.2 CATCH MONITORING AT SEA**

**Observer Coverage (Section 3.2.1.2)** - The Commission recommends 100% observer coverage. The Commission recommends observer coverage be funded by Federal resources, but that phased-in cost sharing alternatives be considered and the differences in observer costs between the east and west coasts be examined.

**Measures to Improve Sampling (Section 3.2.2.1)** – The Commission recommends all of the measures (2A - 2F), under Section 3.2.2.1, be adopted to improve sampling by NMFS observers.

**States as Service Providers (Section 3.2.1.2.2)** – The Commission recommends authorization of all states in the Northeast Region as service providers for sea sampling on limited access Atlantic herring vessels, with state data collection standards and methods being consistent with NEFOP standards and methods for the herring fishery.

**Measures to Address Net Slippage (Section 3.2.3)**—The Commission supports measures that discourage and reduce net slippage.

### **3.3 RIVER HERRING BYCATCH**

**Observer Coverage (Section 3.3.2.2.1)** - The Commission recommends 100% observer coverage. The Commission recommends that observer coverage be funded by Federal resources, but that phased-in cost sharing alternatives be considered and the differences in observer costs between the east and west coasts be examined.

**Closed Area I Sampling Requirements (Section 3.3.2.2.2)** – The Commission supports the Closed Area I Sampling Provisions when fishing in the River Herring Monitoring/Avoidance Areas.

**SMAS/D MF/SFC Approach (Section 3.3.2.2.4)** – The Commission recommends support of the SMAS/D MF/SFC river herring bycatch avoidance program.

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Closed Area and Triggers (Section 3.3.3.2.1 and 3.3.3.2.2) - The Commission does not recommend the use of triggers as a management tool without a method to link the trigger to a peer reviewed biological estimate of coastwide river herring populations. However, if the NEFMC approves the use of closures in the areas/times are identified as River Herring Protection Areas, then these closures should be implemented through a trigger system rather than occurring automatically. The Commission notes the trigger levels presented in Draft Amendment 5 are based on levels of bycatch that have occurred in the past (2005-2009). Using this information in the development of a trigger may only sustain the current level of river herring bycatch, rather than reduce bycatch.

**3.4 MID-WATER TRAWL ACCESS TO GROUND FISH CLOSED AREAS** – The Commission is supportive of any measures that will improve the accuracy of catch reporting and ensure accounting for all species, including river herring, as well as reduces river herring bycatch where it is occurring. The Commission does not have any specific recommendations on Section 3.4.



**Joan O'Leary**

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**From:** HER Amendment5 <heramendment5@noaa.gov>  
**Sent:** Wednesday, May 23, 2012 2:08 PM  
**To:** Rachel A. Neild  
**Subject:** Fwd: Amendment 5

----- Forwarded message -----

**From:** **Mulcahy, Jeremiah** <jmulcha@entergy.com>  
**Date:** Tue, May 15, 2012 at 10:18 AM  
**Subject:** Amendment 5  
**To:** "heramendment5@noaa.gov" <heramendment5@noaa.gov>

Re: Herring Amendment 5 DEIS

Dear Carrie,

I am writing today to offer my comments on the Draft Environmental Impact Statement (DEIS) for Herring Amendment 5.

As a fisherman, I am greatly impacted by the management of the herring fishery. I have seen firsthand the negative impacts created by the large midwater trawlers for myself and everyone else in the region. For too long these boats have been able to fish with rules that are totally inadequate given the size and fishing power of the fleet. The Council must ensure that these problems are finally addressed when decisions are made for Amendment 5.

At minimum, the following actions should be approved:

- 100% observer coverage on Category A and B herring vessels in order to provide reliable estimates of all catch, including bycatch of river herring, cod, haddock, bluefin tuna, and other marine life (Section 3.2.1.2 Alternative 2).
- Closed Area I (CAI) provisions with trip termination after 10 dumping events in order to reduce dumping on Category A and B vessels. Given the nature of the gear being used in the fishery, it is critical that rules are put in place to make sure that unsampled dumping is not occurring. (Section 3.2.3.4 Alternative 4C)

- Prohibit herring midwater trawl vessels from fishing in Groundfish Closed Areas. These boats should have never been allowed in to begin with. (Section 3.4.4 Alternative 5)
- Implement measures to require weighing of catch across the fishery so that managers have accurate data on how much herring is being landed in the fishery. (Section 3.5.1 Option 2)

By taking these steps, the Council will be able to fix many of the most pressing problems in this fishery. Please do what is right and approve these measures.

Thanks for your time,

Capt Jeremiah Mulcahy

F/V Relentless



## Joan O'Leary

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**From:** HER Amendment5 <heramendment5@noaa.gov>  
**Sent:** Wednesday, May 23, 2012 2:08 PM  
**To:** Rachel A. Neild  
**Subject:** Fwd: Herring Regulation

----- Forwarded message -----

**From:** **john mccormick** <[pjmac1@comcast.net](mailto:pjmac1@comcast.net)>  
**Date:** Mon, May 21, 2012 at 8:54 AM  
**Subject:** Herring Regulation  
**To:** [heramendment5@noaa.gov](mailto:heramendment5@noaa.gov)

Ms. Carrie Nordeen  
National Marine Fisheries Service  
55 Great Republic Drive  
Gloucester, MA 01930

Re: Herring Amendment 5 DEIS

Dear Carrie,

I am writing today to offer my comments on the Draft Environmental Impact Statement (DEIS) for Herring Amendment 5.

As a fisherman, I am greatly impacted by the management of the herring fishery. I have seen firsthand the negative impacts created by the large midwater trawlers for myself and everyone else in the region. For too long these boats have been able to fish with rules that are totally inadequate given the size and fishing power of the fleet. The Council must ensure that these problems are finally addressed when decisions are made for Amendment 5.

At minimum, the following actions should be approved:

- 100% observer coverage on Category A and B herring vessels in order to provide reliable estimates of all catch, including bycatch of river herring, cod, haddock, bluefin tuna, and other marine life (Section 3.2.1.2 Alternative 2).
- Closed Area I (CAI) provisions with trip termination after 10 dumping events in order to reduce dumping on Category A and B vessels. Given the nature of the gear being used in the fishery, it is critical that rules are put in place to make sure that unsampled dumping is not occurring. (Section 3.2.3.4 Alternative 4C)

- Prohibit herring midwater trawl vessels from fishing in Groundfish Closed Areas. These boats should have never been allowed in to begin with. (Section 3.4.4 Alternative 5)
- Implement measures to require weighing of catch across the fishery so that managers have accurate data on how much herring is being landed in the fishery. (Section 3.5.1 Option 2)

By taking these steps, the Council will be able to fix many of the most pressing problems in this fishery. Please do what is right and approve these measures.

Thanks for your time,

W. John McCormick  
3 Blaisdell Road  
Westford, MA 01886

**Joan O'Leary**

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**From:** HER Amendment5 <heramendment5@noaa.gov>  
**Sent:** Wednesday, May 23, 2012 2:09 PM  
**To:** Rachel A. Neild  
**Subject:** Fwd: Comments on Draft Amendment

----- Forwarded message -----

**From:** **Timothy Holmes** <[timothygholmes@gmail.com](mailto:timothygholmes@gmail.com)>  
**Date:** Tue, May 22, 2012 at 2:00 PM  
**Subject:** Comments on Draft Amendment  
**To:** [heramendment5@noaa.gov](mailto:heramendment5@noaa.gov)

Dear Carrie,

I am writing today to offer my comments on the Draft Environmental Impact Statement (DEIS) for Herring Amendment 5.

As a fisherman, I am greatly impacted by the management of the herring fishery. I have seen firsthand the negative impacts created by the large midwater trawlers for myself and everyone else in the region. For too long these boats have been able to fish with rules that are totally inadequate given the size and fishing power of the fleet. The Council must ensure that these problems are finally addressed when decisions are made for Amendment 5.

At minimum, the following actions should be approved:

- 100% observer coverage on Category A and B herring vessels in order to provide reliable estimates of all catch, including bycatch of river herring, cod, haddock, bluefin tuna, and other marine life (Section 3.2.1.2 Alternative 2).
- Closed Area I (CAI) provisions with trip termination after 10 dumping events in order to reduce dumping on Category A and B vessels. Given the nature of the gear being used in the fishery, it is critical that rules are put in place to make sure that unsampled dumping is not occurring. (Section 3.2.3.4 Alternative 4C)
- Prohibit herring midwater trawl vessels from fishing in Groundfish Closed Areas. These boats should have never been allowed in to begin with. (Section 3.4.4 Alternative 5)
- Implement measures to require weighing of catch across the fishery so that managers have accurate data on how much herring is being landed in the fishery. (Section 3.5.1 Option 2)

By taking these steps, the Council will be able to fix many of the most pressing problems in this fishery. Please do what is right and approve these measures.

Thanks for your time,  
Tim Holmes

**Joan O'Leary**

---

**From:** HER Amendment5 <heramendment5@noaa.gov>  
**Sent:** Wednesday, May 23, 2012 2:09 PM  
**To:** Rachel A. Neild  
**Subject:** Fwd: NEFMC Herring Amendment 5

----- Forwarded message -----

**From:** Edward Markert <kurtmarkert@me.com>  
**Date:** Tue, May 22, 2012 at 11:52 AM  
**Subject:** NEFMC Herring Amendment 5  
**To:** [heramendment5@noaa.gov](mailto:heramendment5@noaa.gov)

Dear Sirs,

In regards to environmental Impact Statement (DEIS) for Herring Amendment 5 at a minimum, the following actions should be approved:

- 100% observer coverage on Category A and B herring vessels in order to provide reliable estimates of all catch, including bycatch of river herring, cod, haddock, bluefin tuna, and other marine life (Section 3.2.1.2 Alternative 2).
- Closed Area I (CAI) provisions with trip termination after 10 dumping events in order to reduce dumping on Category A and B vessels. Given the nature of the gear being used in the fishery, it is critical that rules are put in place to make sure that unsampled dumping is not occurring. (Section 3.2.3.4 Alternative 4C)
- Prohibit herring midwater trawl vessels from fishing in Groundfish Closed Areas. These boats should have never been allowed in to begin with. (Section 3.4.4 Alternative 5)
- Implement measures to require weighing of catch across the fishery so that managers have accurate data on how much herring is being landed in the fishery. (Section 3.5.1 Option 2)

By taking these steps, the Council will be able to fix many of the most pressing problems in this fishery. Please do what is right and approve these measures.

Thanks for your time,

Kurt & Michelle Markert

73 Washington Park

Newton, MA 02460

## Joan O'Leary

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**From:** HER Amendment5 <heramendment5@noaa.gov>  
**Sent:** Wednesday, May 23, 2012 2:09 PM  
**To:** Rachel A. Neild  
**Subject:** Fwd: Herring Amendment 5.

----- Forwarded message -----

**From:** <eldersinboston@msn.com>  
**Date:** Tue, May 22, 2012 at 8:59 AM  
**Subject:** Herring Amendment 5.  
**To:** [heramendment5@noaa.gov](mailto:heramendment5@noaa.gov)  
**Cc:** Bob Canzano <[bcanzano@me.com](mailto:bcanzano@me.com)>, Kurt Markert <[kurtmarkert@me.com](mailto:kurtmarkert@me.com)>

Dear Sirs,

In regards to environmental Impact Statement (DEIS) for Herring Amendment 5.

As fishermen, we are greatly impacted by the management of the herring fishery. I have seen firsthand the negative impacts created by the large midwater trawlers for myself and everyone else in the region. For too long these boats have been able to fish with rules that are totally inadequate given the size and fishing power of the fleet. The Council must ensure that these problems are finally addressed when decisions are made for Amendment 5.

At minimum, the following actions should be approved:

- 100% observer coverage on Category A and B herring vessels in order to provide reliable estimates of all catch, including bycatch of river herring, cod, haddock, bluefin tuna, and other marine life (Section 3.2.1.2 Alternative 2).
- Closed Area I (CAI) provisions with trip termination after 10 dumping events in order to reduce dumping on Category A and B vessels. Given the nature of the gear being used in the fishery, it is critical that rules are put in place to make sure that unsampled dumping is not occurring. (Section 3.2.3.4 Alternative 4C)
- Prohibit herring midwater trawl vessels from fishing in Groundfish Closed Areas. These boats should have never been allowed in to begin with. (Section 3.4.4 Alternative 5)
- Implement measures to require weighing of catch across the fishery so that managers have accurate data on how much herring is being landed in the fishery. (Section 3.5.1 Option 2)

By taking these steps, the Council will be able to fix many of the most pressing problems in this fishery. Please do what is right and approve these measures.

Thanks for your time,

Jim Elder

Jim & Christine Elder  
14 Mandalay Rd  
Newton, MA 02459

**Joan O'Leary**

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**From:** HER Amendment5 <heramendment5@noaa.gov>  
**Sent:** Wednesday, May 23, 2012 2:06 PM  
**To:** Rachel A. Neild  
**Subject:** Fwd: Fw: Herring Amendment 5, O'Shea

----- Forwarded message -----

From: <[cvonderweidt@asmfc.org](mailto:cvonderweidt@asmfc.org)>  
Date: Mon, Apr 23, 2012 at 2:15 PM  
Subject: Fw: Herring Amendment 5, O'Shea  
To: [valarry@jetbroadband.com](mailto:valarry@jetbroadband.com), [HerAmendment5@noaa.gov](mailto:HerAmendment5@noaa.gov)  
Cc: [KTaylor@asmfc.org](mailto:KTaylor@asmfc.org), Lori Steele <[LSteele@nefmc.org](mailto:LSteele@nefmc.org)>

Mr. Chewning,

This is a follow up to an email you sent the ASMFC regarding Amendment 5 to the Herring FMP. Amendment 5 was developed by the New England Fishery Management Council and accordingly, they are who you should submit public comment to. The email address for comment is [HerAmendment5@noaa.gov](mailto:HerAmendment5@noaa.gov)

Further information on Amendment 5 can be found at the following websites:

<http://nero.noaa.gov/nero/regs/com.html>  
<http://www.nefmc.org/herring/index.html>

Best,  
Chris

The new contact information is:

\*\*\*\*\*

Christopher M. Vonderweidt  
Fisheries Management Plan Coordinator  
Atlantic States Marine Fisheries Commission  
1050 N. Highland St., Suite 200 A-N  
Arlington VA, 22201  
Phone: (703)-842-0740  
Fax: (703)-842-0741  
\*\*\*\*\*

From: "VA Larry" <[valarry@jetbroadband.com](mailto:valarry@jetbroadband.com)>  
To: <[info@asmfc.org](mailto:info@asmfc.org)>  
Date: 04/08/2012 08:29 PM  
Subject: Herring Amendment 5, O'Shea

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Dear: Mr O'Shea

I am a recreational fishermen writing to express my concern about the loss of our river fishing culture and heritage.

This is due in large part to poorly managed industrial fishing and the damage it inflicts on the ocean ecosystem, especially to river herring. Populations of these fish have declined by 99 percent in some areas, and are so depleted that they are being considered for protection under the Endangered Species Act.

Atlantic states now ban the harvest of river herring in coastal waters, even to the point of prohibiting anyone from catching one for food or bait. Yet astoundingly, no protections have been extended to these fish in the open ocean, where they are taken by the millions for profit by the industrial fishery.

This is unacceptable and represents a significant setback in the ongoing efforts to restore alewife and blueback herring. Every year, states and their agents, communities and individuals throughout the Atlantic invest significant time and resources to restore their river herring runs. The New England Fishery Management Council must support, not undermine, these efforts.

As the council finalizes its revision to the Atlantic Herring Fishery Management Plan, I strongly urge you to approve a comprehensive monitoring and bycatch-reduction program that incorporates the following management actions:

- \* A catch limit, or cap, on the total amount of river herring caught in the Atlantic herring fishery (Section 3.3.5, modified to require immediate implementation of a catch cap).
- \* 100 percent at-sea monitoring on all midwater trawl fishing trips in order to provide reliable estimates of all catch, including bycatch of depleted river herring and other marine life (Section 3.2.1.2 Alternative 2).
- \* An accountability system to discourage the wasteful slippage, or dumping, of catch, including a fleetwide limit of five slippage events for each herring management area, after which any slippage event would require a return to port (Section 3.2.3.4 Option 4D).
- \* A ban on herring mid-water trawling in areas established to promote rebuilding of groundfish populations (Section 3.4.4 Alternative 5).
- \* A requirement to accurately report all catch (Section 3.1.5).

Thank you for considering my comments and for your continued commitment to improving management of the Atlantic herring fishery.

Larry Chewning  
1645 Austin Mill Rd  
Evington Va 24550  
[valarry@jetbroadband.com](mailto:valarry@jetbroadband.com)

May 14th, 2012

Ms. Carrie Nordeen  
National Marine Fisheries Service  
55 Great Republic Drive  
Gloucester, MA 01930

Re: Herring Amendment 5 DEIS

Dear Carrie,

I am writing today to offer my comments on the Draft Environmental Impact Statement (DEIS) for Herring Amendment 5.

As a fisherman, I am greatly impacted by the management of the herring fishery. I have seen firsthand the negative impacts created by the large midwater trawlers for myself and everyone else in the region. For too long these boats have been able to fish with rules that are totally inadequate given the size and fishing power of the fleet. The Council must ensure that these problems are finally addressed when decisions are made for Amendment 5.

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- Prohibit herring midwater trawl vessels from fishing in Groundfish Closed Areas. These boats should have never been allowed in to begin with. (Section 3.4.4 Alternative 5)
- Implement measures to require weighing of catch across the fishery so that managers have accurate data on how much herring is being landed in the fishery. (Section 3.5.1 Option 2)

By taking these steps, the Council will be able to fix many of the most pressing problems in this fishery. Please do what is right and approve these measures.

Thanks for your time,

Cody Hallett

236 south st.

Plainville, Ma 02762

508 509 6067



**Joan O'Leary**

---

**From:** HER Amendment5 <heramendment5@noaa.gov>  
**Sent:** Wednesday, May 23, 2012 2:07 PM  
**To:** Rachel A. Neild  
**Subject:** Fwd: Comments on Herring amendments  
**Attachments:** May 14th Herring Comment.docx

----- Forwarded message -----

**From:** **Cody Hallett** <[cody-1012@hotmail.com](mailto:cody-1012@hotmail.com)>  
**Date:** Mon, May 14, 2012 at 7:35 AM  
**Subject:** Comments on Herring amendments  
**To:** [heramendment5@noaa.gov](mailto:heramendment5@noaa.gov)

Attached is a file regarding the herring amendments

**Joan O'Leary**

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**From:** HER Amendment5 <heramendment5@noaa.gov>  
**Sent:** Wednesday, May 23, 2012 2:07 PM  
**To:** Rachel A. Neild  
**Subject:** Fwd: Comments on Herring amendments  
**Attachments:** May 14th Herring Comment.docx

----- Forwarded message -----

**From:** **Cody Hallett** <cody-1012@hotmail.com>  
**Date:** Mon, May 14, 2012 at 7:35 AM  
**Subject:** Comments on Herring amendments  
**To:** [heramendment5@noaa.gov](mailto:heramendment5@noaa.gov)

Attached is a file regarding the herring amendments

**Joan O'Leary**

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*Conserving Ocean Fish and Their Environment  
Since 1973*

May 24, 2012

Paul J. Howard, Executive Director  
New England Fishery Management Council  
50 Water Street, Mill 2  
Newburyport, MA 01950

**RE: Amendment 5 to the Atlantic Herring FMP**

Dear Mr. Howard,

On behalf of the National Coalition for Marine Conservation (NCMC), I respectfully submit the following recommendations for the New England Council to consider as it selects final alternatives for Amendment 5 to the Fishery Management Plan for Atlantic Herring (Amendment 5). NCMC advocates for management policies that prioritize protecting the ecological role of forage fish in the ecosystem, and we are pleased that the objectives for Amendment 5 recognize that the health of the herring resource and its important role in the food web are to be considered in meeting other plan objectives (see Amendment 5 DEIS, Objective IV, p.14).

Through enhanced catch monitoring and accountability and through minimization of incidental catch and discards, more Atlantic herring, river herring and other forage species will be available for the many predators that need them, benefiting northeast ecosystems as well as New England's commercial and recreational fisheries.

**NCMC strongly supports the following as high priority alternatives to meet Amendment 5 objectives:**

- **Modified 3.3.5: Implement a river herring and shad catch cap in the Atlantic herring fishery through Amendment 5 to begin in the 2013 fishing year. River Herring Protection Areas (Alternative 3.3.3.2.1) should be implemented as an interim measure if the Council cannot implement the mortality cap for next year.**
- **3.2.1.2 with Funding Option 2: Require 100% observer coverage on limited access Category A & B vessels with supplemental industry funding as needed to achieve the desired coverage level.**

- **3.2.3.4 with Option 4D: Closed Area I provisions with an allowance of 5 slippage events per herring management area after which slippage would result in trip termination.**
- **3.1.5.2: Require dealers to accurately weigh all fish.**
- **3.4.4: Closing the year-round groundfish closed areas to midwater trawl vessels.**

As the timelines for Amendment 5 and the Mid-Atlantic Council's Amendment 14 to the Atlantic Mackerel, Squid and Butterfish Fishery Management Plan (MSB FMP) have aligned, analyses have shed light on the overlap between the Atlantic herring and Atlantic mackerel trawl fisheries and the need for consistency between the councils' respective FMPs in order to effectively meet goals and objectives (see Amendment 5 DEIS, Table 190, p. 507). Fortunately, the diverse suite of Amendment 5 alternatives offers an opportunity for coordination in several critical areas.

Below we provide recommendations for improving consistency between Amendments 5 and 14 to enhance the effectiveness of their respective management measures, as well as additional information to support the high priority alternatives identified above.

### **Proposed Adjustments to the Fishery Management Program (Section 3.1)**

NCMC supports improving the efficiency, timeliness and accuracy of vessel and dealer reporting so as to improve catch records and the precision of incidental catch estimates, which are extrapolations based on total reported landing. Consistent with our recommendations for Amendment 14, we support the following: (Note: Our comments follow the alternative descriptions and are in *italics*)

- **3.1.4.2: Modifications to the Pre-Trip Notification System (for Observers):** In order to possess, harvest, or land herring, representatives for Category A, B, and C fishing vessels, as well as Category D vessels fishing with midwater trawl gear in Areas 1A, 1B, and/or 3, must provide notice to NMFS through the pre-trip notification system at least 48 hours prior to beginning the trip.
- **3.1.4.3: Extend Pre-Landing Notification Requirement:** Require limited access herring vessels and herring carrier vessels that opt to use VMS (see Section 3.1.3.2) to notify NMFS Law Enforcement via VMS of the time and place of offloading at least six hours prior to crossing the VMS demarcation line on their return trip to port (or six hours prior to landing if the vessel does not fish seaward of the demarcation line).
- **3.1.5.2: Require Dealers to Accurately Weigh All Fish**
  - **Sub-options 2A and 2B:** Dealers that do not sort by species could document in applications their method for estimating the composition of a mixed catch. If this method cannot be applied to a particular transaction, dealers should be able to apply an appropriate methodology as long as they document that method with the transaction.

*We view this set of alternatives as working together to provide for efficiency and flexibility.*

- **Sub-option 2C:** This sub-option would require federally permitted Atlantic herring dealers to obtain vessel representative confirmation of SAFIS transaction records to minimize data entry errors at the first point of sale.
- 
- **Modified 3.1.6.1: Mackerel Option 1: No Action**

*We do not believe sufficient information is presented in the Amendment 5 DEIS to indicate that the current open access limit of 3 metric tons (mt) is promoting discards of Atlantic herring by mackerel vessels in areas 2 and 3 or is preventing mackerel vessels from fishing. We agree with the PDT's concerns that "increased opportunities in these areas should be made with adequate consideration of overall fleet capacity and the long-term effects of overcapacity (Amendment 5 DEIS, p. 358)." Therefore, if the Council moves ahead with either Option 2 or Option 3, we strongly recommend that the increase apply to **Tier 1 and Tier 2** federal limited access mackerel permits ONLY. As indicated in Table 29 (Amendment 5 DEIS, p. 169), approximately 2 mackerel Tier 1 vessels and 26 mackerel Tier 2 vessels hold "D" Atlantic herring permits. If Tier 3 limited access vessels were included, an additional 182 vessels would qualify for the increase.*

### **Catch Monitoring at Sea (Section 3.2)**

NCMC recommends increasing at-sea observer coverage levels, with supplementary industry funding as needed, and enhanced protocols to ensure that observers have access to all catch for sampling in order to improve precision in river herring and shad incidental catch estimates and minimize catch that observers record as "Herring Not Known (NK)" and "Fish Not Known (NK)." We support:

- **3.2.1.2 with Funding Option 2: Require 100% observer coverage on limited access Category A & B vessels with supplemental industry funding as needed to achieve the desired coverage level.**

*About thirty A and B vessels are active in the Atlantic herring fishery and account for the vast majority (97-99%) of landings (Amendment 5 DEIS, Table 49, p. 225 and Table 61, p. 238). Over 60% of Category A/B vessels are greater than 80 ft in length (Amendment 5 DEIS, p. 235). Given the high volume nature of these vessels, and the fact that incidental catch events of imperiled river herring and shad can be rare but quite large when they occur, 100% coverage is necessary for an accurate accounting of incidental catch. Because industry funding will be necessary to achieve coverage levels above the status quo, it is important to distribute the observer cost burden equitably among fishery participants, imposing the highest coverage levels on the vessels that derive the most benefit from the Atlantic herring fishery. In 2010, C vessel revenues from herring were \$150,000 compared to \$18.4 million for A and B vessels (Amendment 5 DEIS, Table 52, p. 231).*

***We oppose Option 2 under “Provisions for Utilizing Observer Service Providers and Authorizing Waivers.” We note that the Northeast Fisheries Observer Program supports the no action alternative to ensure that state agencies adhere to the same requirements as other service providers.<sup>1</sup> Provisions specified in 50 CFR 648.11(h) and (i) are important for maintaining the current high-quality standards for observer hiring and training and for data collection and dissemination, and we oppose exempting states from these requirements.***

- **3.2.2.2 Option 2: Implement Additional Measures to Improve Sampling.**

*We support this suite of measures (2A, 2B, 2C, 2D, 2E and 2F) designed to facilitate and improve sampling by at-sea observers. We recommend striking the words “wherever/whenever possible” from alternative 2D as it leaves too much ambiguity regarding the exceptions to this important requirement. The majority of Fish NK records are associated with fish that are pumped to the paired trawl vessel not carrying the observer (Amendment 5 DEIS, p. 418). Between July 2009 and June 2010 over 5.7 million pounds of catch was recorded as Fish NK in the observer database.<sup>2</sup>*

- **3.2.3.4 with Option 4D: Closed Area I provisions with an allowance of 5 slippage events per herring management area after which slippage would result in trip termination.**

*The Council must clarify that “Closed Area I (CA1) provisions” in this alternative are based on the November 30, 2010 Rule (CFR § 648.80) as described in alternative 3.2.3.3 and would apply to operational discards. Of the 929 observed hauls in the herring fishery in 2010, over one-third (332 records) included fish not brought on board for sampling, amounting to over 24,000 lbs of Herring NK and 418,000 lbs of Fish NK recorded by observers (Amendment 5 DEIS, pp. 414- 415). The majority of these records were attributable to operational discards. CA1 regulations, which require operational discards be brought aboard for sampling, have been highly effective with no observed slippage events recorded in 2010 (Amendment 5 DEIS, p. 414). However, the effectiveness of this measure is likely due to an accountability measure tied to the requirements which is that a vessel is required to stop fishing and exit Closed Area I if it releases an un-sampled net. Given the three exceptions provided for under CA1 provisions, permitting 5 slippage events per herring management area before slippage results in trip termination seems to be a reasonable balance that would deter slippage without being unduly penalizing.*

### **Management Measures to Address River Herring Bycatch (Section 3.3)**

Lack of consistency between Amendment 5 and Amendment 14 would inhibit the effectiveness of efforts to reduce incidental catch of depleted river herring and shad<sup>3</sup>, species

<sup>1</sup> Amendment 5, Volume II, Appendix III

<sup>2</sup>NEFSC. Standardized Bycatch Reporting Methodology Annual Discard Report 2011: Section 2, p. 189. [http://www.nefsc.noaa.gov/fsb/SBRM/2011/SBRM\\_Annual\\_Discard\\_Rpt\\_2011\\_Section2.pdf](http://www.nefsc.noaa.gov/fsb/SBRM/2011/SBRM_Annual_Discard_Rpt_2011_Section2.pdf)

<sup>3</sup> The ASMFC lists the status of American shad, alewife and blueback herring as depleted in accordance with the most recent stock assessments for these species.

ASMFC. August 2007. Stock Assessment Report No. 07-01 (Supplement) of the Atlantic States Marine Fisheries Commission: American Shad Stock Assessment for Peer Review, Volume 1.



currently not afforded the protection of required federal conservation and management standards.<sup>4</sup> The Council should take immediate action to add blueback herring, alewife, American shad, and hickory shad to the Atlantic Herring FMP because these stocks are without question involved *in the fishery* and are in need of conservation and management.<sup>5</sup> In the interim, we urge the New England Council to coordinate with the Mid-Atlantic Council to implement an effective joint strategy for reducing incidental catch of river herring and shad from recent levels. The following alternatives should be adopted:

- **Modified 3.3.5: Implement a river herring and shad catch cap in the Atlantic herring fishery through Amendment 5 to begin in the 2013 fishing year. The cap level would be determined through specifications.**

*According to analyses conducted for Amendment 14, the midwater trawl fishery for Atlantic herring and Atlantic mackerel accounts for 71% of combined river herring and shad incidental catch.<sup>6</sup> Amendment 14 incidental cap alternatives discuss a joint cap on the mackerel and herring fleets (i.e., a fleet-area cap) as providing the greatest benefit to river herring and shad.<sup>7</sup>*

*Alternative 3.3.5 is tied to the completion of the Atlantic States Marine Fisheries Commission (ASMFC) river herring stock assessment, which has now been peer-reviewed and approved by the ASMFC Shad & River Herring Management Board for management use.<sup>8</sup> Coastwide, river herring populations are depleted to historic lows.<sup>9</sup> While the assessment did not provide reference points for the coastwide river herring complex, it did provide management advice to justify an incidental catch cap. The Peer Review Panel concluded that total mortality levels in all runs examined surpassed the recommended benchmark and called for all sources of mortality to be addressed, including ocean bycatch.<sup>10</sup>*

*The fact that immature fish comprise a large portion of at-sea catch was also flagged as a concern by the Peer Review Panel.<sup>11</sup> Of the roughly 5 million river herring taken at sea every year, many are immature. The majority of the 600,000 American shad taken are also juveniles.<sup>12</sup> The “spawn-at-least-once” principle suggests that sustainability is secured if fish become vulnerable to commercial gears only after they have spawned.*

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ASMFC. May 2012. Stock Assessment Report No. 12-02 of the Atlantic States Marine Fisheries Commission: River Herring Benchmark Stock Assessment, Volume 1.

<sup>4</sup> 16 U.S.C. §§ 1853(a)(2); 1852(h)(1). See also *Flaherty v. Bryson*, 2012 WL 752323 (D.D.C. Mar. 9, 2012).

<sup>5</sup> See *Flaherty v. Bryson*, 2012 WL 752323 (D.D.C. Mar. 9, 2012), 16 U.S.C. § 1852(h)(1), and 50 C.F.R. § 600.310(d)(1)

<sup>6</sup> MAFMC. Amendment 14 to the Atlantic Mackerel, Squid and Butterfish Fishery Management Plan including Draft Environmental Impact Statement (Amendment 14 DEIS), Appendix 2, Table 3, p. 581.

<sup>7</sup> MAFMC. Amendment 14 DEIS, p. 162.

<sup>8</sup> ASMFC. Spring 2012 Meeting Summary.

<sup>9</sup> ASMFC. May 2012. Stock Assessment Report No. 12-02 of the Atlantic States Marine Fisheries Commission: River Herring Benchmark Stock Assessment, Volume 1.

<sup>10</sup> *Ibid.*, p. 29

<sup>11</sup> *Ibid.*, pp. 15-16

<sup>12</sup> MAFMC. Amendment 14 DEIS, p. 111.

*Research shows that high fishing mortality on immature fish has a significant negative effect on stock status.*<sup>13</sup>

*American shad stocks are also depleted to historic lows, as referenced in the Amendment 5 DEIS (p. 159). In the 2007 American shad assessment, coast-wide declining trends raised flags that ocean mortality was having a serious impact, and the stock assessment peer review team, noting the limited data on ocean bycatch in particular, listed bycatch monitoring as a high priority for future action.*<sup>14</sup> *The Gulf of Maine, where the Atlantic herring fishery operates, is an important summer feeding ground for mixed stock aggregations of American shad.*<sup>15</sup>

***A combined river herring and shad (i.e., alosine) fleet/area cap would afford a measure of protection to all alosine species as we seek more precise estimates of incidental catch with increased observer coverage and more robust sampling.*** *Given the current paucity of data, high CVs around species-specific incidental catch estimates may be problematic.*<sup>16</sup> *As data improve, the Councils could determine through their specifications process if the cap should be further delineated by species. At minimum, an initial alosine catch cap based on recent catch levels would ensure bycatch does not increase as states work to halt declines and rebuild river herring and shad stocks.*

***We are opposed to Alternative 3.3.2.2.4 for meeting the goal of reducing incidental river herring/shad catch.*** *Bycatch avoidance programs are only effective if there is incentive to avoid the bycatch. A similar project employed in the scallop fishery has proven successful at reducing yellowtail flounder bycatch because there is a yellowtail flounder cap that the scallop fishermen must avoid hitting in order to fish; therefore, there is a strong incentive for all fishermen to participate in the effort. The establishment of river herring/shad caps should be a prerequisite for Council support of industry bycatch avoidance tools.*

- **3.3.3.2.1: Closed Areas: Prohibit directed fishing for herring in the area/times that are identified as River Herring Protection Areas, with exemptions for vessels not fishing with fine mesh (with Options for Exemptions, alternative 3.3.3.2.3).**

***We support closing the River Herring Protection Areas as an interim measure until a more robust cap strategy is implemented.*** *Based on the analyses provided in Amendment 5, Volume II, we believe closing these areas will provide a measure of needed relief to river herring and shad populations in the short-term. However, the distribution of these species is likely too variable for these small closed areas to be effective in the long-term.*<sup>17</sup> ***We oppose the sub-option that would provide a mechanism for limited access herring vessels to declare out of the fishery and avoid***

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<sup>13</sup> Vasilakopoulos, P., O'Neill, F. G., and Marshall, C. T. 2011. Misspent youth: does catching immature fish affect fisheries sustainability? – ICES Journal of Marine Science, 68: 1525–1534.

<sup>14</sup> ASMFC American Shad Stock Assessment Peer Review Panel. Stock Assessment Report No. 07-01 of the Atlantic States Marine Fisheries Commission, *Terms of Reference & Advisory Report to the American Shad Stock Assessment Peer Review*. Conducted on July 16-20, 2007, Alexandria, Virginia.

<sup>15</sup> ASMFC. January 2009. Atlantic Coast Diadromous Fish Habitat: A Review of Utilization, Threats, Recommendations for Conservation, and Research Needs. ASMFC Habitat Management Series #9. ([http://www.asmfc.org/publications/habitat/diadromousSpeciesSourceDocByChapter/HMS9\\_Diadromous\\_Habitat\\_2009.pdf](http://www.asmfc.org/publications/habitat/diadromousSpeciesSourceDocByChapter/HMS9_Diadromous_Habitat_2009.pdf))

<sup>16</sup> MAFMC. Amendment 14 DEIS, Appendix 2, sub Appendix 1, Tables A2 and A3 , pp. 622-627

<sup>17</sup> MAFMC. Amendment 14 DEIS, Appendix 2, pp. 577-578

*having to comply with the closed areas. We believe alternatives 3.3.3.2.1 and 3.3.3.2.3 already provide for appropriate exemptions, although exemptions under 3.3.3.2.1 could be further clarified to include vessels not fishing with mesh gear (e.g., hook and line). The sub-option would weaken the closed areas by creating loopholes for complying with the measure. If adopted, the NEFMC should request the Mid-Atlantic Council to take complementary action through Amendment 14. All small-mesh gear types capable of significant river herring bycatch should be prohibited from fishing in the closed areas regardless of the target species.*

**Management Measures to Address Midwater Trawl Access to Groundfish Closed Areas (Section 3.4)**

- **3.4.4 Groundfish Alternative 5: Closed Areas: The year-round groundfish closed areas would be closed to midwater trawl vessels.**

*The groundfish closed areas were designed to protect sensitive groundfish spawning grounds as well as reduce fishing mortality on groundfish. Groundfish fishermen have sacrificed their access to these areas for these important conservation benefits, and it is inappropriate for the Council to continue to allow midwater trawl vessels access to these areas knowing that significant bycatch of groundfish will occur. Consideration must also be given to the foraging needs of groundfish and the impacts of localized depletion of forage fish by permitting industrial-scale harvest of herring in these special areas. For example, cod feeding is linked to spawning and other bio-energetic processes and is timed to coincide with migrations of Atlantic herring and other forage fish.<sup>18</sup> Since mackerel have been harvested by midwater trawl vessels fishing within the closed areas, (Amendment 5 DEIS, Table 185, p. 491) all midwater trawl vessels should be prohibited, not just those that have not declared out of the fishery.*

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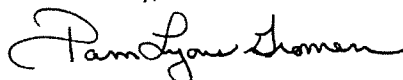
A key objective of Amendment 5 is to monitor and minimize incidental catch in the herring fisheries, particularly bycatch of river herring and shad. The ASMFC Interstate FMP for these species mandates the closure of state fisheries for shad and river herring unless the state can demonstrate that its fishery is sustainable. As a result, the majority of states have already implemented river herring moratoriums. Limits on fishing for American shad are imminent for 2013. Some of these closures are due to inadequate resources to monitor the fisheries and document sustainability. The burden of proof rests entirely on the shoulders of river herring and shad fishermen, the same men and women who in many cases are actively engaged in efforts to improve water quality and restore habitat and fish passage. There is no such burden of proof on fisheries catching river herring and shad in federal waters. Despite insufficient monitoring and data to prove that levels of incidental catch are sustainable, the catch in federal fisheries is for all intents and purposes unrestricted.

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<sup>18</sup> Smith, B. E., Ligenza, T. J., Almeida, F. P. and Link, J. S. (2007), The trophic ecology of Atlantic cod: insights from tri-monthly, localized scales of sampling. *Journal of Fish Biology*, 71: 749–762.

Depleted to historic lows, river herring and shad are in serious need of conservation and management in federal waters. Alewife and blueback herring are under review for a threatened listing under the Endangered Species Act.<sup>19</sup> Because of their shared role in the food web, the health of the Atlantic herring, river herring and shad resources are inextricably linked. Therefore, effective management of the Atlantic herring fisheries hinges on taking into account these ecological relationships. By adopting robust monitoring and incidental catch measures to better account for and protect forage species, the New England Council will be taking an important step forward in its move to an ecosystem-based approach to fisheries management.

Sincerely,



Pam Lyons Gromen  
Executive Director

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<sup>19</sup>Listing Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition To List Alewife and Blueback Herring as Threatened Under the Endangered Species Act, " 76 Federal Register 212 (02 November 2011), pp 67652-67656.

May 29, 2012



Daniel Morris, Regional Administrator  
NOAA Fisheries Service, Northeast Regional Office  
55 Great Republic Drive  
Gloucester, Massachusetts 01930-2276  
Re: Comments on Draft Herring Amendment 5

Dear Mr. Morris,

I appreciate the opportunity to comment on the management measures proposed in Amendment 5 to the Atlantic Herring Fishery Management Plan and am writing today in support of the actions below. I believe that adopting these actions will be instrumental in improving the management of the Atlantic Herring resource-the cornerstone of New England's commercial fisheries. Since the initiation of the first Amendment, the Cape Cod Commercial Hook Fishermen's Association has tried to improve management of this fishery the only way possible: with accurate and verified catch reporting. Despite these efforts, there has been a serious decline in the Atlantic Herring resource and we find ourselves no better equipped to address this issue than a decade ago. Put simply, there is no replacement for complete catch data.

The process of implementing Amendment 5 has been long; it was first initiated in 2007, sparked by concern over the inadequacy of much needed information regarding the herring fishery. To date, the data has been inconsistent and of varying quality, which has only underscored the problem. It has not served you as managers of our resource, nor the public. Now that we are approaching the final decision, I hope the Council will take steps to improve the quality of decision-making in the future. In particular, I see a strong need for 100% observer coverage on Category A and B midwater trawl vessels, limitations on dumping with real consequences, and accurate reporting of all landed catch. The Council should also revisit regulations granting these vessels access to groundfish closed areas, and establish additional measures to protect declining River Herring stocks.

- 100% Observer Coverage on Category A and B Herring Vessels (Section 3.2.1 Alternative 2)

The Category A and B herring fleet is comprised of a small number of efficient, high-volume midwater trawl vessels responsible for catching roughly 98% of the herring landed annually. These vessels use large nets with small, 2-inch mesh to target herring, a forage stock also targeted by cod, pollock, tuna, and bass. As such, it is not surprising that midwater trawl vessels experience gear interactions with these commercially important species, and it is absolutely essential that we quantify the extent to which this occurs. Current observer coverage is insufficient when considering the scale of these operations and the repercussions of large bycatch events. For this reason, requiring 100% observer coverage is common practice among high-volume fishing fleets worldwide.

With this in mind, I urge the Council to adopt a comprehensive catch monitoring program and pursue all cost-saving opportunities available to make it affordable for NMFS and the herring industry. One option to reduce costs is through the approval of non-governmental 3<sup>rd</sup> party observer providers, which would minimize the financial burden of funding observer coverage.

**Protecting a resource, a tradition, and a way of life.**

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- Closed Area I Provisions with Trip Termination after Ten Events (Section 3.2.3.4 Option 4C)

A comprehensive monitoring program documenting all catch in the herring fishery must include discards, but industry dumping practices make that impossible. To address this shortcoming, I urge the Council to adopt Closed Area I provisions for all limited access herring trips.

These provisions have been successful at safely discouraging dumping practices in Closed Area I thus far, and incorporating disincentives in the form of dumping event limits with trip termination as a consequence will only serve to strengthen this action. This measure, in combination with 100% observer coverage, will provide a much needed understanding of catch composition in this fishery.

- Accurate Weighing and Reporting of Catch (Section 3.5.1 Option 2)

It is impossible to effectively manage a fishery of this magnitude without knowing the actual quantity of fish harvested. I hope that the Council will establish long-overdue regulations requiring the herring fishery to abide by the same standards as other New England fisheries and accurately weigh its catch.

- Discontinue Access to Groundfish Closed Areas for Herring Vessels (Section 3.4.4 Alternative 5)

Existing regulations permit midwater trawl vessels to fish in areas known to be critical for struggling groundfish populations. Since the decision to grant the fleet access to these areas, there have been continued concerns about its impact on groundfish mortality and spawning aggregations. Allowing herring vessels continued access to these areas conflicts with the rebuilding of groundfish stocks, and negates the sacrifice being made by New England's groundfish fleet.

- Creation of a River Herring Catch Cap (Section 3.3.5)

River Herring stocks in New England are depleted and in dire need of additional protections. It is the Council's responsibility to develop measures reducing gear interactions with these stocks. While it may not be feasible to address this need fully in Amendment 5, the Council should strive for progress by initiating measures, such as a River Herring catch cap. A science-based cap on bycatch is the best solution to protect River Herring in the long run. Below that cap, I trust the Council, the herring industry, and the National Marine Fisheries Service to identify the best methods available for effectively managing this stock.

Unanswerable questions and anecdotal information have dominated discussion surrounding this management plan. I hope the Council will recognize that Amendment 5 presents an important opportunity for them to recommend much needed catch monitoring and accountability measures intended to better regulate the fishery and protect the Atlantic herring resource. I urge the Council to seize this opportunity and establish rules that will ensure the longevity of the herring resource for fish and fishermen alike.

Thank you for your attention to this important issue.

Sincerely,



John Pappalardo

**Protecting a resource, a tradition, and a way of life.**



**New England  
Aquarium**

*Protecting the blue planet*

May 31, 2012

Paul Howard, Executive Director  
New England Fishery Management Council  
50 Water Street, Newburyport, MA 01950

Re: Comments on the Draft Environmental Impact Statement for Amendment 5 to the Atlantic Herring Fishery Management Plan

Dear Mr. Howard:

The New England Aquarium supports the adoption of progressive, conservation-oriented management measures to improve monitoring, minimize interactions, and facilitate recovery of river herring populations in New England. Consistent with that goal, we provide the following comments concerning specific management options proposed in the Draft Environmental Impact Statement (DEIS) for Amendment 5 to the Atlantic Herring Fishery Management Plan (FMP).

The New England Aquarium is one of the most prominent and popular aquariums in the United States, with more than 1.3 million people visiting our exhibits annually. We are a global leader in ocean exploration and marine conservation with research scientists working around the world for the preservation and sustainable use of aquatic resources. In New England, we have been actively working with a range of diverse stakeholders to protect marine and coastal ecosystems from adverse human impacts, and to conserve vulnerable animals and habitats, for more than thirty years.

In a letter to the Council dated September 20, 2011, the New England Aquarium asked the Council to consider approving for public comment the full range of management alternatives developed in draft Amendment 5. We applaud the Council for doing so and thus demonstrating its commitment to and support of meaningful reform of the Atlantic herring fishery.

As stated in our previous letter, we are particularly concerned with the depletion and lack of recovery of river herring populations throughout New England and elsewhere along the Atlantic coast. As such, we now urge the Council to consider adopting measures to improve monitoring and minimize interactions with river herring. Specifically, we support:

- 100% at-sea monitoring on all midwater trawl fishing trips in order to provide reliable estimates of Atlantic herring catch and bycatch of river herring, shad, groundfish and other non-target species.
- A prohibition on herring fishing in areas and times identified for river herring protection (e.g., river herring bycatch "hot spots") to protect river herring and the predators that depend on their coastal migrations.
- A catch cap on the amount of river herring that can be caught in the Atlantic herring fishery to be implemented as soon as is practicable.
- A prohibition on herring midwater trawling in areas established to protect rebuilding groundfish populations.
- A requirement to bring *all* catch aboard fishing vessels to ensure accurate sampling by an independent observer and establishment of accountability measures to mitigate release or dumping of unsampled catch.

Additionally, we support continued collaborative research on river herring bycatch avoidance and the use of innovative fisheries financing strategies to fund current and future research and monitoring efforts.

We believe this effort to establish greater certainty and accountability within the Atlantic herring fishery is an important step in the recovery of river herring. We appreciate your consideration of these comments. Please do not hesitate to contact us if you have any questions or need more information.

Sincerely,

Bud Ris, President and Chief Executive Officer





## Joan O'Leary

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**From:** HER Amendment5 <heramendment5@noaa.gov>  
**Sent:** Friday, June 01, 2012 10:05 AM  
**To:** Rachel A. Neild  
**Subject:** Fwd: Amendment 5 comment

----- Forwarded message -----

**From:** **Seth Lattrell** <[slattrell@bournece.com](mailto:slattrell@bournece.com)>  
**Date:** Tue, May 29, 2012 at 8:44 AM  
**Subject:** Amendment 5 comment  
**To:** [heramendment5@noaa.gov](mailto:heramendment5@noaa.gov)

May 13th, 2012

Ms. Carrie Nordeen  
National Marine Fisheries Service  
55 Great Republic Drive  
Gloucester, MA 01930

Re: Herring Amendment 5 DEIS

Dear Carrie,

I am writing today to offer my comments on the Draft Environmental Impact Statement (DEIS) for Herring Amendment 5.

I've spent 11 years as a commercial fisherman, 2 years as a writer for a commercial fisheries publication, and now 6 months as an environmental consultant, so I have seen this issue from multiple angles. The council needs to take a stand and realign their priorities in compliance with the Magnuson Stevens Act. Manage the fishery, not the personal agenda of any leadership or businesses. This is a critical moment and a crucial amendment for the future of fisheries in the northeast, please treat it as such and make the decision that is of the greatest benefit to both the ecosystem and the majority of the industry.

At minimum, the following actions should be approved:

- 100% observer coverage on Category A and B herring vessels in order to provide reliable estimates of all catch, including bycatch of river herring, cod, haddock, bluefin tuna, and other marine life (Section 3.2.1.2 Alternative 2).
- Closed Area I (CAI) provisions with trip termination after 10 dumping events in order to reduce dumping on Category A and B vessels. Given the nature of the gear being used in the fishery, it is critical that rules are put in place to make sure that unsampled dumping is not occurring. (Section 3.2.3.4 Alternative 4C)
- Prohibit herring midwater trawl vessels from fishing in Groundfish Closed Areas. These boats should have never been allowed in to begin with. (Section 3.4.4 Alternative 5)
- Implement measures to require weighing of catch across the fishery so that managers have accurate



data on how much herring is being landed in the fishery. (Section 3.5.1 Option 2)

By taking these steps, the Council will be able to fix many of the most pressing problems in this fishery. Please do what is right and approve these measures.

Thanks for your time,

Sincerely,

Seth Lattrell

*Regulatory/Permitting Specialist*

**BOURNE CONSULTING ENGINEERING**

3 Bent Street

Franklin MA, 02038

*(508) 533-6666 (Phone)*

[Slattrell@bournece.com](mailto:Slattrell@bournece.com)



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**From:** Earthjustice <action@earthjustice.org> on behalf of M McGillivary  
**Sent:** Monday, March 19, 2012 7:28 PM  
**To:** comments  
**Subject:** Comments on Draft Amendment 5

Example of 3-113 Batch  
Emails Rec'd to date

*updated 3/19/12*

Mar 19, 2012

Captain Paul Howard, New England Fishery Management Council  
50 Water Street, Mill #2  
Newburyport, MA 01950

Dear Captain Howard, New England Fishery Management Council,

I am writing to express my concern about poorly managed industrial fishing and the damage it inflicts on the ocean ecosystem. Inadequate monitoring, unmanaged catch of river herring, continued killing of groundfish within closures designed to protect them, and the wasteful practice of dumping are significant and pressing concerns.

I am especially concerned about populations of river herring, which have declined by 99 percent and are so depleted that they are being considered for protection under the Endangered Species Act.

Most Atlantic states now ban the harvest of river herring in coastal waters, even to the point of prohibiting children from netting one for bait. Yet astoundingly, no protections have been extended to these fish in the open ocean, where they are taken by the millions as profitable bycatch in the industrial fishery targeting a different species, Atlantic herring.

This is unacceptable and represents a significant setback in the ongoing efforts to restore alewife and blueback herring. Every year, states and communities throughout New England invest significant time and resources to restore their river herring runs. The New England Fishery Management Council must support, not undermine, these efforts.

Your revision to the Atlantic Herring Fishery Management Plan must address these issues and bring greater accountability and oversight to the industrial trawl fleet. I strongly urge you to approve a comprehensive monitoring and bycatch-reduction program that incorporates the following management actions:

- \* A catch limit, or cap, on the total amount of river herring caught in the Atlantic herring fishery (Section 3.3.5, modified to require immediate implementation of a catch cap).
- \* 100 percent at-sea monitoring on all mid-water trawl fishing trips in order to provide reliable estimates of all catch, including bycatch of depleted river herring and other marine life (Section 3.2.1.2 Alternative 2).
- \* An accountability system to discourage the wasteful slippage, or dumping, of catch, including a fleetwide limit of five slippage events for each herring management area, after which any slippage event would require a return to port (Section 3.2.3.4 Option 4D).
- \* A ban on herring mid-water trawling in areas established to promote rebuilding of groundfish populations (Section 3.4.4 Alternative 5).
- \* A requirement to accurately weigh and report all catch (Section 3.1.5 Option 2).

Thank you for considering my comments and for your continued commitment to improving management of the Atlantic herring fishery.

Sincerely,

M McGillivary

Eugene, OR 97401



Joan O'Leary

Example of 642 Batch  
Emails Rec'd to date

**From:** HER Amendment5 <heramendment5@noaa.gov>  
**Sent:** Friday, June 01, 2012 12:39 PM  
**To:** Rachel A. Neild  
**Subject:** Fwd: Comments on Draft Amendment

----- Forwarded message -----

**From:** Timothy Holmes <timothygholmes@gmail.com>  
**Date:** Tue, May 22, 2012 at 2:00 PM  
**Subject:** Comments on Draft Amendment  
**To:** [heramendment5@noaa.gov](mailto:heramendment5@noaa.gov)

Dear Carrie,

I am writing today to offer my comments on the Draft Environmental Impact Statement (DEIS) for Herring Amendment 5.

As a fisherman, I am greatly impacted by the management of the herring fishery. I have seen firsthand the negative impacts created by the large midwater trawlers for myself and everyone else in the region. For too long these boats have been able to fish with rules that are totally inadequate given the size and fishing power of the fleet. The Council must ensure that these problems are finally addressed when decisions are made for Amendment 5.

At minimum, the following actions should be approved:

- 100% observer coverage on Category A and B herring vessels in order to provide reliable estimates of all catch, including bycatch of river herring, cod, haddock, bluefin tuna, and other marine life (Section 3.2.1.2 Alternative 2).
- Closed Area I (CAI) provisions with trip termination after 10 dumping events in order to reduce dumping on Category A and B vessels. Given the nature of the gear being used in the fishery, it is critical that rules are put in place to make sure that unsampled dumping is not occurring. (Section 3.2.3.4 Alternative 4C)
- Prohibit herring midwater trawl vessels from fishing in Groundfish Closed Areas. These boats should have never been allowed in to begin with. (Section 3.4.4 Alternative 5)
- Implement measures to require weighing of catch across the fishery so that managers have accurate data on how much herring is being landed in the fishery. (Section 3.5.1 Option 2)

By taking these steps, the Council will be able to fix many of the most pressing problems in this fishery. Please do what is right and approve these measures.

Thanks for your time,  
Tim Holmes

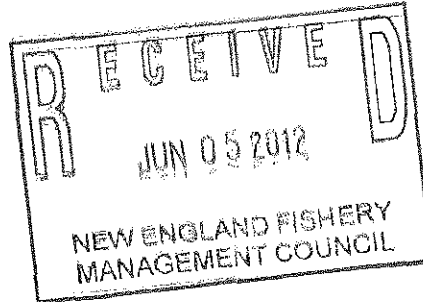




RICHARD SHANAHAN  
5 SHORE DRIVE  
BRANFORD, CT 06405

June 1, 2012

Captain Paul J. Howard  
Executive Director  
New England Fishery Management Council  
50 Water Street  
Newburyport, MA 01950



Dear Capt. Howard:

The undersigned organizations – representing a broad range of conservation groups, watershed associations, anglers, and recreational enthusiasts working to protect and restore Long Island Sound and its tributaries – urge you to request that Connecticut’s representatives at the New England Fishery Management Council (NEFMC) adopt the strongest possible protections for river herring in the Atlantic herring fishery.

Long Island Sound’s rivers and waterways once supported prolific runs of alewife and blueback herring, but in recent decades the number of fish returning to rivers each year has dramatically declined, to the point that they are now being considered for listing under the Endangered Species Act<sup>1</sup>. According to the Connecticut Department of Energy and Environmental Protection (DEEP), millions of river herring once returned annually to Connecticut, but environmental officials say that by 2006, only 21 passed the Holyoke Dam on the Connecticut River<sup>2</sup>. According to the Long Island Sound National Estuary Program, herring populations have declined precipitously in all Long Island Sound rivers over the past few decades.<sup>3</sup> Today, their numbers have dwindled to the point that monitoring this spring (between March and May 1, 2012) at 13 coastal rivers, generally considered to be the State’s most productive herring river runs, recorded a total number of alewife and blueback herring of less than 500,000.<sup>4</sup>

River herring – both alewife and blueback herring – are a key component of the food web of the Sound. Not only are they critical forage food for our major Sound game fish – striped bass and blue fish – but a wide array of coastal birds and other wildlife feed on a combination of adult or young herring. For this reason, our organizations, in collaboration with the Connecticut DEEP and the New York Department of Environmental Conservation, have worked diligently to open rivers and streams that feed into the Sound, with substantial success. This public-private partnership has already opened up more than 150 miles of valuable freshwater spawning habitat that was previously blocked by dams. In addition, we continue to support the State of New York’s exploration, and the State of Connecticut’s continued renewal, of a moratorium on river herring harvest in the Sound. While we do everything we can to open up more breeding habitat and conserve herring in our coastal areas, this alone is not enough. We know our herring spend most of their adult life in the north Atlantic. Therefore, their recovery is dependent on your Council providing strong protections for herring throughout this north Atlantic area.

<sup>1</sup> NOAA Release, November 1, 2011, announcing consideration of listing river herring under ESA

<sup>2</sup> CT DEEP Press Release of April 3, 2012, announcing continuation of ban on river herring harvest.

<sup>3</sup> Long Island Sound Study, *Sound Update*, May/June 2009

<sup>4</sup> CT DEEP, Weekly Diadromous Fish Report, May 1, 2012



We believe that ocean bycatch is a significant concern, a finding that was recently confirmed by the 2012 River Herring Stock Assessment and Peer Review. Data obtained by the Northeast Fisheries Observer Program shows that between 2 and 5 million alewife and blueback herring were caught annually between 2005 and 2010, with the majority taken in the single and paired midwater trawl fishery for Atlantic herring in New England<sup>5</sup>. In some instances, hundreds of thousands of river herring have been removed in single net tows<sup>6</sup>. Considering that up to a half million river herring can be destroyed by a single net tow, this is the rough equivalent of the total number of river herring monitored this spring passing up 13 of Long Island Sound's most productive rivers.<sup>7</sup> These statistics are alarming and warrant immediate management measures that will promote the conservation and recovery of these species. To this end, we offer the following recommendations to improve monitoring and limit catch of river herring in the Atlantic herring fishery.

**Set a limit on river herring catch:** As mentioned above, the recent stock assessment concluded that ocean catch of river herring can be substantial, amounting to millions of fish caught each year. As a federally-listed species of concern and candidates for listing under the Endangered Species Act, river herring should be given the strongest protections possible, including setting a limit in the next fishing year.

**Support 100% monitoring on all midwater trawl vessels:** Single and pair midwater trawling for herring has raised serious concerns in the region due to their enormous catching capacity and potential impacts to depleted river herring and the overall health and productivity of the marine ecosystem. Comprehensive catch monitoring, including a requirement for scientific observers on all midwater trawlers, will greatly enhance data collection and lead to better estimates of all catch, including bycatch of river herring.

**Strengthen accountability on dumping of unmonitored catch:** The dumping of unobserved catch (i.e., release or slipping catch at sea) should be minimized to the maximum extent practicable to support accurate sampling and catch reporting. Herring vessels should be required to make all catch available for sampling by an observer. Strong accountability measures, such as limiting the fleet to five slipped catch events per management area, should be adopted as a disincentive to dumping catch at sea.

**Require weighing and reporting of all catch:** All catch delivered to port should be weighed and independently verified to ensure accurate reporting and assessment of bycatch.

We appreciate your consideration of our concerns and thank you for your continued leadership and commitment to the sustainable management and conservation of our State's natural resources.

Sincerely,



Richard Shanahan

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<sup>5</sup> River Herring Benchmark Assessment Report, May 2012

<sup>6</sup> Data obtained from the Northeast Fisheries Observer Program

<sup>7</sup> CT DEEP, Weekly Diadromous Fish Report, May 1, 2012



Curt Johnson  
Program Director  
Save the Sound, a program of Connecticut Fund for the Environment

Andrienne Esposito  
Executive Director  
Citizens Campaign for the Environment

Sandy Breslin  
Director of Governmental Affairs  
Audubon Connecticut

Daniel Snyder, PhD.  
Shoreline Shellfish, LLC and Sound Marine Skills, Inc.

Chantal E. Collier  
Director, Long Island Sound Program  
The Nature Conservancy

Albert E. Caccese  
Executive Director  
Audubon New York

Tim Visel  
Coordinator  
The Sound School

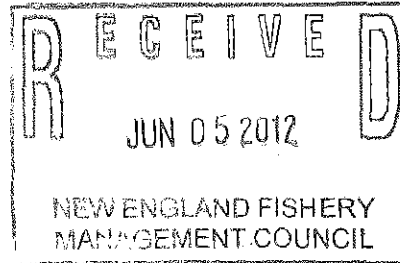
Margaret Miner  
Executive Director  
Rivers Alliance of CT



**TOM CLEVELAND**  
**75 Garnet Park Road**  
**Madison, CT 06443**

June 1, 2012

Captain Paul J. Howard  
Executive Director  
New England Fishery Management Council  
50 Water Street  
Newburyport, MA 01950



Dear Captain Howard:

I want to urge you to support mandatory federal or state monitoring of all mid-water trawling to protect the river herring populations in the New England areas. I have worked for 15 years with the CT DEEP and land trusts and other conservation groups here in the New Haven area putting up fish ladders and taking down dams and other impediments to migration.

All of the work and investment in these fresh water migratory corridors will be for nought if the trawlers are allowed to continue to vacuum up the herring while they are at sea.

This year was a disappointing year for one of the fishways on which I have worked, the Branford Supply Pond fishway. We opened it up in April 2006 with 3,000 fish counted going through the fish ladder. The watershed that was opened has about 50 acres of pond habitat and 5 miles of stream habitat. When the Class of 2006 came back in April 2010, we counted 40,000 fish! All over the place!

But this year, we counted 600 fish! And we believe that the time has come for you to do something about the offshore management of the herring fishery. If we have to have higher prices for lobster or pet food, so be it. If the trawler owners have to scale back operations, so be it.

Thank you for your consideration.

Tom Cleveland

203-981-9040

tgcleve@yahoo.com





Executive Director  
James A. Donofrio



May 24<sup>th</sup>, 2012

Ms. Carrie Nordeen  
National Marine Fisheries Service  
55 Great Republic Drive  
Gloucester, MA 01930

Dear Ms. Nordeen:

On behalf of the Recreational Fishing Alliance, a national 501(c)(4) grassroots political action organization that has been representing individual sport fishermen and the sport fishing industry since 1996, I would like to submit the following comments in regards to the Environmental Impact Statement (EIS) for Herring Amendment 5

The herring resource supports almost every other fishery in our fishery and therefore management of this species is critical to many thousands of RFA members here in New England. Since this process began, we have been calling for the Council to finally address the many outstanding issues within the herring fishery, especially in regards to the large single and pair midwater trawlers. Now that the time for final decisions has come, we urge the Council to do the following:

First, the Council should require 100% observer coverage on the Category A and B vessels that catch roughly 98% of the quota. (Section 3.2.1.2 Alternative 2). Where boats of this size and power are allowed elsewhere in the country, at least 100% coverage is required, and the same should be true here.

Second, the Council should implement Closed Area I (CAI) provisions with trip termination after 10 events on Category A and B vessels (Section 3.2.3.4 Alternative 4C). Until the Council implements dumping accountability measures with real teeth, all data collected in this fishery will be suspect. By requiring the above measure, the Council will ensure that it has accurate data on this fishery.

Third, the Council should implement catch weighing across the fishery. (Section 3.5.1 Option 2). Given the importance of this resource there is absolutely no reason that we should be relying on self-reported estimated of landings.

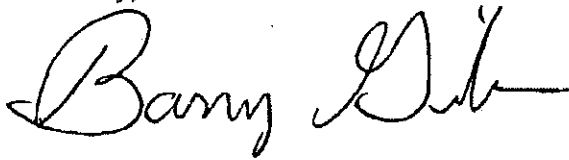
Lastly, the Council should rescind access for midwater trawlers to groundfish closed areas. (Section 3.4.4 Alternative 5). Everyone knows these boats can and do tow near bottom and catch groundfish. As such, they should not be allowed into the closed areas,

especially given the current status of cod and haddock and the stringent rules being placed on directed groundfish vessels.

This amendment has taken five years to produce and it is finally time for the Council to make the right decisions to ensure that this fishery is better managed. This resource is too important to be managing inadequately.

Thank you very much for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Barry Gibson". The signature is written in a cursive, flowing style with a long horizontal stroke at the end.

Barry Gibson, New England Director  
Recreational Fishing Alliance  
19 Royall Rd.  
East Boothbay, ME 04544

May 24th, 2012

Ms. Carrie Nordeen  
National Marine Fisheries Service  
55 Great Republic Drive  
Gloucester, MA 01930

Re: Herring Amendment 5 EIS

Dear Carrie,

I am writing today to offer my comments on the Environmental Impact Statement (EIS) for Herring Amendment 5.

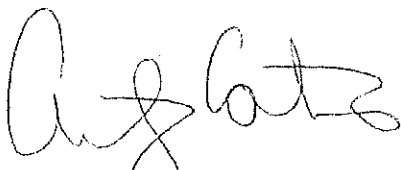
As a fisherman, I am greatly impacted by the management of the herring fishery. I have seen firsthand the negative impacts created by the large midwater trawlers for myself and everyone else in the region. For too long these boats have been able to fish with rules that are totally inadequate given the size and fishing power of the fleet. The Council must ensure that these problems are finally addressed when decisions are made for Amendment 5.

At minimum, the following actions should be approved:

- 100% observer coverage on Category A and B herring vessels in order to provide reliable estimates of all catch, including bycatch of river herring, cod, haddock, bluefin tuna, and other marine life (Section 3.2.1.2 Alternative 2).
- Closed Area I (CAI) provisions with trip termination after 10 dumping events in order to reduce dumping on Category A and B vessels. Given the nature of the gear being used in the fishery, it is critical that rules are put in place to make sure that unsampled dumping is not occurring. (Section 3.2.3.4 Alternative 4C)
- Prohibit herring midwater trawl vessels from fishing in Groundfish Closed Areas. These boats should have never been allowed in to begin with. (Section 3.4.4 Alternative 5)
- Implement measures to require weighing of catch across the fishery so that managers have accurate data on how much herring is being landed in the fishery. (Section 3.5.1 Option 2)

By taking these steps, the Council will be able to fix many of the most pressing problems in this fishery. Please do what is right and approve these measures.

Thanks for your time,



ED MAY 28 2012



Mr. Daniel Morris  
Acting Regional Administrator/Northeast Region  
National Marine Fisheries Service  
55 Great Republic Drive  
Gloucester, MA 01930-2298

May 17, 2012

George  
5/22/12: Pete C.  
Aya  
Carrie  
Lindely

I am writing because the Mid-Atlantic Fishery Management Council will meet in June to decide how to protect river herring and American shad at sea and I ask your help to save these treasured species.

River herring and shad play an immensely important role in the health of our coastal ecosystems. As food for larger fish, they help sustain commercial and recreational fisheries on the East Coast and contribute to the economies of many coastal river towns. Now, they are in critical condition because their populations have declined by more than 97 percent.

You can help secure the first meaningful protections for these fish in the ocean. Millions are caught each year, mostly by industrial trawlers targeting Atlantic mackerel. These massive boats tow football field-size nets and indiscriminately kill millions of pounds of unintended catch annually, including river herring, shad, bluefin tuna, cod, haddock, and striped bass, as well as whales, dolphins, and seabirds. For years, our coastal communities have worked tirelessly to restore culturally and economically significant species such as river herring and shad to rivers along the Atlantic coast. At the same time, the incidental catch of millions of river herring and shad annually by the mid-Atlantic mackerel and squid fisheries remains largely unmonitored and unregulated. I am deeply concerned about this serious, ongoing threat to these already-depleted species that undermines our efforts to restore our estuaries and rivers.

I have read that river herring and shad populations are at historic lows and have declined coast wide by 99 and 97 percent, respectively. In response to this, most Atlantic states prohibit the taking of river herring in coastal waters and are advancing similar restrictions on American shad. These populations are in dire need of conservation and management, so it is critical that they are given protection in federal waters under Amendment 14 to the Atlantic Mackerel, Squid, and Butterfish Fishery Management Plan.

In light of the depleted status of these fish, I agree with those who ask the Council to choose the option with the most positive biological impact.

**Inclusion of river herring and shad as stocks within the fishery. (Alternative 9b-9e).**

Developing the long-term protections associated with designating river herring and shad as stocks in the fishery will take time. Therefore, the Council should adopt the following interim measure to immediately reduce and limit the at-sea catch of river herring and shad: A catch cap, effective in 2013 (**Alternative 6b-6c**) that functions effectively, does not increase wasteful discarding, and cannot be circumvented by simply declaring into another fishery. These alternatives should be modified to more effectively ensure that directed mackerel fishing stops if a cap is reached by lowering the amount of mackerel that can be fished for, possessed or retained.

Also, I urgently ask you to incorporate all of the following:

- One hundred percent at-sea monitoring on all mid-water trawl fishing trips. One observer must be assigned to each vessel in a pair trawl operation. (**Alternative 5b4 and Alternative 3d**).
- An accountability system to discourage the wasteful dumping of unsampled catch. All catch, including "operational discards," must be made available to fishery observers for systematic sampling (**Alternative 3j with operational discards prohibited**). If dumping is allowed, include a fleet wide limit of ten dumping events (**Alternative 3l and 3n**) and require vessels that dump to take an observer on their next trip (**Alternative 3o**).
- A requirement to weigh all catch. (**Alternative 2c-2f**).

Currently, millions of pounds of river herring, American shad and other fish are scooped up indiscriminately by industrial trawlers targeting Atlantic mackerel. Massive boats tow football field-size nets that pick up fish, whales, dolphins, seabirds -- anything in their path. It is time to rein in these massive trawlers, and restore balance to the Atlantic.

Thank you for your commitment to these priority reforms and the health of our waters.

Yours truly,



J. Capozzelli, New York

MAY 21 2012



May 18, 2012

Ms. Carrie Nordeen  
National Marine Fisheries Service  
55 Great Republic Drive  
Gloucester, MA 01930

Re: Herring Amendment 5 DEIS

Dear Carrie,

I am writing today to offer my comments on the Draft Environmental Impact Statement (DEIS) for Herring Amendment 5.

I would like my grandchildren to be able to enjoy and experience the ocean as I have.

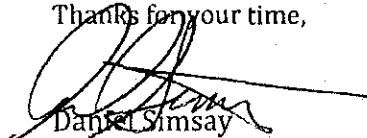
As a fisherman, I am greatly impacted by the management of the herring fishery. I have seen firsthand the negative impacts created by the large mid-water trawlers for myself and everyone else in the region. For too long these boats have been able to fish with rules that are totally inadequate given the size and fishing power of the fleet. The Council must ensure that these issues are finally addressed when decisions are made for Amendment 5.

At minimum, the following actions should be approved:

- 100% observer coverage on Category A and B herring vessels in order to provide reliable estimates of all catch, including bycatch of river herring, cod, haddock, bluefin tuna, and other marine life (Section 3.2.1.2 Alternative 2).
- Closed Area I (CAI) provisions with trip termination after 10 dumping events in order to reduce dumping by Category A and B vessels. Given the nature of the gear being used in the fishery, it is critical that rules are put in place to make sure that unsampled dumping is not occurring. (Section 3.2.3.4 Alternative 4C)
- Prohibit herring mid-water trawl vessels from fishing in Groundfish Closed Areas. These boats should have never been allowed into these areas. (Section 3.4.4 Alternative 5)
- Implement measures to require weighing of catch across the fishery so that managers have accurate data on how much herring is being landed in the fishery. (Section 3.5.1 Option 2)

By taking these steps, the Council will be able to remedy many of the most pressing issues in this fishery. Please do what is right and approve these measures.

Thanks for your time,

  
Daniel Simsay

RECEIVED MAY 28 2012







SFD  
George  
5/25 cc: Pete C  
Aja  
Carrie  
Lindsey

5-12-12

Mr. Daniel Morris  
Deputy Regional Administrator  
NMFS  
55 Great Republic Dr.  
Gloucester, Mass. 01930

Dear Mr. Morris:

I am writing on behalf of the Delaware River Shad Fishermen's Association (DRSFA). We are a 700 member conservation group working to preserve, protect and restore migratory fish to the Delaware River and its tributaries. We strongly support the most vigorous protection of the remaining shad and herring species along our Atlantic coast.

For years, our coastal communities have worked tirelessly to restore culturally and economically significant species such as river herring and shad to rivers along the Atlantic coast. At the same time, the incidental catch of millions of river herring and shad annually by the mid-Atlantic mackerel and squid fisheries remains largely unmonitored and unregulated. I am concerned about this serious, ongoing threat to these already-depleted species that undermines efforts to restore our estuaries and rivers.

River herring and shad populations are at historic lows, and landings have declined coastwide by 99 and 97 percent, respectively. In response, most Atlantic states prohibit the taking of river herring in coastal waters and are advancing similar restrictions on American shad. These populations are in dire need of conservation and management, so it is critical that they are given protection in federal waters under Amendment 14 to the Atlantic Mackerel, Squid, and Butterfish Fishery Management Plan. Because these fish have been depleted so severely, the council should choose the option with the most positive biological impact:

Inclusion of river herring and shad as stocks within the fishery (Alternative 9b-9e).

Developing the long-term protections associated with this designation will take time. Therefore, the council should adopt the following interim measure to immediately reduce and limit the at-sea catch of river herring and shad:

\*\*A catch cap, effective in 2013 (Alternative 6b-6c), that functions effectively, does not increase wasteful discarding, and cannot be circumvented by simply declaring into another fishery. These alternatives should be modified to more effectively ensure that directed mackerel fishing stops if a cap is reached by lowering the amount of mackerel that can be fished for, possessed, or retained.

I strongly urge you to also incorporate all of the following:

\*\*100 percent at-sea monitoring on all mid-water trawl fishing trips. One observer must be assigned to each vessel in a pair trawl operation (Alternative 5b4 and Alternative 3d).

MAY 21 2012

**\*\*An accountability system to discourage the wasteful dumping of unsampled catch. All catch, including "operational discards," must be made available to fishery observers for systematic sampling (Alternative 3j with operational discards prohibited). If dumping is allowed, include a fleetwide limit of 10 dumping events (Alternative 3l and 3n) and require vessels that dump to take an observer on their next trip (Alternative 3o).**

**\*\*A requirement to weigh all catch. (Alternative 2c-2f).**

Thank you for the opportunity to comment and for your commitment to these priority reforms.

*Charles Furst*

Charles Furst, President DRSFA  
Po 221  
Solebury, Pa 18963



## Northeast Charterboat Captains Association

P.O. Box 7 ⚓ Sturbridge, MA 01566 (800) 526-8152  
66 High Road ⚓ Newbury, MA 01951 (978) 465-2307

May 25, 2012

Ms. Carrie Nordeen  
National Marine Fisheries Service  
55 Great Republic Drive  
Gloucester, MA 01930

Re: Herring Amendment 5

Dear Carrie,

I am writing on behalf of the Northeast Charterboat Captains Association (NCCA) to comment on the Amendment 5 Environmental Impact Statement (EIS). NCCA is an organization of over 80 professional charter boat captains and small-business owners from Massachusetts through Maine.

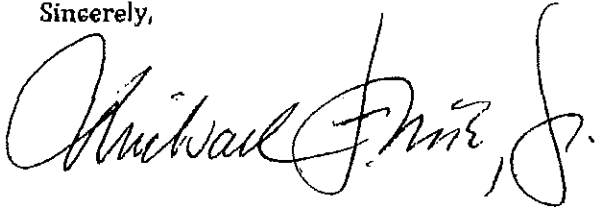
Herring management is a key concern for NCCA members and their thousands of fishing customers due to both the importance of herring as forage and the potential for bycatch by the large midwater trawlers that dominate the fishery. As such, we believe Amendment 5 is of fundamental importance to our future. For too long these large vessels have been fishing with rules that are inadequate.

In order to better manage the herring fishery, the Council should approve the following measures:

- 100% observer coverage on Category A and B herring vessels (Section 3.2.1.2 Alternative 2).
- Closed Area I (CAI) provisions with trip termination after 10 dumping events on Category A and B vessels. (Section 3.2.3.4 Alternative 4C)
- Prohibit herring midwater trawl vessels from fishing in Groundfish Closed Areas. (Section 3.4.4 Alternative 5)
- Implement measures to require weighing of catch across the fishery (Section 3.5.1 Option 2)

The measures we are asking for above will go a long ways towards bringing some accountability to this fleet. We urge the Council to do what is right and put these measures in place.

Sincerely,

A handwritten signature in cursive script, reading "Michael Sosik, Jr." with a large, stylized flourish at the end.

Michael Sosik, President  
Northeast Charterboat Captains Association  
P.O. Box 7  
Sturbridge, MA 01566



Maine Coast Fishermen's Association

RECEIVED  
JUN 04 2012

NEW ENGLAND FISHERIES  
MANAGEMENT COUNCIL  
PO BOX 1112 Topsham ME 01086  
Phone: 207.619.1755 Fax: 866.876.3564

To: Chairman Cunningham  
New England Fisheries Management Council  
50 Water Street  
Newburyport MA, 01950

June 1, 2012

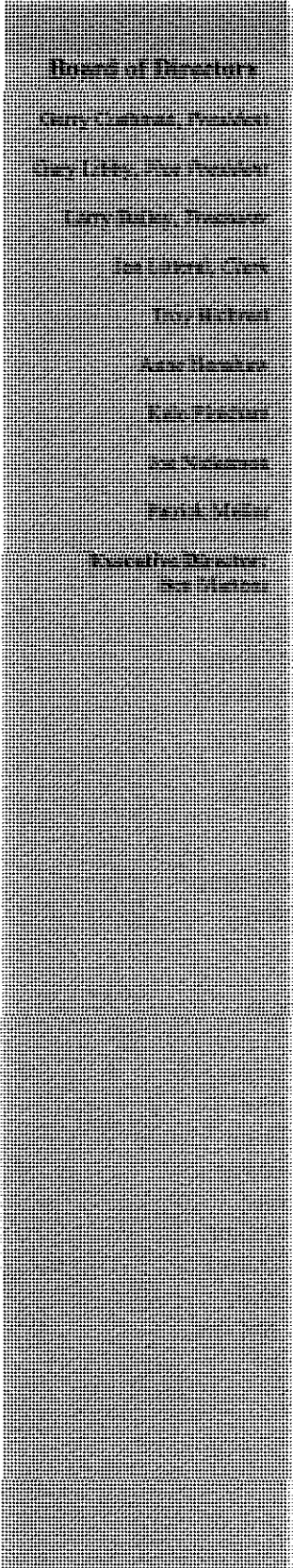
**RE: Draft Amendment 5 to the Atlantic Herring FMP**

Dear Chairman Cunningham,

The Maine Coast Fishermen's Association is an industry based non-profit which identifies and fosters ways to restore the fisheries of the Gulf of Maine and sustain Maine's historic fishing communities for future generations. Established and run by Maine community-based fishermen, MCFA works to enhance the ecological and financial sustainability of the fishery through balancing the needs of the current generation of fishermen along with the long term environmental restoration of the Gulf of Maine. With members living in Maine communities ranging from Kittery to Mount Desert Island, our fishermen represent a diversity of Maine fishing but have come together to form a cohesive voice to weigh in on important management issues facing the groundfish fleet of Maine. As such, please accept our comments on Amendment 5 to the Atlantic herring fisheries management plan.

As stewards of the Gulf of Maine, ensuring a healthy and vibrant environment is the foundation of maintaining successful businesses and successful coastal communities. The groundfish industry has taken important steps in rebuilding the species that they rely on, such as cod, haddock, grey sole, and dabs, by being restricted from certain important habitat areas, adhering to mortality closures, using highly selective gear, and moving to allocation system with a hard total allowable catch. Despite all of these sacrifices, the groundfish in the Gulf of Maine are still declining, according to the most recent stock assessments, and fishermen are looking for answers. With less effort on the water than ever before one would expect species to rebound in a healthy environment, our best science is suggesting otherwise. Herring are a cornerstone species in the Gulf of Maine ecosystem and groundfish are heavily reliant on this species as forage. Herring trawlers have been known to cause localized depletion, turning a vibrant ecosystem into a wasteland over just a few days, and causing groundfish fishermen to watch as catch rates drop fivefold overnight.

This is not to suggest that there isn't a place for the herring fishery in the Gulf of Maine. Many Maine fishermen rely on herring for bait and want to see more successful fishing businesses out on the water. That being said, accountability is needed on a fishery that has the potential to negatively impact the marine environment in such a profound way. As such, below are our recommendations on specific management options throughout Amendment 5:



- **Prohibit mid-water trawl vessels from participating in the herring fishery in areas established to promote rebuilding of groundfish populations (Section 3.4.4 Alternative 5).**

Certain areas throughout New England waters have been identified as being important areas to protect in order to rebuild the groundfish of New England. Some of these areas were identified by their habitat, others because of the high catch rates of groundfish associated with those areas. Regardless of the reason, the groundfish fleet was removed from these areas to rebuild groundfish stocks but in a strange turn of events the herring mid-water trawl fleet was not held to these same standards. As such the effectiveness of the closed areas has been marginalized and we have not seen the rebound in groundfish stocks one would expect. The prevailing argument has been that the "midwater" fleet doesn't catch groundfish, and doesn't fish on the bottom; therefore the rules should not apply.

New knowledge regarding the frequency and severity of midwater trawls on the seafloor and higher rates of haddock bycatch inside CAII compared to outside CAII (calculated in the FW46 analysis) suggest that this assessment was wrong. Additionally, the herring fleet themselves, at a recent stock assessment meeting, argued that the acoustic survey no longer was valid because the herring were on the bottom and no longer high in the water column. If the herring are hard on the bottom, one must question where these nets are fishing in order to catch their target species? More importantly though, the means that these vessels took to gain access to these areas was far different than anything a groundfish vessel would have to undergo to gain similar access. Any exceptions for access to important areas should be subject to the same appropriately high standards met by groundfishermen who are granted Experimental Fisheries Permits.

If the Council wants to be serious about rebuilding our groundfish stocks, we cannot rely on a patchwork of management plans that undermine the sacrifices of other segments of the fishing industry. The small-meshed herring fleet should not be allowed into groundfish closed areas and the Council should consider removing them indefinitely. There has been a lot of discussion about the closed areas being removed, through the groundfish or habitat plan, and the argument will be that we shouldn't worry about this option as the areas are going to be going away. Regardless of what the future holds for these areas, they have been identified as important to the success of the groundfish industry and have become the exclusive fishing ground of the largest vessels in the New England fleet. The herring fleet never should have been allowed in from the start, decisions were made under false assumptions, and we have been paying the price for over a decade. It is time to rectify this mistake.

- **Include 100 % observer coverage on category A and B vessels (Section 3.2.1 Alternative 2).**

Midwater herring trawlers are the biggest and most powerful vessels in New England and tow enormous small-mesh nets at high speed. They are targeting the primary forage stock in the region, thereby guaranteeing interaction with, and bycatch of, species such as cod, haddock, whiting, and bluefin tuna. Having the unique privilege to use such efficient gear in this manner should carry the unique responsibility to completely document your catch. The only way to know for sure what the impact of these boats is on species like cod is to require 100% observer coverage. Given the dramatic increases in coverage offshore that have driven the recent overall increases, it is clear that for some management areas the number of unobserved trips is likely much larger. There is great incentive to fish differently when an observer is on the boat, and this

practice is known to occur under low coverage rates. Therefore it is essential to have 100% coverage.

- **All catch should be accurately weighed and reported (Section 3.1.5 Alternative 2).**

This is a straight-forward option that should be easy for all parties to support. A captain should want to know that a dealer has an accurate report of his landings and a dealer must know how much fish he is selling to ensure he is making a profit on the product. Allow the industry to figure out how to do the weighing and require it reported in a timely manner. This will improve management, allow closer tracking of the catch, and ensure that all parties are treated fairly.

- **Include robust management measures to protect river herring in the Atlantic herring fishery, such as a catch cap (by modifying Section 3.3.5).**

Maine is unique in New England in that we have a healthy river herring population in the majority of our rivers and allow for the harvesting of this species. It is highly regulated and important to the success of our many lobstermen. By allowing midwater trawlers to catch as much river herring as they like and not be held accountable for it we are undermining the work of those who have fought to restore river herring runs and those who sustainably harvest them shore side.

- **Regulate the number of allowed net slippage events for Category A and B vessels (such as Section 3.2.3.4 Option 4D).**

Unlike groundfish trawlers, most herring midwater trawlers pump their catch aboard before bringing the net aboard; as such, these boats can dump or "slip" unwanted catch before it is sampled. At the root of Amendment 5 is industry accountability and slippage undermines all the data that is collected on catch, bycatch, and the industry. The success of the recently implemented rules in Closed Area I prove that such measures are effective at reducing dumping in a safe manner. The Council should require similar rules throughout the geographic range of the fishery, in combination with 100% observer coverage, to know for sure what amounts of herring, river herring, cod, and other species are being caught. The key to dumping accountability rules is to have real disincentives so that legitimate exceptions are not abused and turned into loopholes and this measure will do just that since it will not rely on self-reporting and the use of affidavits.

The development of Amendment 5 has been half a decade in the making and the Council has created a document with a suite of options that will address all the most pressing issues facing this industry. It is vitally important to the ecosystem of the Gulf of Maine and the future of all fishing businesses that Amendment 5 results in a comprehensive management plan that provides real data, real accountability, and real benefits for the region. I thank you for your time and consideration in this important process.

Sincerely,



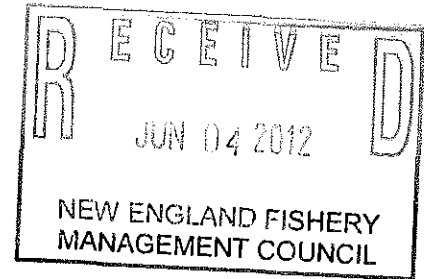
Ben Martens  
Executive Director





June 4, 2012

Daniel S. Morris, Acting Regional Administrator  
NMFS, Northeast Regional Office  
55 Great Republic Drive  
Gloucester, MA 01930.



RE: Comments on Amendment 5 to the Atlantic Herring FMP

Dear Mr. Morris:

We, the undersigned, write to provide a joint comment on Amendment 5 to the Atlantic Herring Fishery Management Plan.

In response to a primary goal of this Amendment to improve monitoring in the herring fishery, we support 100% observer coverage in the fishery. The public has provided extensive comments on perceived issues of concern and while we feel that much of this is contrived, we also recognize that these concerns will not be laid to rest without comprehensive observation.

A major obstacle in implementing this coverage is overall cost and identifying who will pay. The current estimate of \$1,200 per sea day for an at-sea federal observer is not a cost that can be borne by the fishery if our objective is to continue to have a viable herring fishery in the Northeast.

However as industry participants, we are not unwilling to pay a fair cost to support the program. We look to the North Pacific industry costs for observer coverage in the groundfish fisheries of the Bering Sea (Pollock and non-AFA) to seek equity at their current rate of \$325 per sea day for our contribution to the program.

In addition, we request the Agency conduct a review 2-years following implementation that will include a cost benefit analysis of the allocation of resources needed to carry on the program on a continuing basis to meet the needs of accuracy in catch accounting for the fishery.

We remind the Agency that the Council has identified multiple goals for a catch monitoring program for the herring fishery that include developing a cost effective program that will foster support by the herring industry and others concerns about accurate accounts of catch and bycatch. We encourage the Agency and Council to continue work on a program that will meet these goals.

Thank you for the opportunity to comment,

Frank O'Hara  
O'Hara Corporation  
Rockland, Maine

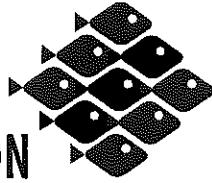
Dave Ellenton  
Cape Seafoods  
Gloucester, Massachusetts

Jeff Reichle  
Lunds Fisheries, Inc  
Cape May, New Jersey

Jonathan Shafmaster  
Little Bay Lobster LLC/S.F. Offshore Inc  
Newington, New Hampshire



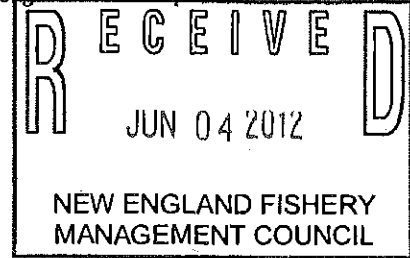
CHOIR  
COALITION



*Coalition for the Atlantic Herring Fishery's Orderly, Informed and Responsible Long Term Development*

June 4<sup>th</sup>, 2012

Ms. Carrie Nordeen  
NMFS Northeast Regional Office  
55 Great Republic Drive  
Gloucester, MA 01930



Re: Herring Amendment 5 Environmental Impact Statement

Dear Carrie,

I am writing today on behalf of the undersigned CHOIR supporters to comment on the Amendment 5 Environmental Impact Statement (EIS) and to request that the Council take the specific actions listed below to ensure better management of the herring fishery. CHOIR is an industry coalition made up of commercial and recreational fishing organizations, fishing and shore side businesses, researchers and eco-tourism companies.

The Council initiated this amendment in 2007 in response to the widespread concerns of the fishing and ecotourism industries and the general public regarding the inadequate management and monitoring of the large herring pair and single midwater trawlers. These concerns are just as real today as they were five years ago: observer coverage levels are still inadequate; dumping catch before it is sampled is still allowed in most areas; catch weighing is still based on self-reported estimations; and, finally, these vessels are still given full access to Groundfish Closed Areas (GFCAs).

**We first urge the Council to implement 100% observer coverage on Category A and B herring vessels (Section 3.2.1, Alternative 2).** Selecting these measures only for A and B boats will allow the Council to cover the small number of large vessels that are responsible for over 97% of the total herring landings, thus reducing cost and complexity. Elsewhere in the country boats like these would be required to carry at least 100% observer coverage and we feel the same should be happening here.

These herring trawlers are the biggest and most powerful vessels on the entire coast and tow enormous small-mesh nets at high speed. They are allowed to tow anywhere in the water column, as well as in GFCAs and areas known to hold large amounts of river herring. They are targeting the primary forage stock in the region, thereby guaranteeing interaction with, and bycatch of, species such as cod, pollock, whiting, striped bass and bluefin tuna. Having the unique privilege to use such efficient gear in this manner should carry the unique responsibility to completely document your catch. The only way to know for sure what the impact of these boats is on species like cod and river herring is to require 100% coverage.

While it is true that there have been modest increases in observer coverage in recent years, coverage levels are still far too low, with 60 to 70 percent of trips unobserved fishery-wide. Given the dramatic increases in coverage offshore that have driven the recent overall increases, it is

clear that for some management areas the number of unobserved trips is likely much larger. There is great incentive to fish differently when an observer is on the boat, and this practice is known to occur under low coverage rates. Therefore it is essential to have 100% coverage.

**Second, the Council should implement Closed Area I (CAI) provisions with trip termination after ten events in order to reduce dumping on Category A and B vessels (Section 3.2.3.4 Option 4C).** Unlike groundfish trawlers, most herring midwater trawlers pump their catch aboard before bringing the net aboard; as such, these boats can dump or "slip" unwanted catch before bringing it aboard for sampling. One species that may be dumped most often is Atlantic herring itself (if it is unmarketable due to being "feedy," small, or full of spawn, if mixed in with species like dogfish that cannot be pumped, or if mixed with any unwanted bycatch). The success of the recently implemented rules in Closed Area I prove that such measures are effective at reducing dumping in a safe manner. Now the Council must require similar rules throughout the geographic range of the fishery, in combination with 100% observer coverage, to know for sure what amounts of herring, river herring, cod, and other species are being caught. The key to dumping accountability rules is to have real disincentives so that legitimate exceptions are not abused and turned into loopholes and this measure will do just that since it will not rely on self-reporting and the use of affidavits.

**Third, the Council should implement measures to require weighing of catch across the fishery (Section 3.1.5 Option 2).** It is hard to understand how an important fishery in this day and age is not already weighing its catch. It is completely unacceptable to be basing landings totals on unverifiable estimations by the captains or dealers and we hope the Council will put an end to this practice.

**Lastly, the Council should prohibit midwater trawl vessels participating in the herring fishery from access to Groundfish Closed Areas (Section 3.4.4 Alternative 5).** These boats were allowed into the closed areas under the assumption that they could not catch groundfish; this assumption has since been proven false. There is no reason these boats should be towing small-mesh gear through areas off-limits to groundfish boats.

Since these boats entered the herring fishery in the nineties they have been a source of great controversy. This controversy originated in the fishing and other industries that rely on the ecosystem and, in turn, herring. Many of our supporters feel that a ban on pair trawling is the only solution to the problem and yet have worked hard to try and find a middle ground that will allow for this fleet to be managed properly without banning it outright. We hope that the Council will take this opportunity to make the right decisions and to finally put rules in place that are adequate given the realities of the way the fishery now operates.

Thanks for your time,



Steve Weiner, Chair

*On behalf of the undersigned CHOIR supporters:*

Commercial Fishing Groups, Organizations and Entities:

American Bluefin Tuna Association, Ex. Director Rich Ruais, Salem, NH  
Northeast Coastal Communities Sector, Manager Aaron Dority  
Maine Coast Fishermen's Association, Ex. Director Ben Martens, Brunswick, ME  
Penobscot East Resource Center, Ex. Director Robin Alden, Stonington, ME  
New Hampshire Commercial Fishermen's Association, President Erik Anderson  
Northeast Hook Fishermen's Association, Pres. Marc Stettner, Portsmouth, NH  
Cape Cod Commercial Hook Fishermen's Association, CEO John Pappalardo, Chatham, MA  
Northeast Fisheries Sector III, Gloucester, MA  
Commercial Angler's Association, Ex. Director Russell E. Cleary, Maynard, MA  
Friends of South Shore Fisheries, President Skip DeBrusk, Scituate, MA  
Martha's Vineyard/Dukes County Fishermen's Association, Pres. Warren Doty

Party/Charter/Recreational Groups and Organizations:

Maine Association of Charterboat Captains, Bath, ME  
Sportsmen's Alliance of Maine, Augusta, ME  
Boothbay Region Fish & Game Association, Boothbay, ME  
Coastal Conservation Association - New Hampshire, Pres. Don Swanson  
Northeast Tuna Club, President Jeremy Johnson, Peterborough, NH  
Northeast Charterboat Captain's Association, Pres. Dave Auger  
Stellwagen Bank Charter Boat Association, Pres. Steve James, Marshfield, MA  
Cape Cod Charter Boat Association, President Buddy Wilson, Orleans, MA  
Massachusetts Beach Buggy Association, President Scott Morris  
Massachusetts Striped Bass Association, President Jim Dow, Braintree, MA  
New England Charter Boat Association, President Todd Rodzen  
New Inlet Boating Association, Skip Cornell, Marshfield, MA  
League of Essex County Sportsmen's Clubs, Tom Walsh, Hawthorne, MA  
Nantucket Angler's Club, Pres. Phil Albertson, Nantucket, MA  
Green Harbor Tuna Club, President Lori Atwater, Green Harbor, MA  
Plum Island Surfcasters, President Julio Silva, Newburyport, MA  
Falmouth Fishermen's Association, Pres. George Costello, East Falmouth, MA  
Maddie's Anglers Club, President Chip Wolcott, Marblehead, MA  
Haverhill Ridge Runners Fish and Game Club, Vincent Monaco, Haverhill, MA  
Rhode Island Saltwater Angler's Association, Pres. Steven Medeiros, Coventry, RI  
Rhode Island Party & Charter Boat Association, Pres. Rick Bellavance, Warwick, RI  
Connecticut Charter/Party Boat Association, Pres. Bob Veach, New London, CT  
Recreational Fishing Alliance, Ex. Director Jim Donofrio, New Gretna, NJ  
Freeport Tuna Club, President Bill Toohey, Freeport, NY  
Atlantis Anglers Association, President Reed Reimer, Freeport, NY  
New York Sportfishing Federation, Pres. Jim Hutchinson Jr., Forest Hills, NY  
National Association of Charterboat Operators, E.D. Bobbi Walker, Orange Beach, AL  
Delaware River Shad Fisherman's Association, Pres. Bill McWha

Marine Research and Education Organizations:

Atlantic Salmon Federation, Vice Pres. Andrew Goode, Brunswick, ME  
Downeast Salmon Federation, Ex. Director Dwayne Shaw, Columbia Falls, ME

Acadia Institute of Oceanography, Sheri Gilmore, Seal Harbor, ME  
Allied Whale, Director Sean Todd, Bar Harbor, ME  
Cetos Research Organization, Director Ann Zoides, Bar Harbor, ME  
Downeast Audobon Society, President Leslie Clapp, Ellsworth, ME  
Somes Meynell Wildlife Sanctuary, Director Damid Lamon, Somesville, ME  
Friends of Blue Hill Bay, President Barbara Arter, Blue Hill, ME  
Friends of Maine Seabird Islands, Michael Thompson, Rockland, ME  
Blue Ocean Society, Director Jen Kennedy, Portsmouth, NH  
Whale Center of New England, Laura Howes, Gloucester, MA  
The Ocean Alliance, Ian Kerr, Gloucester, MA  
National Audobon Society Seabird Restoration Program, Steven Kress, Ithaca, NY  
Coastal Research and Education Society of Long Island, Pres. Arthur Kopelman  
The Great Whale Conservancy, Pres. Michael Fishback, Greensboro, NC

Party Boat and Whale Watch Companies:

Bunny Clark Deep Sea Fishing, Capt. Tim Tower, Perkins Cove, ME  
Bar Harbor Whale Watch Company, Naturalist Zack Klyver, Bar Harbor, ME  
Boothbay Whale Watch, Naturalist Mechele Vanderlaan, Boothbay Harbor, ME  
Odyssey Whale Watch, Christopher Cutshall, Portland, ME  
First Chance Whale Watch, Dwight Raymond, Kennebunkport, ME  
Nor'easter Deep Sea Fishing, Capt. Michael Perkins, Kennebunk ME  
Eastman's Dock Deep Sea Fishing and Whale Watching, Phil Eastman, Seabrook, NH  
Lady Tracey Anne, Inc., and Lady Courtney Alexa, LLC, Mark Godfroy, Seabrook, NH  
Atlantic Fleet Whale Watch, Capt. Brad Cook, Rye Harbor, NH  
Granite State Whale Watch, Pete Reynolds, Rye Harbor, NH  
Seven Seas Whale Watch, Paul Frontiero, Gloucester, MA  
Clipper Fleet Fishing, Joe Grady, Salisbury, MA  
Walsh's Deep Sea Fishing, Bob Walsh, Lynn, MA  
Newburyport Whale Watch, Capt. Bill Neelon, Newburyport, MA  
Yankee Fleet Deep Sea Fishing and Whale Watching, Tom Conley, Gloucester, MA  
Cape Ann Whale Watch, Jim Douglass, Gloucester, MA  
Capt. John Boats Whale Watching and Fishing Tours, Bob Avila, Plymouth, MA  
Helen H Deep Sea Fishing, Capt. Joe Huckmeyer, Hyannis, MA  
Dolphin Fleet Whale Watch, Jay Hurley, Eastham, MA  
F/V Skipper, Capt. John Potter, Oak Bluffs, MA  
Klondike IX, Capt. Pete Pearson, New Rochelle, NY

Commercial Fishing Vessels:

F/V Drew and Payton, Donald Simmons, Jr., Friendship, ME  
F/V Vallerie J, Donald Simmons, Sr., Friendship, ME  
F/V Outer Limits, Dustin Reed, Friendship, ME  
F/V Amy Lynn, Gregory Simmons, Friendship, ME  
F/V Heather and Isaac, Keith Simmons, Friendship, ME  
F/V Mary Elizabeth, Ted Ames, Stonington, ME  
F/V Deborah Ann, Chris Clark, Southwest Harbor, ME  
F/V Hunter, Vaughn Clark, Southwest Harbor, ME  
F/V Heather Rose IV, Gene Thurston, Southwest Harbor, ME

F/V Linda Sea, John Stanley, Southwest Harbor, ME  
F/V CC & Water, Cookie Whitten, Winter Harbor, ME  
F/V Sandra E, Allan Vitkus, Vinalhaven, ME  
F/V Gulf Traveler, John Cotton, Tenants Harbor, ME  
F/V Leslie and Jessica, Gary Libby and Larry Wood, Port Clyde, ME  
F/V Ella Christine, Randy Cushman, Port Clyde, ME  
F/V Bug Catcher, Gerry Cushman, Port Clyde, ME  
F/V Capt. Lee, Justin Libby, Port Clyde, ME  
F/V Lauren Dorothy, Edward Thorbjoursen, Port Clyde, ME  
F/V Ruthless, Justin Thompson, Port Clyde, ME  
F/V Two Toots, Mark Huntlay, St. George, ME  
F/V Eliza B, Neil Cunningham, Boothbay Harbor, ME  
F/V Three Bells, Mark Jones, Boothbay Harbor, ME  
F/V Jazamataz, Don Page, Boothbay Harbor, ME  
F/V Mary E, Jeff Norwood, Boothbay Harbor, ME  
F/V Danny & Chad, Jody Murray, Boothbay Harbor, ME  
F/V Don't Ask, Randy Durgan, Boothbay Harbor, ME  
F/V Ella & Sadie, Colin Yentsch, Boothbay Harbor, ME  
F/V Andrea J, Dave Fischer, Boothbay Harbor, ME  
F/V Sully, Mathew Rice, Boothbay Harbor, ME  
F/V Bottom Line, Carlton Yentsche, Boothbay Harbor, ME  
F/V Intrapment, Rodney Lowery, Boothbay Harbor, ME  
F/V No Respect, Michael Pinkham, Boothbay Harbor, ME  
F/V Amy Gale, Caleb Hodgdon, Boothbay Harbor, ME  
F/V Lion's Den, John Shostak, Boothbay Harbor, ME  
F/V Julia G III, Bradley Simmons, Boothbay Harbor, ME  
F/V Lady Esther, Larry Knapp, Boothbay Harbor, ME  
F/V Johanna Marie, John Farnham, Boothbay Harbor, ME  
F/V Lindsey P II, Dana Hodgdon, Boothbay, ME  
F/V Suzanne B, David Norton, Boothbay, ME  
F/V Bout Time, Andrew Kenny, Boothbay, ME  
F/V Phyllis III, Jody Durgan, Boothbay, ME  
F/V Arzetta Sue, Mark Lewis, Boothbay, ME  
F/V Gratitude, Michael Stevens, Five Islands, ME  
F/V Sheann and Jess, Chipper Preble, Five Islands, ME  
F/V Miss Connie, Gregg Gilliam, Small Point, ME  
F/V Heather Kate, Glen Gilliam, Small Point, ME  
F/V Morning Starr, Herbie Yeaton, West Point, ME  
F/V Allie K, Steve Simmons, Southport, ME  
F/V Sea Strider, Marty Thibault, Southport, ME  
F/V Mystic Rose, Michael Fossett, South Bristol, ME  
F/V Elizabeth Jane, Clay Gilbert, South Bristol, ME  
F/V Jeanne C, Kelo Pinkham, Trevett, ME  
F/V High Roller, Steve Benner, Warren, ME  
F/V Carol Ann, Gary Hatch, Owl's Head, ME  
F/V Pamela Grace, Troy Bichrest, Cundys Harbor, ME  
F/V GetSome, Jimmy Soto, Portland, ME  
F/V Erin and Sarah, Peter Speeches, Portland, ME  
F/V Bella & Bailey, Keith Jordan and Dean Gower, Portland, ME

F/V Endeavor, Marshall Spear, Portland, ME  
F/V Bingham, William Smith, Portland, ME  
F/V Stella Maris, Jessie Field, Portland, ME  
F/V Hooker, Phil Chase, Portland, ME  
F/V Julia & Carly, Joe Mazerolle, Portland, ME  
F/V Longjack, Joel Strunk, Portland, ME  
F/V Kathleen J, Stuart Fay, South Portland, ME  
F/V Claudette C, Gary C., and Gary E. Obrien, South Portland, ME  
F/V Kelly Anne, Keith Landrigan, South Portland, ME  
F/V Banshee, John Harmon, South Portland, ME  
F/V Belly Filla, Alex Notis, South Portland, ME  
F/V Maria and Dorothy, Rob Odlin, Scarborough, ME  
F/V Seldom Seen, Matt Weber, Monhegan Island, ME  
F/V Arco Felice, Lexi Krausse, Rockport, ME  
F/V OnLine, Geoff Pellicia, Scarborough, ME  
F/V Molly Jane, Kurt Christianson, Pine Point, ME  
F/V Valborg, Kirk Plender, Peaks Island, ME  
F/V Zerlina, David Schalit, Brooklin, ME  
F/V Misty Mae, Donald Paulson, Cushing, ME  
F/V Scoot Too, Doug Gerry, Springvale, ME  
F/V Old Mud, Donald Sproul, West Bath, ME  
F/V Sea Wench, Capt. Kyle Gagne, Lyman, ME  
F/V Theresa Ann, Tom Cassamassa, Saco, ME  
F/V Angel III, Bruce Haskell, Saco, ME  
F/V Mal-Max, Stephen Carlton and Zack Metcalf, Biddeford, ME  
F/V Santiago, Ben Pasquale, Arundel, ME  
F/V Hayley Ann, Joe Nickerson, Arundel, ME  
F/V Megan Molly, Richard Willman, Jefferson, ME  
F/V Pamala Jean, Adam Littell, Kennebunkport, ME  
F/V Miss Nikki, Chris Angelos, Kennebunkport, ME  
F/V Olympic Lady, Kurt Moses, Kennebunkport, ME  
F/V Allyson, Capt. Thomas Mansfield, Kennebunkport, ME  
F/V Pretender, Tad Miller, Kennebunk, ME  
F/V Clover, Bill McIntire, Kennebunkport, ME  
F/V Alana Marie, Paul Rioux, Kennebunkport, ME  
F/V Emily Rachel, Tony Coleman, Wells, ME  
F/V Eileen K, Mike Parenteau, Perkins Cove, ME  
F/V A. Maria, Sonny McIntire, Perkins Cove, ME  
F/V Amy Elizabeth, Matt Forbes, Perkins Cove, ME  
F/V Buckwacka, Mike Horning, Perkins Cove, ME  
F/V Elizabeth Ames, Chris Weiner, Perkins Cove, ME  
F/V Josie B, Steve Merrill, Perkins Cove, ME  
F/V All In, Michael Lorusso, Perkins Cove, ME  
F/V Sara Beth, Kenneth Yorke, Perkins Cove, ME  
F/V Queen of Peace, Shane and Bobby McIntire, Perkins Cove, ME  
F/V Bettina H, Tim Virgin, Perkins Cove, ME  
F/V Petrel, Micah Tower, Perkins Cove, ME  
F/V Sticker Shock, Hank Greer, York Harbor, ME  
F/V Rush, David Webber, York Harbor, ME



F/V Merlin, David Linney, York Harbor, ME  
 F/V Risky Business, Michael Ramsey, York Harbor, ME  
 F/V Sushi Hunter, Capt. Doug Anderson, Eliot, ME  
 F/V Fortunate, Jeremy Reynolds, Kittery, ME  
 F/V Sally G, Joe Barrone, Kittery, ME  
 F/V Endeavour, Emile Bussiere, Kittery, ME  
 F/V Maggie Grace, Thomas Allen, Kittery Point, ME  
 F/V Miss Guided, Paul Spencer, Rochester, NH  
 F/V Marilyn J, F/V Miss Ava, Ron Lien, Gilford, NH  
 F/V Cindy K, Bo Adams, Rochester, NH  
 F/V Sugar Bear, Capts. Silvio Balzano, Bruce Brennan, Garth Morin, and Mark  
 Brambilla, New Castle, NH  
 F/V Pin Wheel, Tyler McLaughlin, Rye Harbor, NH  
 F/V Sea Hag, Arthur Splain, Rye, NH  
 F/V Penny B, James Bowles, Rye, NH  
 F/V Rough Times, Chris Adamitis, Portsmouth, NH  
 F/V Island Girl, Bob Bryant, Portsmouth, NH  
 F/V Pacifier, Michael McLaughlin, Rye, NH  
 F/V Zero Nine, Bill Boise, Rye, NH  
 F/V Thalasa, Charles Panasis, Dover, NH  
 F/V Julia G, Thomas and Ted Sutton, Hampton Harbor, NH  
 F/V Toby Ann, Brian Higgins, Gloucester, MA  
 F/V Bounty Hunter, Billy Monte, Gloucester, MA  
 F/V Coot, Dana Kangas, Gloucester, MA  
 F/V Tuna.com, Capt. Dave Carraro, Gloucester, MA  
 F/V Freebird, Gregg Swinson, Gloucester, MA  
 F/V American Heritage, F/V Kristania, Michael Leary, Gloucester, MA  
 F/V Ryan Zackary, F/V Rock On, F/V Lori B, Rich Burgess, Gloucester, MA  
 F/V JJ, Rick Pramas, Gloucester, MA  
 F/V Mary D, Daniel Doumani, Newburyport, MA  
 F/V The Gov, Mark Godfried, Gloucester, MA  
 F/V Christina, Kevin Leonowert, Gloucester, MA  
 F/V Gratitude, Eric Swanson, Gloucester, MA  
 F/V Jean Anne, Capt. Jules Boudreau, Gloucester, MA  
 F/V Susan C, Joe Jancewicz, Gloucester, MA  
 F/V Jeanne Marie, Mike Blanchard, Gloucester, MA  
 F/V Osprey, Steve Corbett, Gloucester, MA  
 F/V Katie May, Dean Holt, Newburyport, MA  
 F/V Sooner or Later III, John Nichols, Newburyport, MA  
 F/V Amanda, Peter Atherton, Newburyport, MA  
 F/V Karen Elain, Don and Craig Nelson, Salisbury, MA  
 F/V Merganser, Peter Fyrberg, Rowley, MA  
 F/V Ella Briggs, Dylan Caldwell, Pigeon Cove, MA  
 F/V James & Christine, Michael Cornell, Marblehead, MA  
 F/V Seven Sea, Bob Oulette, Danvers, MA  
 F/V Fishbucket, Capt. Mike Delzingo, Boston, MA  
 F/V Hookin-Up, Capt. Darin DiNucci, Winthrop, MA  
 F/V YA-HOO, Capt. Doug Brander, Hull, MA  
 F/V Lady Lyn, Capt. Bill Henderson, Hull, MA

F/V Jesse J, Capt. John Richardson, Hingham, MA  
F/V Moonlighter, Mark Paolucci, Quincy, MA  
F/V All Risk, Newton Johnson, Boston, MA  
F/V Bad Influence, Capt. Tom Scanlon, Lynn, MA  
F/V Bare Bone, Will and George French, North Andover, MA  
F/V Hot Reels, Jeff Webber, Green Harbor, MA  
F/V Caitlin Marie, Dave Cataldo, Green Harbor, MA  
F/V Perfect C's, F/V Lisa Marie, Michael Pratt, Green Harbor, MA  
F/V Fortunate, Frank Papp, Green Harbor, MA  
F/V Soggy Dollar, Mike Buckley, Green Harbor, MA  
F/V Ocean Runner, Brian Flannery, Green Harbor, MA  
F/V Family Jules, Thomas Libertini, Green Harbor, MA  
F/V Go Figueire, Capt. Jeremy Figueiredo, Green Harbor, MA  
F/V Fish Stix, Capt. Claude S. Holt, Green Harbor, MA  
F/V Akula, Jordan Sanford, Green Harbor, MA  
F/V Finestkind, Dana Blackman, Green Harbor, MA  
F/V Lady Pamela, Michael McNamara, Green Harbor, MA  
F/V Hannah G, Steven Getto, Green Harbor, MA  
F/V Bampy, Ralph Pratt, Green Harbor, MA  
F/V Papaneil, Neil Chandler, Duxbury, MA  
F/V Shadowline, Putnam Maclean, Marshfield, MA  
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F/V Sashamy, Capt. Doug Amorello and Jeff Amorello, Plymouth, MA  
F/V Justified, Danny Hunter, Plymouth, MA  
F/V Katie Marie, Nate Cavacco, Plymouth, MA  
F/V Lorraine B, Capt. Bob Briggs, Scituate, MA  
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F/V Metal Health, Steven Pechinsky, Sandwich, MA  
F/V Shocker, Herb Finley, Sandwich, MA  
F/V Ezyduzit, F/V Rueby, William Chaprales, Sandwich, MA  
F/V No Worries Too, Capt. Dick King, Westport, MA  
F/V Blue Heron, Jonathan Geary, Chatham, MA  
F/V Miss Rockville, Andrew Keese, Chatham, MA  
F/V Saga, Ben Bergquist, Chatham, MA  
F/V Horse Mackerel, David Gelfman, Chatham, MA  
F/V Rug Rats, Bob St. Pierre, Chatham, MA  
F/V Miss Fitz, John Our, Chatham, MA  
F/V Ann Marie, Jim Nash, Chatham, MA  
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F/V Never Enough, Bruce Kaminski, Chatham, MA  
F/V Fairtime, Frank Sontoro, Chatham, MA  
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F/V Ocean Lady, Christopher Ripa, Chatham, MA

F/V Kittiwake, Ken Eldredge, Chatham, MA  
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 F/V Magic, Mike Abdow, Chatham, MA  
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 F/V Constance Sea, Mike Woods, Chatham, MA  
 F/V Lost, Nick Muto, Chatham, MA  
 F/V Dawn T, Stuart Tolley, Chatham, MA  
 F/V Bada Bing, Tye Vecchione, Chatham, MA  
 F/V Cuda, John Tuttle and William Barabe, North Chatham, MA  
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 F/V Alicia Ann, Greg Walinski, Dennis, MA  
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 F/V Sea Hook, Earl LeGeyt, Harwich, MA  
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F/V Wynott, Patrick Jenkinson, Chilmark, MA  
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F/V Little Tunny, Capt. John Schillinger, Vineyard Haven, MA  
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F/V Destiny, Capt. Mike Deskin, Clinton, CT  
F/V Susan H, Eric Herbst, Clinton, CT  
F/V Tracings, Dan Weber, Old Saybrook, CT  
F/V Scurge, Marty Hall, New London, CT  
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F/V Miss Isabella, Ken Clark, Shelter Island, NY  
F/V Going Deep, Tyler Clark, Shelter Island, NY  
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F/V Lucky Lady, Walter Harmstead, Manasquan, NJ

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 Roof Rafta Fishing Charters, Capt. Patrick Colby, Hampton Harbor, NH  
 Shoals Fly Fishing & Light Tackle, Capt. Peter Whelan, Portsmouth, NH  
 Reel Job Fishing Charters, Capt. Steve Main, Hampton, NH  
 Kool-Aid Charters, Capt. Cody Dodds, Hanover, NH  
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 Rod's Delight Charters, Capt. Rod Ratcliffe, Salisbury, MA  
 Rings Island Charters, Capt. Gary Morin, Salisbury, MA  
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 Atlantic Charter, Capt. Norm Boucher, Newburyport, MA  
 Summer Job Fishing Charters, Capt. Scott Maguire, Newburyport, MA  
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 Kelly Ann Charters, Capt. Mauro DiBacco, Rowley, MA  
 Sigler Guide Service, Capt. Randy Sigler, Marblehead, MA  
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 Kayman Charters, Capt. Kevin Twombly, Gloucester, MA  
 Karen Lynn Charters, Capt. Collin MacKenzie, Gloucester, MA

North Coast Angler, Capts. Skip Montello, Dave Beshara and Al Montello, and  
 Instructor Stephen Papows, Rockport, MA  
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 White Cap Charters LLC, Capt. Brad White, Scituate, MA  
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 Fin Addiction Charters, Capt. Jeff Smith, Wellfleet, MA  
 Chatham Charters, Capt. Matt Swenson, Chatham, MA  
 Capeshores Charters, Capt. Bruce Peters, Eastham, MA  
 Roxy Charterboat, Capt. Thomas Hayes, Eastham, MA  
 F/V Miller Time, Charles Miller, Eastham, MA  
 F/V Gusto, Jonah Turner, Eastham, MA  
 F/V Fairlady, Matthew Bettencourt, Eastham, MA  
 Castafari Charters, Capt. Damon Sacco, Falmouth, MA  
 Sea Dog Sportfishing, Capt. Bruce Cranshaw, Falmouth, MA  
 F/V Sea Frog, J. Roger Tessier, Harwich, MA  
 Fishtale Sportfishing, Capt. Mort Terry, Harwich Port, MA  
 Cape Cod Charter Fishing, Capt. Art Brosnan, Saquatucket Harbor, MA  
 Laura Jay Charters, Capts. Don and Jay Cianciolo, East Sandwich, MA  
 Liberty Fishing Charters, Capt. Martin Costa, Orleans, MA  
 F/V Hobo, Andy Napolitano, Orleans, MA

F/V Fair Lady, Chuck Catalou, Orleans, MA  
 F/V Osprey, Don Viprino, Orleans, MA  
 F/V Rose Pengelly, John Avellar, Orleans, MA  
 F/V Stunmei II, Walter Farrell, Orleans, MA  
 Bluefin Charters, Capt. Brian Courville, Falmouth, MA  
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 Cape Cod Sportfishing - Janine B, Capt. Wayne Bergeron, Dennis, MA  
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 Topspin Charters, Capt. Karsten Reinemo, Nantucket, MA  
 Nantucket Sportfishing Co., David Martin, Nantucket, MA  
 F/V Just Do It Too, Capt. Marc Genthner, Nantucket, MA  
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 Snapper Charters, Capt. Doug Lindley, Nantucket, MA  
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 Tide Hunter Charters, Capt. Scott Bradley, Stoughton, MA  
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 Riptide Charters, Capt. Terry Nugent, Buzzards Bay, MA  
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 Cherry Pepper Sportfishing, Capt. Lin Safford, Charlestown, RI  
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 Coastal Charters Sportfishing, Capt. Dom Petrarca, Portsmouth, RI  
 Flaherty Charters, Capt. Tim Flaherty, Middletown, RI  
 After You, Too, LLC, Capt. Frank Blume, New London, CT

Togfather Fishing, Dennis Cataldo, Farmingdale, NY  
Double Diamond Charters, Capt. Manuel Canales, Neptune, NJ  
Tuna Wahoo Charter Fishing, Capt. Rich Adler, Point Pleasant, NJ  
Shark Inlet Charters, Capt. Mike Formichella, Belmar, NJ  
Midcoast Kayak Fishing, Bryan Rusk, Easton, MD  
Canyon Runner Fishing Charters, Adam LaRosa, Pirate's Cove, NC  
Sushi Sportfishing, Capt. Charley Pereira, Pirate's Cove, NC  
F/V Reel Therapy, Bob Memmen, Jupiter, FL

Tackle Shops and Companies:

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Tightlines Tackle, Dave Mason, Walpole, ME  
Luke's Reel Repair, Lionel Lucas, Kennebunk, ME  
Webhannet River Boatyard and Tackle Shop, Capt. Scott Worthing, Wells, ME  
Eldredge Bros. Fly Shop, Jim Bernstein, Cape Neddick, ME  
White Anchor Bait & Tackle Shop, Carl Jordan, Boothbay, ME  
Offshore Marine Outfitters, Matt Nagy, York, ME  
Jeff's Bait Shop, Jeff Roberts, Lovell, ME  
Bucko's Parts and Tackle, Michael J Bucko, Fall River, MA  
Fisherman's Outfitter, John White, Gloucester, MA  
First Light Anglers, Nat Moody and Derek Spingler, Rowley, MA  
Offshore Pursuits Premium Tackle, David Dodsworth, MA  
Fishing Finatics, Pete Santini, Everett, MA  
Green Harbor Bait and Tackle, Bob Pronk, Marshfield, MA  
Crossroads Bait and Tackle, Michael Hogg, Salisbury, MA  
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Fore River Bait and Tackle, Rick Newcomb, Quincy, MA  
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Manny's Tackle, Capt. Don Fillman, Sandwich, MA  
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Nantucket Tackle, Arthur Quinn, Nantucket, MA  
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Larry's Bait and Tackle, Steve Purcell, Colin Floyd, Hulan Peppas and Ron Domurat,  
Edgartown, MA  
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The Fish Connection, Capts. Joe and Jack Balint, Preston, CT  
Fisherman's World Tackle, Rick Mola, Norwalk, CT  
River's End Tackle, Pat Abate, Old Saybrook, CT  
Hillyer's Tackle, Matt and Jon Hillyer, Waterford, CT  
Aquaskinz Corp., Kadir Aturk, Lindenhurst, NY  
BFG Tackle, Capt. Chuck Fisher, Dundalk, MD  
South Chatham Tackle, Inc., Bob Earl, Sanford, NC  
Cox Custom Tackle, Lee Cox, Raleigh, NC  
Laceration Lures, LLC, Joey Massey, Raleigh, NC

Ecotourism Companies:

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Aquaterra Adventures Sea Kayaking, David Legere, Bar Harbor, ME  
Coastal Kayaking Tours, Owner/Guide Glenn Tucker, Bar Harbor, ME  
Port Clyde Lobster Tours & Adventures, Kim Libby, Port Clyde, ME  
Downeast Windjammer Cruises, Cranberry Cove Ferry Co., and Bar Harbor Ferry  
Service, Capt. Steven Pagels, Columbia Falls, ME  
Old Quarry Ocean Adventures, Capt. Bill Baker, Stonington, ME  
River Run Tours, Inc., Capt. Ed Rice, Bath, ME  
Kayak Excursions, Stefan Kuenzel, Kennebunkport, ME  
*The Gift* Sailing Cruises, Capt. Steve Perkins, Perkins Cove, ME

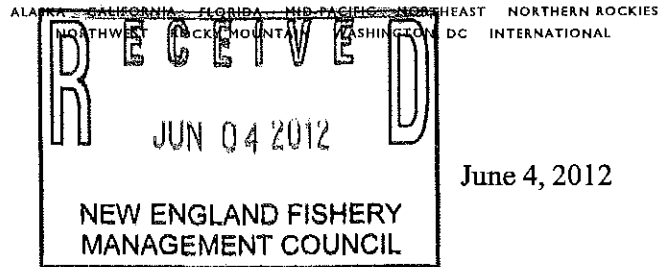
Businesses, Publications, and Others:

Dysart's Great Harbor Marina, Ed Dysart, Southwest Harbor, ME  
Marine Systems Custom Boats, Eric Clark, Southwest Harbor, ME  
Barnacle Billy's Inc., Bill Tower, Ogunquit, ME  
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R & B Fisheries, Betty Libby, Port Clyde, ME  
Port Clyde Fresh Catch, Alicia Morris and Kelly Eisler, Port Clyde, ME  
Spencer For Hire, Capt. Bill Spencer, Boothbay Harbor, ME  
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Thomas & Lord Builders, Kevin Lord, Kennebunk, ME  
Hanson Wood Turning, LLC, Steve Hanson, Kennebunkport, ME  
Estes Oil and Propane, Mike Estes, York, ME  
William Ross Design, William Ross, York, ME  
Kittery Point Boat Builders, LLC, Eliot, ME  
MGX, LLC, Kittery Point, ME  
D & J Fuels, North Berwick, ME

Kittery Point Yacht Yard, Corp., Kittery, ME  
Blunas, LLC, Ogunquit, ME  
J River Skiffs, Dan Horning, Cape Neddick, ME  
M/Y Shogun, Capt. Mike Finnegan, Edgcomb, ME  
LaJoie Brothers, John LaJoie, Augusta, ME  
Sturtivant Island Tuna Tournament, Pres. Phil Grondin, ME  
Great Bay Aquaculture, George Nardi and Gennaco, Portsmouth, NH  
Sanders Lobster, Jeff Sanders, Portsmouth, NH  
Portsmouth Scuba, Jay Gingrich, Portsmouth, NH  
Seaport Fish, Rick Pettigrew, Rye NH  
Ray's Seafood, Andrew Widen, Rye, NH  
J & K Fisheries, Jason Driscoll, Rye, NH  
Sea View Lobster Corp, Michael Flanigan, Rye, NH  
Petey's Restaurant, Peter Aikens, Rye NH  
Shoals Bait Pens and Harpoons, LLC, Ritchie White, Rye, NH  
New Hampshire Precision Metal Fabrication, Inc., Londonderry, NH  
JC Boat, Jack Cadario, Brookline, NH  
Boatwise, LLC, Capt. Rick Kilborn, South Hampton, NH  
North Atlantic Marine Service, Steve McNally, Amesbury, MA  
NewEnglandSharks.com, Capt. Tom King, Scituate, MA  
Captain Mike Sawyer, S.P., Plymouth, MA  
Boston Big Game Fishing Club, Marshfield, MA  
Maguro America, Inc., Robert Fitzpatrick, Chatham, MA  
Nantucket Fish Co., Pres. Andrew Baler, South Dennis, MA  
Chatham Pier Fish Market, Chatham, MA  
North Atlantic Traders, Ltd., Bob Kliss, Lynn, MA  
Hy-Line Cruises, Gerald Poyant, Hyannis, MA  
Menemsha Texaco, Marshall and Katie Carroll, Menemsha, MA  
Neptune Marine Service, Justin Wall, Brewster, MA  
Brant Point Marine, Bill Davidson, Nantucket, MA  
Nantucket Seafoods, Dan Lemaitre, Nantucket, MA  
Michaelangelo & Son, Michael Cannistraro, Marston Mills, MA  
Island Taxidermy and Wildlife Studio, Janet Messineo, Martha's Vineyard, MA  
The Fisherman's Line, Bob Rogers, Assonet, MA  
Tri-State Fishing Tournaments, Steve Mantia, Carver, MA  
Vineyard Blues, Peter Oneil, Worcester, MA  
Okuma Reels and Yeti Coolers, Mnft. Rep. Mike Batta, West Barnstable, MA  
*On The Water* Magazine, Publisher Chris Megan, East Falmouth, MA  
Poon Harpoons, Falmouth, MA  
New England Farm Union, Pres. Annie Cheatham, Shelburn Falls, MA  
Crestar/The Frame Factory, Jason Dittelman, East Greenwich, RI  
Compass Seafoods, LLC, Patrick Mead, Charlestown, RI  
Bert's Boats, LLC, Robert Fanella, Narragansett, RI  
Laptew Productions, Mike Laptew, North Kingstown, RI  
Fred C. Church Insurance, Lowell, MA  
Stripersonline.com, Tim Surgent, Wall, NJ  
Fisherman's Post, Publisher Gary Hurley, Wilmington, NC



**EARTHJUSTICE**



June 4, 2012

Captain Paul J Howard, Executive Director  
New England Fishery Management Council  
50 Water Street Mill 2  
Newburyport, MA 01950  
[HerAmendment5@noaa.gov](mailto:HerAmendment5@noaa.gov)

RE: Comments on Amendment 5 to the Atlantic Herring Fishery Management Plan (FMP) and Draft Environmental Impact Statement (DEIS) (No. 20120104)

Dear Captain Howard,

We are writing on behalf of the Herring Alliance<sup>1</sup> to provide comments on Amendment 5 to the Atlantic Herring FMP and its DEIS. The transition of this fishery to one dominated by industrial-scale fishing vessels demands a carefully implemented set of parallel changes to the fishery's conservation and management measures in order to protect the Northeast Shelf's forage base, including target (Atlantic herring) and non-target (river herring and shad) species caught in the fishery. Of particular concern to the Herring Alliance are river herring and shad which, due to the existing fragmented management approach for these species, are without any meaningful regulations in federal waters. This has contributed to the severely depleted status of these keystone species and left them in dire need of conservation and management.<sup>2</sup>

Fundamental changes are required to improve catch monitoring, reduce bycatch/incidental catch, and establish catch limits for non-target species caught in the fishery. The Herring Alliance recommends approval of the following final measures for inclusion in Amendment 5:

- Require dealers to accurately weigh and report all catch (**Section 3.1.5 Option 2**).
- Require 100% Observer Coverage on Category A & B vessels, with industry funding coverage that NMFS does not fund. (**Section 3.2.1.2 Alternative 2 & Option 2**).

<sup>1</sup> The Herring Alliance includes 52 organizations representing nearly 2 million individuals. The Herring Alliance is concerned about the Atlantic coast's forage fish (e.g., Atlantic herring, menhaden, and mackerel, river herring and shads, butterfish, and squids), that play a critical role in the food web as prey to a large number of predators, many of which support valuable recreational and commercial fisheries. A current list of members is attached to this letter.

<sup>2</sup> The 2012 river herring stock assessment and its peer review concluded that river herring are depleted, that ocean catch is an issue, and that they require fisheries management. See Stock Assessment Report No. 12-02 of the ASMFC *Terms of Reference & Advisory Report of the River Herring Stock Assessment Peer Review*, at 8, available at: [http://www.asmf.org/meetings/2012SpringMtg/ShadandRiverHerringManagementBoard\\_2.pdf](http://www.asmf.org/meetings/2012SpringMtg/ShadandRiverHerringManagementBoard_2.pdf). Similarly, the 2007 the American Shad stock assessment and peer review concluded that shad populations have been declining in abundance for years, are not recovering, and are in need of management actions addressing fishing impacts to the species. See Stock Assessment Report No. 07-01 of the ASMFC *Terms of Reference and Advisory Report to the American Shad Stock Assessment Peer Review (2007)* at 19, available at: <http://www.asmf.org/>.



- Establish an accountability system that discourages wasteful dumping of catch, including a fleetwide limit of five “slippage” events for each herring management area, after which slippage events would require a return to port (**Section 3.2.3.4 Option 4D**).
- Establish an immediate catch cap on the total combined amount of river herring and shad caught in the Atlantic herring fishery (**Modified Section 3.3.5** with cap amounts based on the median 3 or 5 year annual river herring and shad catch by area, with a provision for updating the cap based on new scientific information (through specifications)).
- Add river herring and shad as “non-target stocks in the fishery” (**Modified Section 3.3.5** with immediate initiation of an action to establish the status determination criteria and other required management measures).
- Close River Herring Protected Areas (“hotspots”) to directed herring fishing (**Section 3.3.3.2.1 Option 1**, modified to allow for a future expansion of these hotspots through a Framework Adjustment to the larger “River Herring Monitoring/Avoidance Areas” if appropriate (**Section 3.3.4**)).
- Ban mid-water trawling in closed areas established to promote rebuilding of groundfish populations (**Section 3.4.4 Alternative 5**).

Detailed comments on these and additional management measures are provided below. Where modifications to proposed alternatives are recommended, the modification is noted.

Thank you for considering these comments.

Sincerely yours,

/s/ Roger Fleming  
Roger Fleming, Attorney  
Erica Fuller, Attorney  
Earthjustice



## Detailed Herring Alliance Comments

### **Section 3.3 Management Measures to Address River Herring Catch**

The Council and NMFS are legally obligated to add river herring and shad to the Atlantic herring fishery management plan. *See Flaherty v. Bryson*, 2012 WL 752323, \*13 (D.D.C. Mar. 8, 2012). Until they are added to the plan with fully implemented status determination criteria and other legally required measures, the Council must take immediate action to decrease the incidental catch of river herring and shad in the Atlantic herring fishery. *Id.* at \*16. These measures must be accompanied by the application of a robust monitoring program with 100% at-sea monitoring and a system to control dumping. In addition to adding river herring and shad as stocks in the fishery to the Atlantic Herring FMP (discussed further below), the Herring Alliance supports the following alternatives as interim measures to reduce incidental catch of river herring and shad:

**1. Until River Herring and Shad are Fully Integrated into the FMP the Council Must Establish a River Herring and Shad Catch Cap**

The Herring Alliance supports a modified Alternative Section 3.3.5, which currently reads:

- Section 3.3.5: The Council will consider establishing a river herring catch cap for the Atlantic herring fishery as one of the several potential measures to reduce bycatch.

**This alternative should be modified to implement an immediate cap for all alosines (river herring and shad, or “River Herring”) based on the 3 or 5 year median annual river herring and shad catch by management area, with a provision for updating the cap based on new scientific information as it becomes available (through specifications). The Amendment 5 record and DEIS fully supports approval of this modified alternative, and the Council has the authority and the legal obligation to initiate this cap immediately. *See Flaherty v. Bryson*, 2012 WL 752323 at \*16 (“to meet their responsibility to ensure compliance with the National Standards, Defendants must demonstrate that they have evaluated whether the FMP or amendment minimized bycatch to the extent practicable.”).**

Amendment 5 has been developed to address the widely recognized need to reduce bycatch in the Atlantic herring fishery and specifically identified River Herring catch as a key issue to be addressed.<sup>3</sup> River Herring are caught, killed, and either landed or discarded in federally managed waters between 3 and 200 miles from shore by vessels in the Atlantic herring fishery. Although the majority appears to be landed and sold with Atlantic herring and mackerel, there are no meaningful federal regulations under any fishery management plan that manages this catch. The Council must take responsibility for this unmanaged mortality in the herring fishery and approve measures that will improve monitoring, reduce bycatch/incidental catch, and establish catch caps/limits for these species, especially for the Category A and B vessels that catch the vast majority of River Herring and realize the vast majority of the revenue in this fishery.

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<sup>3</sup> *See* 74 Fed. Reg. 68577 (Dec. 28, 2009).





The Herring Alliance previously requested a catch cap for River Herring.<sup>4</sup> As noted by the PDT report referenced below, catch caps are often based on recent catch history when it is determined not to use an existing stock assessment for establishing a catch limit or one is not available. A catch cap is necessary to provide a strong incentive to avoid River Herring and help to minimize its overall catch. For guidance on various analyses, please see the document prepared for the Atlantic Herring PDT entitled *Developing River Herring Catch Cap Options in the Directed Atlantic Herring Fishery*<sup>5</sup> and contained in Volume II of the DEIS for Amendment 5, particularly Table 4 which provides Sub-Options for River Herring Catch Triggers by Area.

## **2. Until River Herring are Fully Integrated into the FMP the Council Must Implement Hotspot Closures**

The New England Council has identified a variety of “River Herring Protection Areas” (relatively small) and “River Herring Monitoring/Avoidance Areas” (larger) in Amendment 5 as areas where river herring interactions are high. As an immediate interim measure until river herring and shad (“River Herring”) are fully integrated into the FMP, herring vessels should be excluded from the River Herring Protection Areas. With modifications, the Herring Alliance supports Alternative Sections 3.3.3.2.1 and 3.3.4.

- **Section 3.3.3.2.1: Option 1** Closed Areas: Prohibit directed fishing for herring in the areas/times that are identified as River Herring Protection Areas.

Alternative Section 3.3.3.2.1 should be modified to clarify that “directed fishing for herring” in these closures means herring permitted vessels fishing for, possessing, catching, transferring or landing more than 2,000 pounds of herring from the River Herring Protection Areas on all fishing trips. In addition, it should be modified to reflect that Category C & D permits will not be affected by these closures if not carrying gear capable of catching Atlantic herring.

**Although the Herring Alliance supports the closures identified, it is opposed to the sub-option which allows a vessel to “declare out of the fishery”** because it provides a loophole for limited access herring vessels to avoid having to comply with the Closed Areas prohibition. Alternatives 3.3.3.2.1 and 3.3.3.2.3 already provide appropriate exemptions, although the exemptions under 3.3.3.2.1 should be clarified to include vessels not fishing with mesh gear (e.g. hook and line). If adopted, this is an area where the New England Council and the Mid-Atlantic Council should coordinate their actions in Amendment 5 and Amendment 14 so that all small-mesh gear types capable of catching River Herring are prohibited from fishing in the closed areas regardless of the target species.

- **Section 3.3.4:** Mechanism for Adjusting/Updating River Herring Areas

Because the hotspots closed under Alternative 3.3.3.2.1 are relatively small, the Council should also approve Section 3.3.4 which allows for future expansion or modification, through a Framework Adjustment. The closure of larger “River Herring Monitoring/Avoidance Areas”

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<sup>4</sup> See January 21, 2011 Letter from Herring Alliance to Executive Director NEFMC re: Capping River Herring Catch in the Atlantic Sea Herring Fishery.

<sup>5</sup> See Amendment 5 DEIS, Volume II, Appendix VII, at pp. 362-376.



should be considered as well as other areas if justified through further analyses, including data from 100% monitoring of the fishery. Based on various analyses provided in Volume II of Amendment 5 DEIS, closing the protection areas will help to minimize bycatch of river herring and shad populations in the short-term; however, the distribution of these species is likely too variable for these small closed areas to be effective, especially standing alone, in the long-term. **The Herring Alliance opposes the trigger-based closures under this alternative because the Council should not limit its application of a robust monitoring program to those limited areas for the vessels catching most of the fish in this fishery.** Category A and B vessels must be monitored robustly at all times and in all areas, including through 100% monitoring with a system to control at-sea dumping, not just in river herring hotspots. Further, because herring and mackerel are often targeted by the same vessels at the same time, the Council should coordinate these closures with the Mid-Atlantic Council to ensure consistency.

**3. The Council Can Not Rely on a Voluntary Bycatch Avoidance Program such as the SFC/SMASST/DMF Project described in Alternative 3.3.2.2.4 to Satisfy its National Standard 9 Obligation to Minimize Bycatch**

Any bycatch avoidance program, such as the SFC/SMASST/DMF Project described in Alternative 3.3.2.2.4, a University based voluntary program, is inappropriate as a regulatory measure and would be ineffective without a mortality cap. This alternative contemplates a “stand-alone approach for river herring bycatch” and should be removed from consideration in Amendment 5. There are simply no meaningful incentives to avoid bycatch through the program without a cap. Any positive results from the program to date are the result of the incentive to avoid meaningful regulation through this amendment, and will likely disappear as soon as Amendment 5 passes. The bycatch avoidance program for the Atlantic scallop fishery is successful at reducing bycatch only because there is a yellowtail flounder cap that scallop fishermen must avoid to continue fishing.

**4. The Council Must Add River Herring and Shad to the Atlantic Herring FMP**

The Magnuson-Stevens Act requires federal FMPs to describe the fish stocks involved in a fishery, and NMFS and the councils to manage those stocks in need of conservation and management.<sup>6</sup> FMPs must contain conservation and management measures consistent with the National Standards, including National Standards One and Nine which require management

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<sup>6</sup> The Magnuson-Stevens Act requires an FMP or an amendment for those fisheries requiring “conservation and management.” See 16 U.S.C. §§ 1852(h)(1); 1853(a)(2). For purposes of determining which target and non-target stocks require conservation and management, the Act provides a definition of “conservation and management” at 16 U.S.C. § 1802(5). *Id.* at \*1, FN3. This definition should be looked to for guidance in making decision about what stocks belong in a FMP, and refers to rebuilding, restoring, or maintaining “any fishery resource and the marine environment,” assuring among other things, a food supply, recreational benefits, and avoiding long-term adverse effects on fishery resources and the marine environment. National Standard 7 guidelines include a set of criteria for determining whether a fishery needs management that tracks this statutory definition and other MSA objectives and requirements, including examination of the condition of the stock or stocks of fish. The criteria also note that “adequate” management by an entity like the ASMFC could be one factor in determining whether a stock should be added to a fishery. In this case, although ASMFC management was noted by NMFS during briefing the *Flaherty v. Bryson* case, the Court did not address it in its opinion because (as even NMFS recognized) the ASMFC plan does not address federal waters.



measures that prevent overfishing and minimize bycatch.<sup>7</sup> The Act also requires annual catch limits (ACLs) and accountability measures (AMs) for *all* stocks in the fishery.<sup>8</sup> The National Standard One Guidelines require councils to identify the stocks in the fishery, including non-target stocks caught incidentally and retained or discarded at sea.<sup>9</sup> A stock can be identified in more than one fishery.<sup>10</sup> Identification as a stock in the fishery triggers ACL requirements and the standard approach to setting ACLs contained in the National Standard 1 Guidelines.<sup>11</sup> NMFS must review council decisions to ensure that they comply with the Act, and disapprove those that do not. *See* 16 U.S.C. § 1854(a).

The question of which stocks must be included in the Atlantic herring FMP was recently addressed in federal court. *See Flaherty*, 2012 WL at \*13 (holding that the Magnuson-Stevens Act requires Councils to prepare an FMP or amendment for any stock of fish that “requires conservation and management.”). Councils must make two determinations: (1) which stocks can be treated as a unit for purposes of management, and therefore should be considered a fishery, and (2) which of these fisheries then “require conservation and management.” *Id.* at \*9. The law does not allow managers to unreasonably delay decision-making regarding the appropriate composition of a fishery given their statutory obligations to ensure that overfishing does not occur. *Id.* at \*12. The court also rejected any interpretation of the National Standard One Guideline found at 50 C.F.R. § 600.310(d)(1), as providing the Council with unreviewable discretion to determine what stocks belong in an FMP. *Id.* The Court held that while the Council’s role is to name the species to be managed “in the first instance,” NMFS has a duty “in the second instance” to ensure an FMP, including the composition of its fishery, satisfies MSA requirements. *Id.* at \*\*13, 14. Moreover, Councils and NMFS cannot limit the stocks they include in a fishery to just those stocks that already happen to be part of an FMP, or those they have officially designated as overfished (or where overfishing is occurring). *Id.* at \*\*12-14.

Thus, binding precedent makes clear that stocks in need of conservation and management must be added to an FMP. A decision by this Council to wait for a specific remedy order in the

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<sup>7</sup> 16 U.S.C. § 1851(a)(1) & (9).

<sup>8</sup> *Id.* § 1853(a)(15).

<sup>9</sup> 50 CFR § 600.310(d)(3), (4). A “fishery” is defined as “one or more stocks of fish which can be treated as a unit for purposes of conservation and management and which are identified on the basis of geographical, scientific, technical, recreational, and economic characteristics.” *Id.* § 1802(13). A “stock of fish” is defined as a “species, subspecies, geographical grouping, or other category of fish capable of management as a unit.” *Id.* § 1802(42). The National Standard One Guidelines provide additional guidance on the classification of the stocks in an FMP. *See* 50 C.F.R. § 600.310(d)(1) (“Magnuson-Stevens Act section 303(a)(2) requires that an FMP contain, among other things, a description of the species of fish involved in the fishery. The relevant Council [in the first instance] determines which specific target stocks and/or non-target stocks to include in a fishery” consistent with the Act’s requirements. *See Flaherty v. Bryson*, 2012 WL 752323, \*14. The regulations define “target stocks” as “stocks that fishers seek to catch for sale or personal use, including ‘economic discards’ as defined under Magnuson-Stevens Act section 3(9),” and “non-target species” and “non-target stocks” as “fish caught incidentally during the pursuit of target stocks in a fishery, including ‘regulatory discards’ as defined under the Magnuson-Stevens Act section 3(38). They may or may not be retained for sale or personal use.” Non-target species included in a fishery should be identified at the stock level. *Id.* § 600.310(d)(2)-(4).

<sup>10</sup> *See* 50 C.F.R. § 600.310 (d)(7) (“If a stock is identified in more than one fishery, Councils should choose which FMP will be the primary FMP in which management objectives, SDC, the stock’s overall ACL and other reference points for the stock are established.”).

<sup>11</sup> *See* 50 C.F.R. § 600.310(a), (b)(ii).



*Flaherty v. Bryson* case or to ignore the law outlined in that opinion when making management decisions about River Herring would ignore critical information on how to determine the composition of this fishery for management and violate the law.

River herring and shad are involved in the Atlantic herring fishery and capable of being managed as part of it. *See* Amendment 5 DEIS at p. 134; see also p. 447 (Coincidence of River Herring and Shad); *see also Flaherty*, 2012 WL at \* 12 (“Defendants’ conclusory statement that river herring would simply have to wait until a future amendment does not suffice.”). The incidental catch of river herring and shad by all ocean-intercept fisheries (including the herring fishery) averaged an estimated 459 metric tons of river herring per year and an estimated 63 metric tons of shad per year.<sup>12</sup> By contrast, landings of river herring and shad, provided by the ASMFC for fisheries in state waters during the same time period, averaged 601 and 581 metric tons respectively.<sup>13</sup> Further, it is estimated that the mid-water trawl fishery for both Atlantic herring and Atlantic mackerel accounts for 71% of the combined incidental catch of river herring and shads. NMFS Observer records show that at-sea fishing vessels may take as much as 20,000 pounds of blueback herring in a single net haul.<sup>14</sup> River herring and shad are caught, kept, landed and sold in this fishery, as well as discarded as bycatch.<sup>15</sup> Thus, it is indisputable that these species are involved in the Atlantic herring fishery and can be managed as part of it.

River herring and shad are in dire need of conservation and management. In addition to the science identified in the DEIS for Amendment 5 (and the DEIS for Amendment 14)<sup>16</sup>, the new benchmark stock assessment for river herring, approved for management use by the ASMFC on May 1, 2012, confirms that river herring along the entire Atlantic seaboard are depleted, with many of the river runs barely persisting and near historic lows.<sup>17</sup> Of 24 river stocks that the stock assessment team was able to characterize regarding current condition, 92% were described as depleted.<sup>18</sup> There were “severe declines in [fishery] landings began coastwide in the early 1970s and domestic landings are now a fraction of what they were at their peak having remained at persistently low levels since the mid-1990s.”<sup>19</sup> U.S. commercial landings are down 93% from the 1970’s.<sup>20</sup> The peer review panel similarly observed that “[s]tocks of river herring are greatly depleted compared to the early 17th century baseline, as well as compared to that of the late 19th century.”<sup>21</sup> And “...concurs with the SASC [stock assessment sub-committee] conclusions that river herring stocks are depleted, that ocean bycatch is an issue, and that recovery will require

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<sup>12</sup> *See* Amendment 14 DEIS at p. 222.

<sup>13</sup> *Id.*

<sup>14</sup> *See* Haul data from North East Fisheries Observer Program, NMFS; Landings data from NOAA's Annual Commercial Landing Statistics, available at: [www.st.nmfs.noaa.gov/st1/commercial/landings/annual\\_landings.html](http://www.st.nmfs.noaa.gov/st1/commercial/landings/annual_landings.html).

<sup>15</sup> *See* Amendment 5 DEIS at pp. 54, 134, 447; *see e.g.* analyses in Appendix IIA, VI, VII (Volume II).

<sup>16</sup> *See* Amendment 14 DEIS, § 2.1.9 Addition of RH as “Stocks in the Fishery” in the MSB FMP at pp. 82-89, § 6.2.5 River Herring Stock Status at p. 210, §6.5.6 Description of Candidate Species for Listing Under the ESA, at p. 240.

<sup>17</sup> *See* The ASMFC’s River Herring Stock Assessment Report No. 12-02, Volume I – Coastwide (May 2012) (“Stock Assessment Report”).

<sup>18</sup> Stock Assessment Report - Executive Summary.

<sup>19</sup> Stock Assessment Report - Executive Summary.

<sup>20</sup> Stock Assessment Report - Executive Summary.

<sup>21</sup> *Terms of Reference & Advisory Report of the River Herring Stock Assessment Peer Review* (March 2012)(“Peer Review Report”), Intro. p. 8.





management on multiple fronts. . .”<sup>22</sup> For the first time ocean bycatch of river herring was examined in a stock assessment, and it concluded that at-sea fisheries are a significant factor in the decline of the species’ populations over the last 50 years.<sup>23</sup>

In addition to the new stock assessment, NMFS recently determined that a listing of river herring (blueback herring and alewife) as “threatened” under the Endangered Species Act may be warranted.<sup>24</sup> Finding that the petition presented “substantial scientific information that the petitioned action may be warranted” NMFS initiated a year-long status review. As described in the petition, existing state and federal regulatory mechanisms are insufficient for river herring.<sup>25</sup> The current federal/state/regional management framework has avoided the coordinated management necessary to conserve and manage these species. Specifically, the regulatory measures drafted by the Atlantic States Marine Fisheries Commission (ASMFC) in Amendment 2 to the Interstate Fishery Management Plan for Shad and River Herring, and implemented through state laws, have proven insufficient because this interstate compact agency has confined the reach of its plan to state waters. Moratoriums on directed fisheries for river herring in several states have been in place for years without sufficiently beneficial results.<sup>26</sup> Although the ASMFC is required to coordinate its management measures with NMFS to promote the conservation of stocks throughout their ranges, this authority has not been exercised.

Shads also need conservation and management. As noted above, figures used to develop Amendment 14 indicate that on average 120,000 pounds of shad were caught per year in ocean intercept fisheries including the Atlantic herring fishery from 2006-2010.<sup>27</sup> Of these approximately 600,000 fish, many of them were juveniles.<sup>28</sup> Currently, shads are managed under Amendment 3 to the IFMP for Shad and River herring and according to the most recent stock assessment their status is “depleted” as well - finding that “stocks were at all-time lows and did not appear to be recovering to acceptable levels.”<sup>29</sup> The stock assessment also noted that coast-wide declining trends raised flags that ocean mortality was having a serious impact, and the peer review team listed bycatch monitoring as a high priority for future action.<sup>30</sup> Amendment 3 currently prohibits ocean intercept fishing for shad, however there is little enforcement. No assessments are available for hickory shad but as noted in the Amendment 14 DEIS, “many runs

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<sup>22</sup> *Id.* at p. 8.

<sup>23</sup> *Id.*

<sup>24</sup> In response to a petition filed by the in response to a petition filed by the National Resources Defense Council (NRDC), NMFS made a 90 day finding that a listing may be warranted, 76 Fed. Reg. 67652 (Nov. 2, 2011). Listing determinations are made solely on the basis of the best scientific and commercial data available, after a full status review, and taking into account all efforts to protect and manage the species. 16 U.S.C. § 1533(b)(1)(A).

<sup>25</sup> See NRDC Petition at 78-79.

<sup>26</sup> Connecticut, Massachusetts, Rhode Island, and North Carolina have prohibited harvest for several years without recovery of species’ populations. See Species Profile: River Herring States and Jurisdictions Work to Develop Sustainable Fisheries Plans for River Herring Management, p.2 available at: <http://www.asmfc.org/shadRiverHerring.htm>. Sustainable Fishery Plans have been approved for 5 states (Maine, New Hampshire, North Carolina, South Carolina and New York).

<sup>27</sup> See Amendment 14 DEIS, §4.1.B at p. 111.

<sup>28</sup> *Id.*

<sup>29</sup> ASMFC. August 2007. Stock Assessment Report No. 07-01 (Supplement) of the Atlantic States Marine Fisheries Commission: American Shad Stock Assessment for Peer Review, Volume 1.

<sup>30</sup> See ASMFC American Shad Stock Assessment Peer Review Panel, Stock Assessment Report No. 07-01 of the ASMFC, Terms of Reference & Advisory Report to the American Shad Stock Assessment Peer Review. July 2007.



are likely below historical levels for reasons similar to those discussed below for Atlantic shad.”<sup>31</sup>

River herring and shad populations remain in a severely depleted state, and federal waters ocean catch has been firmly identified as an ongoing threat to these fish. While the ASMFC has implemented conservation measures in state waters up and down the coast, it has ultimately not adopted any protections for federal waters, placing the responsibility squarely on the New England Council, as well as NMFS and the Mid-Atlantic Council to conserve and manage these species.

### 5. Industry’s Argument Regarding Stock in the Fishery Designation Is Incorrect

Recently, industry has argued a new (and misguided) legal theory regarding the addition of river herring and shad as stocks in the fishery. See June 4, 2012, Letter from Lund’s Fisheries Incorporated to Executive Director MAFMC re Amendment 14, at p. 8. Industry now claims that “stock determination criteria” are a necessary pre-condition for establishing a species as a ‘stock in the fishery’ under the National Standard One guidelines, and that the ASMFC stock assessment is fraught with disclaimers preventing its use to assess status. *Id.* This interpretation of the final rule is incorrect for a number of reasons.

As outlined above, the relevant inquiry into *what* species should be added to an FMP is found in the Magnuson-Stevens Act. The Magnuson-Stevens Act requires Councils to first determine the species involved in their fisheries and then prepare an FMP for those that require conservation and management.<sup>32</sup> To prevent overfishing, that plan must specify “objective and measurable criteria.”<sup>33</sup> National Standard One Guidelines reinforce this and require stocks involved in the fishery be identified, so they can be added to an FMP, and status determination criteria used to prevent overfishing. See 50 C.F.R. §§ 600.310 (d)(1), (d)(4), and (e)(2). In that order, stocks are identified as needing conservation and management, added to a plan, and criteria are established (if not already available) to ensure that the plan prevents overfishing.

The preamble to the final rule industry refers to simply states that “‘Stocks in the fishery’ need status determination criteria, other reference points, ACL mechanisms and AMs.” *Final Rule*, 74 Fed. Reg. 3178 at 3179 (Jan. 16, 2009). “Need” does not equate to a prerequisite. No one disputes that all stocks ultimately “need” criteria to prevent overfishing; however, nothing in the Act, the final rule, or the regulations require status determination criteria *prior* to adding them as stocks in the fishery. On the contrary, the regulations contemplate the order discussed above and the use of proxies (if necessary), based on the best scientific information available, for reference points not yet identified - including proxies for MSY,  $F_{MSY}$  and  $B_{MSY}$ .<sup>34</sup> Finally, the ASMFC’s river herring stock assessment has been peer-reviewed and approved for management use by the ASMFC. It cannot now be used as an excuse not to manage these species. This stock assessment report is the best available science and while it does not provide reference points for

<sup>31</sup> Amendment 14 DEIS, § 6.2.6 at p. 213.

<sup>32</sup> See 16 U.S.C. §§ 1852(h)(1), 1853(a)(2); see also *Flaherty v. Bryson*, 2012 WL 752323 at \* 11, 12.

<sup>33</sup> *Id.* at § 1853(a)(10).

<sup>34</sup> See 50 C.F.R. § 600.310(e)(1)(iv) (“Where this uncertainty cannot be directly calculated, such as when proxies are used, then a proxy for the uncertainty itself should be established based on the best scientific information, . . .”).



a coastwide river herring complex, it provides ample evidence that river herring and shad are caught in large numbers in federal waters by midwater trawlers in ocean intercept fisheries, are in need of conservation and management, and thus should be added to a plan.

### **Section 3.2: Catch Monitoring: At-Sea**

Robust monitoring of this industrial fishery should be viewed as a mandatory precondition for access to millions of pounds of these vital public resources (i.e., Atlantic herring, river herring, shad, and mackerel). Congress intended that there be both “limits” and “accountability” in fisheries, with the ultimate goal of “protect[ing], restor[ing], and promot[ing] the long-term health and stability of the fishery.” 16 U.S.C. § 1853(a)(1)(A). In order to achieve accountability, the Magnuson-Stevens Act requires that FMPs include monitoring and reporting measures necessary to track retained catch and discarded bycatch, including a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery). *See* 16 U.S.C. §§ 1853(a)(5), (a)(11). Adequate monitoring and bycatch measures are also vital to ensuring that overfishing is prevented. *See e.g., Flaherty*, 2012 WL at \*16 (“to meet their responsibility to ensure compliance with the National Standards, Defendants must demonstrate that they have evaluated whether the FMP or amendment minimized bycatch to the extent practicable.”).

Only those alternatives which increase the accuracy and timeliness of vessel and dealer reporting (discussed below), coupled with management measures that greatly improve the accuracy and precision of third-party (i.e. observer) incidental catch estimates should be selected in Amendment 5. 100% monitoring of A and B vessels could also make the task of independently estimating the landed catch because observers could easily accomplish this during the return to port. This could be done by inspection of certified / calibrated holds, thereby reducing some of the administrative and economic burden contemplated under the proposed Reporting Requirements (section 3.1.5). The measures approved in Amendment 5 should be consistent with those approved by the Mid-Atlantic Council in Amendment 14 to avoid discrepancies that would make implementation difficult or allow fishing effort to avoid robust monitoring in one FMP by selectively declaring into another fishery.

#### **1. The Council Must Require 100% Observer Coverage of Category A and B vessels With Industry Funding that Part of Coverage NMFS Does Not Fund**

The Council must approve a robust at-sea monitoring for the largest vessels in the herring fleet, particularly the large midwater and midwater pair trawl vessels operating with Category A and Category B permits. Although recently improved, the observer coverage rate averages less than 40% on herring trips.<sup>35</sup> The Herring Alliance recommends 100% at-sea monitoring coverage for Category A and B vessels, with the industry providing supplementary funding as needed to pay for the coverage, and enhanced protocols necessary to ensure that observers have access to all catch for sampling. Specifically, the Herring Alliance recommends the following alternatives:

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<sup>35</sup> *See* Amendment 5 DEIS, § 4.2.1.2 at 133.



- **Section 3.2.1.2 Alternative 2:** Require 100% Observer Coverage on Limited Access herring vessels. With the following sub-options.
  - Funding Option 2: Federal and Industry Funds
  - Service Provider Option 1: No Action

**Alternative 3.2.1.2 should be modified to clarify that it only applies to Category A and B vessels. Vessels of this size and fishing power, fishing with a small-mesh gear prone to catastrophic bycatch events of depleted species like river herring, require very high levels of observer coverage.** In fact, the only two comparable fleets in the U.S., the west coast MWT fishery for Pacific whiting (hake) and the Alaska (walleye) Pollock MWT fishery, both employ mandatory 100% at-sea observer coverage.<sup>36</sup> There are approximately 30 Category A and B vessels active in the Atlantic herring fishery that account for nearly 97-99% of the landings.<sup>37</sup> The status quo monitoring regime in this fishery cannot provide precise and accurate estimates of catch,<sup>38</sup> nor is it even capable of preventing repeated and destructive quota overages.<sup>39</sup>

**The Herring Alliance supports Funding Option 2,** under which an industry-funded observer program would be implemented to meet the goal of 100% observer coverage in cases when federal funds were unavailable. A number of herring harvesting and processing entities, along with the vast majority of other herring fishery stakeholders, have supported this option.<sup>40</sup> **The Herring Alliance is opposed to “grandfathering” all States in the Northeast Region as service providers for sea sampling and is opposed to the issuance of waivers which would essentially nullify any requirement for 100% observer coverage in the fishery.** No States are currently providing observer services and as such none have acquired NMFS approval as service providers.<sup>41</sup> Therefore the very concept of “grandfathering” is not applicable. Absent full certification by NMFS of any State wishing to provide observer services, NMFS and the public would have no assurances that the states would comply with NMFS data collection, processing, management, sharing, and transparency standards. As the Amendment 5 DEIS points out, their “operational details would be unknown.”<sup>42</sup> This is not an acceptable scenario, and even the Northeast Observer Program (NEFOP) opposes this option.<sup>43</sup> Finally, One hundred percent coverage must mean just that: 100%. A blanket provision allowing the unlimited

<sup>36</sup> See 50 C.F.R. §§ 660.140, 660.150, 660.160 (Whiting) and 679.50 (Pollock).

<sup>37</sup> See Amendment 5 DEIS, Table 49 at p. 225 and Table 61 at p. 238.

<sup>38</sup> See Am 5 DEIS at p. 366 explaining that the Standardized Bycatch Reporting Methodology (SBRM) Amendment governing observer coverage in Northeast U.S. fisheries was recently vacated in response to a federal court ruling, at page 486 acknowledging the high degree of uncertainty in river herring removals estimates, and at page 415 illustrating that in 2010 over 450,000 pounds of catch in the fishery could not be identified to species (i.e. was classified as “Herring, Not Known” or “Fish, Not Known.”

<sup>39</sup> See Final Rule Amendment 4, 76 Fed. Reg. 11373 (Mar. 2, 2011) (showing that between 2001 and 2009, management area closure thresholds were exceeded on 8 of 36 occasions; see also NMFS quota monitoring reports at [http://www.nero.noaa.gov/ro/fso/reports/reports\\_frame.htm](http://www.nero.noaa.gov/ro/fso/reports/reports_frame.htm) showing that this trend has continued in recent years, with cascading overages in management Area 1B of 138% (2010) and 156% (2012)).

<sup>40</sup> See Amendment 5 written comment compilations at <http://www.nefmc.org/herring/cte%20mtg%20docs/120606/HR%20A5%20COMMENTS%20NEFMC%20.pdf> and <http://www.nefmc.org/herring/cte%20mtg%20docs/120606/HR%20A5%20COMMENTS%20NERO.pdf>

<sup>41</sup> See Amendment 5 DEIS at p. 394.

<sup>42</sup> *Id.*

<sup>43</sup> *Id.*





issuance of waivers with no backstops or other accountability measures is likely to seriously undermine any 100% coverage requirement or other target coverage level.

## **2. The Council Must Implement the Closed Area 1 Rules Fishery-Wide With a Fleetwide Limit of Five “Slippage” Events Per Management Area**

As a deterrent to wasteful dumping the Herring Alliance supports Section 3.2.3.4 Option 4D:

- **Section 3.2.3.4 Option 4D: Measures to Address Net Slippage - Closed Area I Provisions with Trip Termination Only (5 Events per Management Area)**

In addition to 100% observer coverage, the Council should close loopholes that undermine the accuracy, precision, reliability and completeness of observer data by allowing significant amounts of catch to be discarded at sea prior to being sampled by observers. This practice, known also as “dumping” or “slipping” catch is an ongoing problem in the Atlantic herring fishery. The highly successful pilot program in Closed Area 1 (CA1) has proven effective in controlling dumping without undue impact on herring fishery operations.

The Council should explicitly clarify that consistent with the current CA1 sampling regulations, under Option 4D operational discards: a) must be brought aboard for sampling; b) may only be dumped under one of the other three allowable exceptions (safety, mechanical failure, and spiny dogfish clogging the pump); and c) if dumped would be subject to the accountability requirements outlined in the measure (the dumping event would be tallied toward the fleetwide allowance of 5 dumping events per herring management area, and subsequent dumping would trigger a requirement to terminate the trip and return to port). In addition, the Council should clarify that the Closed Area 1 provisions identified in Alternative 3.2.3.4 Option 4D are based on the November 30, 2010 Final Rule codified at 50 C.F.R. § 648.80 as described in Alternative 3.2.3.3 and would apply to operational discards.<sup>44</sup>

At-sea dumping of un-sampled catch is a serious conservation concern, constituting significant amounts of bycatch.<sup>45</sup> It is also widespread, affecting over 30% of observed hauls in the fishery in 2010 alone,<sup>46</sup> unnecessary, wasteful, and undermines the validity of catch data.<sup>47</sup> Thus, it conflicts with National Standard 9 requirements to minimize bycatch and undermines the conservation objectives of Amendment 5.<sup>48</sup> There are proven and practical solutions to correct this situation. It is clearly demonstrated that the existing CA1 rules reduce bycatch and bycatch mortality, and they show, by the successful operational and safety record to date of the CA1

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<sup>44</sup> In January 2011, the New England Council passed a motion clarifying that any reference to current federal regulations (i.e. the current CA1 provisions) in the Amendment 5 document refers to those regulations as specifically codified in the CFR, which indicates that Option 4D must treat operational discards as they are treated under current CA1 rules. See summary of NEFMC motions from January 2011 at <http://www.nefmc.org/actions/motions/motions-jan11.pdf>.

<sup>45</sup> See e.g. Amendment 5 DEIS at p. 414.

<sup>46</sup> See Amendment 5 DEIS at p. 414.

<sup>47</sup> See Amendment 5 DEIS at p. 415 (illustrating extent of catch not identified to species level due to dumping), and at p. 419 (illustrating that most at-sea dumping is not necessary).

<sup>48</sup> See Amendment 5 DEIS, § 2.0 Goals and Objectives.



rules, that such an approach is a practical approach to minimizing bycatch consistent with National Standard 9.

**Trip terminations after a slippage event are a necessary accountability measure and a deterrent to discourage abuse of the dumping exceptions;** however, the measure must be effectively translated from one that is custom-crafted to apply to CAI into one that works for the entire fishery. A hybrid approach which grants a fleet-wide allowance of dumping events per herring management area, followed by a trip termination requirement, is a sensible and justified solution. Further, the proposed fleetwide allowance is neither arbitrary nor unreasonable. As the DEIS points out, observed dumping events in the fishery in past years are reasonably proportioned to the proposed allowance under Option 4D, especially in view of the probable elimination of unnecessary dumping that will result from the new rules driving behavioral changes.<sup>49</sup> Given the buffer against trip termination provided by the dumping allowance, the three exceptions provided under which dumping could occur, and the success to date of the CAI pilot program (no trips were required to leave CAI in 2010, and to date there have been no reports of safety or operational problems in 2011, the first year in which operational discards were required to be brought aboard) option 4D provides a reasonable balance that will deter slippage without unduly penalizing the fleet or individual vessels.

### **3. Additional Measures to Improve At-Sea Sampling**

The Herring Alliance supports certain measures in Section 3.2.2.2 Option 2 (sub-options 2A, 2B, 2C, and 2E) to facilitate and improve sampling by observers:

- **Section 3.2.2.2 Option 2:** Implement Additional Measures to Improve Sampling with sub-options as follows.
  - Sub-option 2A – Requirements for a Safe Sampling Station
  - Sub-option 2B – Requirements for Reasonable Assistance
  - Sub-Option 2C – Requirements to Provide Notice of Starting Pumping Operations)
  - Sub-option 2E – Communication on Pair Trawl Vessels – to require improved Communications between Pair Trawl Vessels

**The Herring Alliance opposes Sub-Option 2D (Requirements for Trips with Multiple Vessels),** which would seemingly require a sensible step (the deployment of an observer on both vessels of any pair trawl trip assigned observer coverage), but contains an unacceptable loophole (the inclusion of the phrase “wherever/whenever possible”). Since a pair trawling operation is considered one trip by NEFOP, and since NEFOP has stated that it already adheres to this policy, this is one of the simplest monitoring reforms that can and should be applied to the fishery. Pumping of catch to an unobserved vessel in a pair trawl team is one of the biggest loopholes exploited by the mid-water trawl fleet and largest contributors to the widespread problem of the “Fish, Not Known” category that undermines catch composition data in the fishery.<sup>50</sup>

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<sup>49</sup> See Amendment 5 DEIS at p. 433.

<sup>50</sup> See Amendment 5 DEIS at p. 418.



**The Herring Alliance also opposes Sub-Option 2F (Visual Access to Net/Codend), which requires vessel operators provide “visual access” to the net for observers, as an entirely unacceptable, loophole that will not allow for actual catch sampling.** NMFS has acknowledged that so-called visual access does not allow reliable catch estimation, stating (in final rule implementing revised CA1 sampling requirements) that absent the catch being brought aboard, “[s]pecies identification of fish remaining in the net is not typically possible. Observers may be able to identify some large bodied animals in the net, but are unable to reliably differentiate many fish to their species. Even if fish at the surface of the net are identifiable, the contents may not be homogeneous and the observer cannot determine the full composition of the net.”<sup>51</sup>

### **3.1 Proposed Adjustments to the FMP**

The Council must also approve measures that will enhance the efficiency, timeliness, and accuracy of catch monitoring and reporting in the fishery in order to improve the precision and accuracy of incidental catch estimates, which are extrapolations based on total reported landings. While Section 3.1 mainly proposes refinements, there are various self-reporting mechanisms (as opposed to true catch monitoring), which should instead be performed by trained, independent third party personnel (such as fishery observers), along with other administrative changes to the FMP that should be implemented. In many fisheries the veracity of catch reporting benefits from the opposing interests of those that catch and those that buy the fish. Such is not always the case in this industrial herring fishery where, due to vertical integration, under-reporting can be in the interest of both the seller and the buyer because they are essentially the same entity. Further, owing to the size or control of some industry participants relative to others, there may be additional pressure to under-report transactions.

Importantly, the Council should adopt measures that: 1) require (for the first time) that there be accurate and verifiable weighing of all catch in the fishery; 2) do not encourage new effort in the fishery; and, 3) improve monitoring and reporting while carefully avoiding the creation of loopholes in the program. The Herring Alliance supports the following alternatives:

#### **1. The Council Must Require Accurate and Verifiable Weighing of all Catch in the Fishery**

Standardizing the methods by which dealers weigh all catch and requiring vessels to confirm the amount of fish landed will result in better overall estimates of catch and help ensure that catch limits are not exceeded. Accurate landings data will also aid in monitoring a River Herring mortality cap, and in achieving better catch and bycatch estimates of river herring and shad. Accurate monitoring of target species can be as important as determining the encounter rates of River Herring when determining catch estimates due to the use of discard to kept ratios or other bycatch/incidental catch extrapolations.<sup>52</sup>

- Section 3.1.5.2: Option 2 - Require Dealers to Accurately Weigh All Fish

<sup>51</sup> See Discard Provision for Herring Midwater Trawl Vessels Fishing in Groundfish Closed Area I, Final Rule, 75 Fed. Reg. 73979 (Nov. 30, 2010).

<sup>52</sup> See Amendment 14 DEIS at p. 279.



- Sub-Option 2A: Annual Documentation of catch composition estimation methodology
- Sub-Option 2B: Weekly<sup>53</sup> reporting of catch composition estimation for each individual landing
- Sub-Option 2C: Dealer participation in SAFIS with vessel error-checking through Fish-On-Line

The requirement to weigh all fish and the sub-options 2A-2C are steps in the right direction, however, dealer or vessel self-reporting of unverifiable, unstandardized “hail” weights or visually-based volumetric estimates are ultimately inadequate and unacceptable because they leave opportunity for (deliberate or unintentional) misreporting. Third-party observers, port samplers, or law enforcement personnel should verify that accurate, complete and honest catch weights are being reported. **The Council should consider modifying this entire option to include as much third-party verification of landed catch weights as possible.** In fact, the most powerful aspect of requiring a verifiable weight or verifiable volumetric proxy is that unlike the current captain’s “hail” weight or captain/dealer visual volumetric estimate, it can be verified by a third-party observer. There are simple solutions the Council could include. For example, the Council could require that NMFS Observers, when present on a trip, remain with the vessel throughout the offloading operation to verify the landed weight. With 100% observer coverage on A and B vessels and calibrated holds, considerable efficiency could be gained through involving on-board observers in objective catch estimation before off-load. For all of the sub-options, dealers that do not sort by species should be required to document in applications their method for estimating the composition of a mixed catch. If this method cannot be applied to a particular transaction, dealers should be able to apply an appropriate methodology as long as they document that method with the transaction.

## **2. No Increase in Open Access Possession Limits**

To discourage new effort in the fishery, the Herring Alliance supports Section 3.1.6 Option 1:

- **Section 3.1.6 Option 1**: No Action – No increase in open access herring possession limits.

No changes to the current open-access possession limits in the Herring FMP are necessary or justified. Further, implementation of any of the proposed changes would potentially undermine the catch monitoring reforms proposed in this amendment through the creation of significant new herring fishing effort that might not be appropriately included in the monitoring program. Amendment 5 is clear: “available fishery data do not indicate that the current 3 [metric ton] possession limit of herring for open access permit holders is problematic at this time” and that this possession limit “does not appear to be resulting in bycatch/regulatory discards for vessels fishing in any of the management areas.”<sup>54</sup> The herring fishery may have overcapacity concerns already, including in the sensitive inshore portions of Areas 2 and 3. This is illustrated most recently by the 2012 Mackerel Advisory Panel Fishery Performance Report, which cites industry

<sup>53</sup> Please note that the Amendment 5 DEIS narrative description of Sub-Option 2B on page 29 does not specify that weekly submission of landing event reports is required; however, the description of this sub-option in the Executive Summary on page xvi does specify that this is a weekly reporting requirement.

<sup>54</sup> See Amendment 5 DEIS at p. 357.





statements that the directed mackerel fishery in 2012 effectively experienced a premature closure due to rapid harvest of the available herring quota in Herring Management Area 2.<sup>55</sup>

### **3. Additional Catch Monitoring Reforms**

The Herring Alliance recommends the Council approve the following measures:

- **Section 3.1.1: Option B** Proposed Regulatory Definitions
- **Section 3.1.2: Option B** Administrative/General Provisions. Sub-options as follows:
  - Sub-option 2A (Expand possession restrictions to vessels working cooperatively)
  - Sub-option 2B (Eliminate the VMS power-down provision)
  - Sub-option 2C (Establish an At-Sea Herring Dealer permit)
- **Section 3.1.3.2: Option 2** Require VMS on Carrier Vessels
- **Section 3.1.3.3: Option 3** Prohibit Transfers At-Sea to Non-Permitted Vessels
- **Modified Section 3.1.4.2: Option 2** - Expand Pre-Trip Notification System (for Observers)
- **Modified Section 3.1.4.3: Option 3** - Extend Pre-Landing Notification Requirement

**The Council should modify Options 2 and 3 in Section 3.1.4 to specify that the pre-trip and pre-landing notification requirements also apply to Category D vessels fishing with mid-water trawl gear in all Herring Management Areas (Option 2 already proposes applying these notifications in Areas 1A, 1B and 3).** The fishing industry and public have made clear they have concerns about mid-water trawl bycatch by the entire herring fishery, across all management areas. Further, it appears there may be some large mid-water trawl vessels that are mainly active in the mackerel fishery, but that also possess Category D herring permits. Requiring pre-trip and pre-landing notifications from all mid-water trawl vessels in all areas would facilitate placement of observers and portside spot-checks by NMFS Office of Law Enforcement.

Otherwise, the identified alternatives appear to improve catch reporting and some may indirectly support catch monitoring by providing a better understanding of overall fleet activities. Unverified self-reporting should not be a substitute for robust third-party catch monitoring, especially for the Category A and B vessels that catch the vast majority of the fish. The proposed new fishery definitions appear reasonable and necessary; however it should be a priority to the Council and NMFS to ensure that no loopholes are created which allow catch to inadvertently remain unaccounted for under new monitoring requirements implemented through Amendment 5. For example, it appears that some at-sea transfers are actually also offloads, and the Council should clarify this issue. The Herring Alliance supports Option 3 in Section 3.1.3.3 because it will likely allow managers to better understand the practice of at-sea transfer by requiring all participating boats to have a herring permit, and thus to report their activities more robustly. **However, we oppose Option 2 under this alternative since it appears to restrict the practice of at-sea-transfer to only the largest vessels in the fishery, at the expense of traditional small boat herring fishermen.**

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<sup>55</sup> See 2012 Industry Performance Report, available at: [http://www.mafmc.org/meeting\\_materials/SSC/2012-05/1-Staff\\_2013\\_MSB\\_ABC\\_Memo.pdf](http://www.mafmc.org/meeting_materials/SSC/2012-05/1-Staff_2013_MSB_ABC_Memo.pdf), at pp. 5-6.



### Section 3.4 Midwater Trawl Access to Groundfish Closed Areas

Groundfish bycatch problems in this fishery have increased, as shown by the midwater trawl industry's recent demands for a five-fold increase in their haddock bycatch allowance, granted by the Council in April 2011.<sup>56</sup> Recently available data also demonstrate that much of this problem results from fishing by mid-water trawl vessels in the Ground Fish Closed Areas (GFCA).<sup>57</sup>

#### 1. Mid-Water Trawlers Fish Differently and Catch More Groundfish Than Previously Thought

Troubling evidence of “mid-water” trawlers fishing in the bottom of the water column has emerged, including seafloor contact by mid-water gear and VMS data showing the gear is fished during the day when Atlantic herring retreat to the bottom, validating concerns that, contrary to industry claims, the gear is deliberately fished at or near the bottom where rebuilding groundfish populations are found.<sup>58</sup> This represents a fundamental change in the understanding of how mid-water trawl gear is fished and the impacts from the gear that has occurred since it was approved for use in the year round GFCA's. In fact, even since Amendment 5 (originally known as Amendment 4) was initiated new information about this gear has emerged. Midwater trawl gear was approved for use in these sensitive groundfish spawning and nursery areas in 1998 under Framework Adjustment 18 based on industry claims, and an assumption by NMFS, that the gear was incapable of catching significant amounts of groundfish because it was fished in the middle of the water column away from groundfish populations.<sup>59</sup> Access was based on limited, at best, data (observer data from 13 tows, to be precise, with little to none in the actual groundfish closed areas).<sup>60</sup> The assumption that MWTs do not catch groundfish is now proven false.

Moreover, since mid-water trawler gained access to GFCA's in 1998, standards for approving access to closed areas have changed. Fishermen wishing to conduct operations in these areas today must conduct robust experimental fisheries with 100% catch sampling by independent observers, and may do so only after applying for and receiving Exempted Fishing Permits (EFP).<sup>61</sup> EFPs outline rigorous requirements for the scientific sampling of the catch, and typically include very stringent EFP-specific caps on target catch and on bycatch species.<sup>62</sup> Successful experimental fisheries must analyze and submit data and report on results to NMFS and the Council, including a rigorous review process before results can be used for management

<sup>56</sup> See Final Framework 46 to the Northeast Multispecies FMP, 76 Fed. Reg. 56985 (Sep. 15, 2011).

<sup>57</sup> See e.g., Amendment 5 DEIS at p. 490.

<sup>58</sup> See e.g. Transcript of NEFMC Herring Oversight Committee meeting on September 1, 2010, pp. 185-190, available at: [http://www.fishtalk.org/rc/nefmc/species/herring/transcripts/20100901\\_herring\\_am5\\_nefmc\\_os.pdf](http://www.fishtalk.org/rc/nefmc/species/herring/transcripts/20100901_herring_am5_nefmc_os.pdf); see also Amendment 5 DEIS Table 10 at p. 134 (Catch and Discards on Observed trips Paired and Single Midwater Trawl, Permit Category A and B Trips, showing catch of debris as defined on p. 1.

<sup>59</sup> See Framework Adjustment 18 to the Northeast Multispecies FMP, 63 Fed. Reg. 7727 (Feb. 17, 1998).

<sup>60</sup> *Id.* at 7729-30 (NMFS would “determine the percent bycatch of [groundfish] based on sea sampling and other credible information for the fishery” and that such data “will be available” in order to reopen the closed areas in a “cautious manner” and ensure that the bycatch of groundfish is “minimal.”)

<sup>61</sup> . See NEFMC Research Steering Committee Research Review Policy at [http://www.nefmc.org/research/RSC%20ResearchReviewPolicy%20\(2\).pdf](http://www.nefmc.org/research/RSC%20ResearchReviewPolicy%20(2).pdf).

<sup>62</sup> *Id.*



purposes.<sup>63</sup> Finally, fishermen must successfully secure management measures through a change to an FMP in order to create new fishing opportunities in the closed area based on the experimental results.

**2. The Council Must Eliminate Access to Groundfish Closed Areas and Only Permit Future Access Through Carefully Tailored Exempted Fishing Permits**

In order to protect sensitive groundfish spawning grounds and reduce fishing mortality on groundfish through reduced effort in areas of known groundfish aggregations, the Herring Alliance supports Section 3.4.4 Groundfish Alternative 5.

- Section 3.4.4 Groundfish Alternative 5: Closed Areas

This action is critical given the recently emerging data that shows cod are in significantly worse condition than previously known and declining haddock population estimates. The risk that industrial herring trawlers will catch cod, include juvenile or spawning cod, and thereby stunt any progress on rebuilding cod is too great to allow continued access to GFCAs. It is also simply not fair to provide access to GFCAs by industrial trawlers that we now know fish on the bottom with small mesh nets, and catch groundfish in significant amounts, when New England's groundfishermen do not have access to these same areas as part of the effort to rebuild depleted groundfish populations.

**The Council should rescind access to GFCAs immediately for all midwater trawl and paired midwater trawl vessels.** Regardless of whether a new, more robust at-sea monitoring program is implemented for the entire Category A and B herring fleet through other actions in this amendment, the year-round groundfish closed areas can and should be subject to a higher standard. There is ample precedent for applying such a higher standard to fishing operations in the GFCAs. For example, groundfish gear is prohibited and there is an exempted fishing permit process, described above, which sets a higher bar for groundfishermen seeking access to GFCAs. Further, the Closed Area 1 regulations for mid-water trawlers require 100% observer coverage with specific rules to limit dumping of un-sampled.

Closing these areas to mid-water trawl vessels would encourage herring fishermen to design, apply for, and implement responsible and well-regulated experimental fisheries to determine if, where, when and how any future mid-water trawling in these areas should occur. This would ensure a public process prior to the issuance of any potential EFP's, through which the public and affected fishery stakeholders (i.e., groundfishermen) would have the opportunity to provide critical input on EFP conditions and experimental design. There are a number of appropriate monitoring measures, beyond the scope of this amendment or fishery-wide adoption at this time, which are appropriate for vessels applying for access to GFCAs. Examples include deployment of more than one observer on each vessel to ensure more effective and complete catch sampling, use of electronic monitoring measures such as bottom contact or footrope height sensors, use of video cameras at key locations where fish might be discarded but where observers do not have clear lines of sight, and at-sea catch weighing. In addition, any EFP allowing access to these

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<sup>63</sup> *Id.*



areas for midwater trawl vessels should impose stringent EFP-specific caps on catch and bycatch, or other effort-based controls (such as limits on fishing near or on the seafloor) to control and limit negative impacts on groundfish from the experimental fishery.

\* \* \*





## Herring Alliance Member List

Alewives Anonymous  
Rochester, Massachusetts  
[www.plumblibrary.com/alewives.html](http://www.plumblibrary.com/alewives.html)

Blue Ocean Institute  
Cold Spring Harbor, New York  
[www.blueocean.org](http://www.blueocean.org)

Buckeye Brook Coalition  
Warwick, Rhode Island  
[www.buckeyebrook.org](http://www.buckeyebrook.org)

Chesapeake Bay Foundation  
Annapolis, Maryland  
[www.cbf.org](http://www.cbf.org)

Choptank Riverkeeper  
Easton, MD  
[www.midshoreriverkeeper.org](http://www.midshoreriverkeeper.org)

Conservation Law Foundation  
Boston, Massachusetts  
[www.clf.org](http://www.clf.org)

Delaware River Shad Fishermen's Association  
Hellertown, Pennsylvania  
[www.drfsfa.org](http://www.drfsfa.org)

Earthjustice  
Washington, DC  
[www.earthjustice.org](http://www.earthjustice.org)

Eightmile River Wild & Scenic Coordinating  
Committee  
Haddam, Connecticut  
[www.eightmileriver.org](http://www.eightmileriver.org)

Environmental Entrepreneurs (E2)  
Boston, Massachusetts  
[www.e2.org](http://www.e2.org)

Environment America  
Washington, DC  
[www.environmentamerica.org](http://www.environmentamerica.org)

Environment Connecticut  
West Hartford, Connecticut  
[www.environmentconnecticut.org](http://www.environmentconnecticut.org)

Environment Maine  
Portland, Maine  
[www.environmentmaine.org](http://www.environmentmaine.org)

Environment Massachusetts  
Boston, Massachusetts  
[www.environmentmassachusetts.org](http://www.environmentmassachusetts.org)

Environment New Hampshire  
Concord, New Hampshire  
[www.environmentnewhampshire.org](http://www.environmentnewhampshire.org)

Environment New Jersey  
Trenton, New Jersey  
[www.environmentnewjersey.org](http://www.environmentnewjersey.org)

Environment New York  
New York, New York  
[www.environmentnewyork.org](http://www.environmentnewyork.org)

Environment North Carolina  
Raleigh, North Carolina  
[www.environmentnorthcarolina.org](http://www.environmentnorthcarolina.org)

Environment Rhode Island  
Providence, Rhode Island  
[www.environmentrhodeisland.org](http://www.environmentrhodeisland.org)

Environment Virginia  
Washington, DC  
[www.environmentvirginia.org](http://www.environmentvirginia.org)

Farmington River Watershed Association  
Simsbury, Connecticut  
[www.frwa.org](http://www.frwa.org)

Float Fishermen of Virginia  
Roanoke, Virginia  
[www.floatfishermen.org](http://www.floatfishermen.org)

Friends of the Rivers of Virginia  
Roanoke, Virginia  
[www.forva.giving.officelive.com](http://www.forva.giving.officelive.com)

Great Egg Harbor National Scenic and Recreational  
River Council  
Newtonville, New Jersey  
[www.gehwa.org/river.html](http://www.gehwa.org/river.html)



## Herring Alliance Member List

Greater Boston Trout Unlimited  
Boston, Massachusetts  
[www.gbtu.org](http://www.gbtu.org)

Greenpeace  
Washington, DC  
[www.greenpeace.org](http://www.greenpeace.org)

Ipswich River Watershed Association  
Ipswich, Massachusetts  
[www.ipswichriver.org](http://www.ipswichriver.org)

Island Institute  
Rockland, Maine  
[www.islandinstitute.org](http://www.islandinstitute.org)

Jones River Watershed Association  
Kingston, Massachusetts  
[www.jonesriver.org](http://www.jonesriver.org)

Juniata Valley Audubon  
Hollidaysburg, Pennsylvania  
[www.jvas.org](http://www.jvas.org)

Lowell Parks & Conservation Trust  
Lowell, Massachusetts  
[www.lowelllandtrust.org](http://www.lowelllandtrust.org)

Mystic River Watershed Association  
Arlington, Massachusetts  
[www.mysticriver.org](http://www.mysticriver.org)

National Coalition for Marine Conservation  
Leesburg, Virginia  
[www.savethefish.org](http://www.savethefish.org)

Natural Resources Defense Council  
Washington, DC  
[www.nrdc.org](http://www.nrdc.org)

Neponset River Watershed Association  
Canton, Massachusetts  
[www.neponset.org](http://www.neponset.org)

Neuse Riverkeeper Foundation  
New Bern, North Carolina  
[www.neuseriver.org](http://www.neuseriver.org)

New England Coastal Wildlife Alliance  
Middleboro, Massachusetts  
[www.necwa.org](http://www.necwa.org)

North and South River Watershed Association  
Norwell, Massachusetts  
[www.nsrwa.org](http://www.nsrwa.org)

NY/NJ Baykeeper  
Keyport, New Jersey  
[www.nynjbaykeeper.org](http://www.nynjbaykeeper.org)

Oceana  
Washington, DC  
[www.oceana.org](http://www.oceana.org)

Ocean River Institute  
Cambridge, Massachusetts  
[www.oceanriver.org](http://www.oceanriver.org)

Parker River Clean Water Association  
Byfield, Massachusetts  
[www.businessvision.info/parker\\_river](http://www.businessvision.info/parker_river)

Peconic Baykeeper  
Quogue, New York  
[www.peconicbaykeeper.org](http://www.peconicbaykeeper.org)

PennEnvironment  
Philadelphia, Pennsylvania  
[www.pennenvironment.org](http://www.pennenvironment.org)

Pennsylvania Organization for Watersheds and Rivers  
Harrisburg, Pennsylvania  
[www.pawatersheds.org](http://www.pawatersheds.org)

Pew Environment Group  
Washington, DC  
[www.pewenvironment.org](http://www.pewenvironment.org)

Riverkeeper  
Ossining, New York  
[www.riverkeeper.org](http://www.riverkeeper.org)

Rivers Alliance of Connecticut  
Litchfield, Connecticut  
[www.riversalliance.org](http://www.riversalliance.org)



## **Herring Alliance Member List**

Shark Angels  
New York, New York  
[www.sharkangels.org](http://www.sharkangels.org)

Shenandoah Riverkeeper  
Washington, DC  
[www.shenandoahriverkeeper.org](http://www.shenandoahriverkeeper.org)

South River Federation  
Edgewater, MD  
[www.southernriverfederation.net](http://www.southernriverfederation.net)

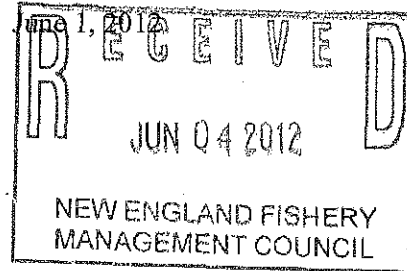
West and Rhode Riverkeeper  
Shady Side, MD  
[www.westrhoderiverkeeper.org](http://www.westrhoderiverkeeper.org)





THE GENERAL COURT OF MASSACHUSETTS  
STATE HOUSE, BOSTON 02133-1053

C.M. "Rip" Cunningham Jr., Chairman  
New England Marine Fisheries Council  
50 Water Street, Mill 2  
Newburyport, MA 01950



**RE: Herring Amendment V**

Dear Chairman Cunningham,

We are writing to urge the NEFMC to adopt measures proposed in Amendment V aimed at increasing accountability and developing a comprehensive catch monitoring program. Our support of these measures is grounded in the belief that the current system is inadequate and that this critical fishery must have an effective monitoring system in place in order to ensure the longevity of the herring resource. There is a substantial need for increased catch monitoring and accountability measures.

Herring is commercially important as well as being an essential part of the ecosystem and food web. Herring is a "forage fish" that serves as a food source for other commercially important species. Thus, commercial fishermen, seafood processors, lobstermen, and recreational fishermen that target species such as Atlantic Cod, Striped Bass, Bluefin Tuna, and American Lobsters all rely on a vibrant and robust herring fishery. The economic impact of Atlantic Herring is broad and deep.

Reliable data and monitoring is essential both economically and ecologically. Therefore we respectfully request the Council consider the following measures:

- **Section 3.2.1 Alternative 2-** This option requires 100% observer coverage on limited access herring vessels.
- **Section 3.2.3.4 Option 4C-** This option disallows the practice of "dumping." Every fish must be brought on board for the observers to record. If a vessel dumps fish for safety or mechanical reasons, then that incident must be reported. This option further requires the closure of the Management Area if a threshold of 10 dumping incidents is reached. This measure is critically important to ensure an accurate catch count and to end a long standing practice.
- **Section 3.1.5 Option 2-** This option requires the accurate weighing and reporting of catch across the fishery.
- **Section 3.4.4 Alternative 5-** This option prohibits midwater trawl vessels from fishing in groundfish closed areas. The purpose of these closures is to protect important groundfish stocks. Like groundfishermen, mid-water trawl vessels should also be prohibited from fishing in closed areas. The likelihood of catching groundfish as bycatch is too great to allow fishing in these areas. There is also an important element of fairness contained in this alternative. If groundfish permit holders are prohibited from fishing in an area, the midwater trawl boats should be held to the same prohibition.





- **Section 3.3.5-** This section proposes the creation of a River Herring Catch Cap for the Atlantic Herring fishery in a future framework adjustment. This cap will help protect River Herring and is an important component of increasing River Herring biomass.

We respectfully ask that you adopt the proposals outlined above. These measures will help ensure the viability and stability of the herring stock and all other species that rely on a robust herring fishery. Adopting these measures will also ensure the stability of the New England commercial fishing industry. Now is the time to act.

Thank you for giving us the opportunity to comment.



THERESE MURRAY  
Senate President  
Plymouth & Barnstable



DANIEL A. WOLF  
State Senator  
Cape & Islands



RANDY HUNT  
State Representative  
5<sup>th</sup> Barnstable




TIMOTHY R. MADDEN  
State Representative  
Barnstable, Dukes & Nantucket



GEORGE N. PETERSON  
State Representative  
9<sup>th</sup> Worcester

Respectfully Submitted,



SARAH K. PEAKE  
State Representative  
4<sup>th</sup> Barnstable



DEMETRIUS I. LATSALIS  
State Representative  
2<sup>nd</sup> Barnstable



CLEON H. TURNER  
State Representative  
1<sup>st</sup> Barnstable



BRUCE J. AYERS  
State Representative  
1<sup>st</sup> Norfolk



KIMBERLY N. FERGUSON  
State Representative  
1<sup>st</sup> Worcester

Handwritten signature or scribble.



MATTHEW A. BEATON  
State Representative  
11<sup>th</sup> Worcester



BRADLEY H. JONES  
House Minority Leader  
20<sup>th</sup> Middlesex

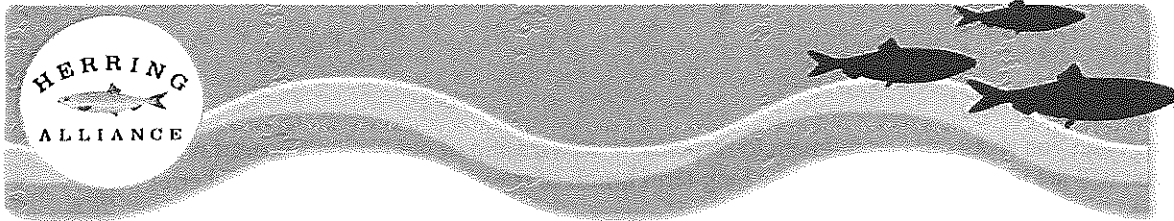


PETER V. KOCOT  
State Representative  
1<sup>st</sup> Hampshire



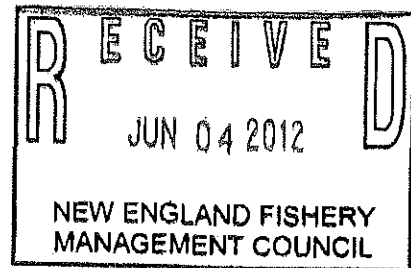
THOMAS M. STANLEY  
State Representative  
9<sup>th</sup> Middlesex





June 4, 2012

Mr. Paul Howard, Executive Director  
New England Fishery Management Council  
50 Water Street  
Newburyport, Massachusetts 01950



RE: EIS No. 20120104, Draft EIS, Amendment 5 to the Atlantic Herring Fishery Management Plan

Dear Mr. Howard:

The Herring Alliance is a coalition of 52 regional and national organizations dedicated to the restoration and conservation of forage fish species, including Atlantic herring, river herring and shad, which are vital to the health, productivity and resilience of our ocean and coastal ecosystems. Herring Alliance member organizations are actively engaged in ocean, river and watershed protection initiatives in nearly every state along the Atlantic coast. We have long been concerned about the impact of industrial fishing and have commented extensively throughout the development of the proposed reforms to the herring fishery. We urge you, the New England Fishery Management Council, to fulfill your commitment to meaningful improvements in the management of this fishery when you take final action on Amendment 5 during the June meeting.

The Draft Environmental Impact Statement (DEIS) of Amendment 5 gives due consideration to Atlantic herring and river herring as important forage fish. Many of the proposed measures have potential to improve the conservation and management of these species and the ecosystems they support. In the case of river herring, strong Council action will provide the first meaningful conservation and management measures of any kind for Federal waters. We urge the Council to approve the reforms that will be most effective at monitoring and accounting for all catch (bycatch and landings) and also limiting incidental capture of alewives and blueback herring. The following alternatives are the highest priorities of the Herring Alliance and most critical to the long-term stewardship of the ecosystem and the fishery:

- An immediate catch limit, or cap, on the total amount of river herring caught in the Atlantic herring fishery (Section 3.3.5, modified to require immediate implementation of a catch cap).
- 100 percent at-sea monitoring on the largest vessels in the fishery (permit category A & B) in order to provide reliable estimates of all catch, including catch of depleted river herring and other marine life (Section 3.2.1.2 Alternative 2).
- Exclusion of category A & B vessels from areas where interactions with river herring have been demonstrated to be high; we support immediate closure of River Herring Protection Areas (Section 3.3.3.2.1 Option 1) and approval of Section 3.3.4 to allow the larger "River Herring Monitoring/Avoidance Areas" to be closed through a future Framework Adjustment.
- An accountability system to discourage the wasteful slippage, or dumping, of catch, including a fleetwide limit of five slippage events for each herring management area, after which any slippage event would require a return to port (Section 3.2.3.4 Option 4D).
- A ban on herring mid-water trawling in areas established to promote rebuilding of groundfish populations (Section 3.4.4 Alternative 5).
- A requirement to accurately weigh and report all catch (Section 3.1.5 Option 2).

We trust that you share our commitment to responsible stewardship of our Nation's coastal resources and that you will act in the best interest of the long-term health of ocean ecosystems and the fisheries they support.

Sincerely,

Peter Baker  
Director, Herring Alliance  
Director, Northeast Fisheries Program, Pew  
Environment Group  
Boston, Massachusetts

Art Benner  
President  
Alewives Anonymous  
Rochester, Massachusetts

Alan Duckworth, Ph.D.  
Research Scientist  
Blue Ocean Institute  
Cold Spring Harbor, New York

Paul Earnshaw  
President  
Buckeye Brook Coalition  
Warwick, Rhode Island

Bill Goldsborough  
Director of Fisheries Programs  
Chesapeake Bay Foundation  
Annapolis, Maryland

Drew Koslow  
Riverkeeper  
Choptank Riverkeeper  
Easton, Maryland

Sean Mahoney  
Vice President and Director of Maine Advocacy  
Center  
Conservation Law Foundation  
Portland, Maine

Roger Fleming  
Project Attorney  
Earthjustice  
Washington, DC

Anthony Irving  
Chair  
Eightmile River Wild & Scenic Study Committee  
Haddam, Connecticut

John Rumpler  
Senior Environmental Attorney  
Environment America  
Washington, DC

Emily Figdor  
Environment Maine  
Portland, Maine

Ben Wright  
Environment Massachusetts  
Boston, Massachusetts

Jessica O'Hare  
Environment New Hampshire  
Concord, New Hampshire

Channing Jones  
Environment Rhode Island  
Providence, Rhode Island

Berl Hartman  
Director  
Environmental Entrepreneurs (E2) New England  
Boston, Massachusetts

Eileen Fielding  
Executive Director  
Farmington River Watershed Association  
Simsbury, Connecticut

William Tanger  
President  
Float Fishermen of Virginia  
Friends of the Rivers of Virginia  
Roanoke, Virginia

Fred Akers  
River Administrator  
Great Egg Harbor National Scenic and Recreational  
River Council  
Newtonville, New Jersey

Phil Kline  
Senior Oceans Campaigner  
Greenpeace  
Washington, DC

Kerry Mackin  
Executive Director  
Ipswich River Watershed Association  
Ipswich, Massachusetts

Pine DuBois  
Executive Director  
Jones River Watershed Association  
Kingston, Massachusetts

Stan Kotala  
Conservation Chair  
Juniata Valley Audubon  
Hollidaysburg, Pennsylvania

EkOngKar Singh Khalsa  
Executive Director  
Mystic River Watershed Association  
Arlington, Massachusetts

Pamela Lyons Gromen  
Executive Director  
National Coalition for Marine Conservation  
Leesburg, Virginia

Brad Sewell  
Senior Attorney  
Natural Resources Defense Council  
Washington, DC

Steve Pearlman  
Advocacy Director  
Neponset River Watershed Association  
Canton, Massachusetts

Carol Carson  
President  
New England Coastal Wildlife Alliance  
Middleboro, Massachusetts

Samantha Woods  
Executive Director  
North and South River Watershed Association  
Norwell, Massachusetts

Deborah A. Mans  
Baykeeper & Executive Director  
NY/NJ Baykeeper  
Keyport, New Jersey

Rob Moir  
Executive Director  
Ocean River Institute  
Cambridge, Massachusetts

Gib Brogan  
Northeast Representative  
Oceana  
Washington, DC

George Comiskey  
President  
Parker River Clean Water Association  
Byfield, Massachusetts

Kevin McAllister  
President  
Peconic Baykeeper  
Quogue, New York

Adam Garber  
PennEnvironment  
Philadelphia, Pennsylvania

Joshua S. Verleun  
Staff Attorney & Chief Investigator  
Riverkeeper  
Ossining, New York

Margaret Miner  
Executive Director  
Rivers Alliance of Connecticut  
Litchfield, Connecticut

Jaime Lynn Pollack  
Shark Angels  
New York, New York

Erik Michelson  
Executive Director  
South River Federation  
Edgewater, Maryland

Chris Trumbauer  
Riverkeeper and Executive Director  
West/Rhode Riverkeeper  
Shady Side, Maryland

**Other Herring Alliance members:**

Delaware River Shad Fishermen's Association, Hellertown, Pennsylvania  
Environment Connecticut, West Hartford, Connecticut  
Environment New Jersey, Trenton, New Jersey  
Environment New York, New York, New York  
Environment North Carolina, Raleigh, North Carolina  
Environment Virginia, Washington, DC  
Greater Boston Trout Unlimited, Boston, Massachusetts  
Island Institute, Rockland, Maine  
Lowell Parks & Conservation Trust, Lowell, Massachusetts  
Neuse Riverkeeper Foundation, New Bern, North Carolina  
Pennsylvania Organization for Watersheds and Rivers, Harrisburg, Pennsylvania  
Shenandoah Riverkeeper, Washington, DC



Alicia LaPorte  
1621 1st St NW  
# 1  
Washington, DC 20001-1101

Mar 8, 2012

Paul Howard  
New England Fishery Management Council

Subject: Re: Atlantic Herring Fishery Management Plan

Dear Paul Howard,

I am writing to express my concern about poorly managed industrial fishing and the damage it inflicts on the ocean ecosystem, especially to river herring. Populations of these fish have declined by 99 percent and are so depleted they are being considered for protection under the Endangered Species Act.

Most Atlantic states now prohibit the harvest of river herring in coastal waters, even to the point of prohibiting children from netting one for bait. Yet astoundingly, no protections have been extended to these fish in the open ocean, where they are taken by the millions as profitable bycatch by industrial herring ships.

This is unacceptable and represents a significant setback in the ongoing efforts to restore alewife and blueback herring. Every year, states and communities throughout New England invest significant time and resources to restore their river herring runs. Many tireless citizens carefully shepherd migrating river herring past in-river obstacles by hand. The council must support, not undermine, these efforts.

As the council finalizes its revision to the Atlantic Herring Fishery Management Plan, I strongly urge you to approve a comprehensive monitoring and bycatch reduction program that incorporates the following management actions:

- \* Immediate implementation of a catch limit, or cap, on the total amount of river herring caught in the Atlantic herring fishery (Section 3.3.5).
- \* 100 percent at-sea monitoring on all midwater trawl fishing trips in order to provide reliable estimates of all catch, including bycatch of depleted river herring and other marine life (Section 3.2.1.2 Alternative 2).
- \* An accountability system to discourage the wasteful slippage or dumping of catch, including a fleet-wide allowance of five slippage events for each herring management area, after which any slippage event would require a return to port (Section 3.2.3.4 Option 4D).
- \* No herring midwater trawling in areas established to promote rebuilding of groundfish populations (Section 3.4.4 Alternative 5).
- \* A requirement to accurately weigh and report all catch (Section 3.1.5 Option 2).



Alicia LaPorte  
1621 1st St NW  
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New England Fishery Management Council

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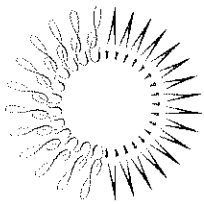
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- \* 100 percent at-sea monitoring on all midwater trawl fishing trips in order to provide reliable estimates of all catch, including bycatch of depleted river herring and other marine life (Section 3.2.1.2 Alternative 2).
- \* An accountability system to discourage the wasteful slippage or dumping of catch, including a fleet-wide allowance of five slippage events for each herring management area, after which any slippage event would require a return to port (Section 3.2.3.4 Option 4D).
- \* No herring midwater trawling in areas established to promote rebuilding of groundfish populations (Section 3.4.4 Alternative 5).
- \* A requirement to accurately weigh and report all catch (Section 3.1.5 Option 2).

Thank you for considering my comments and for your continued commitment to improving management of the Atlantic herring fishery.

Sincerely,  
Alicia LaPorte



THE  
**PEW**  
ENVIRONMENT GROUP

June 4, 2012

Paul J. Howard  
New England Fishery Management Council  
50 Water Street, Mill #2  
Newburyport, MA 01950

Dear Mr. Howard,

The Pew Environment Group has collected 42,289 comments from individuals asking the New England Fishery Management Council to take specific steps to manage the Atlantic herring fishery through Amendment 5 to the Atlantic Herring Fishery Management Plan.

Below you will find a summary the responses from Atlantic states (22,819), and on subsequent pages there is a table of all comments received by state.

A sample letter is included, as well as a spreadsheet with all the names and city, state and country of the individual signers. Please note that many of these letters have been personalized or include additional comments. All files will be copied to a CD and mailed to your office.

Connecticut: 1,453  
District of Colombia: 79  
Delaware: 183  
Florida: 2,006  
Georgia: 414  
Massachusetts: 3,105  
Maryland: 1,106  
Maine: 681  
North Carolina: 1,580  
New Hampshire: 571  
New Jersey: 1,882  
New York: 5,269  
Pennsylvania: 2,523  
Rhode Island: 404  
South Carolina: 204  
Virginia: 1,359

Thank you,

Greg Wells  
Associate, Northeast Fisheries Program



<b>State</b>	<b>Comments collected</b>
Alaska:	78
Alabama:	157
Arkansas:	107
Arizona:	734
California:	5240
Colorado:	717
Connecticut:	1453
District of Columbia:	79
Delaware:	183
Florida:	2006
Georgia:	414
Hawaii:	183
Iowa:	182
Idaho:	109
Illinois:	1104
Indiana:	407
Kansas:	161
Kentucky:	208
Louisiana:	140
Massachusetts:	3105
Maryland:	1106
Maine:	681
Michigan:	734
Minnesota:	485
Missouri:	367
Mississippi:	83
Montana:	112
North Carolina:	1580
North Dakota:	26
Nebraska:	86
New Hampshire:	571
New Jersey:	1882
New Mexico:	373
Nevada:	270
New York:	5269
Ohio:	760
Oklahoma:	143
Oregon:	730





Pennsylvania:	2523
Rhode Island:	404
South Carolina:	204
South Dakota:	36
Tennessee:	347
Texas:	1299
Utah:	171
Virginia:	1359
Vermont:	123
Washington:	1114
Wisconsin:	568
West Virginia:	93
Wyoming:	35
<b>TOTAL</b>	<b>42289</b>
<b>TOTAL US ONLY</b>	<b>40370</b>
<b>Atlantic States</b>	<b>22819</b>



Mr. P Henry  
300 Park Terrace Dr  
Stoneham, MA 02180-4438

Mar 16, 2012

Paul Howard  
New England Fishery Management Council

Subject: Re: Atlantic Herring Fishery Management Plan

Dear Paul Howard,

Over four years ago, the public called for and the New England Fishery Management Council (NEFMC) committed to improving the management of industrial fishing in New England. Now, after several years of deliberation and tens of thousands of public comments, it's time to deliver on that promise of reform.

Inadequate monitoring, unmanaged catch of river herring, continued killing of groundfish within closures designed to protect them, and the wasteful practice of dumping are significant and pressing concerns. Your revision to the Atlantic Herring Fishery Management Plan must address these issues and bring greater accountability and oversight to the industrial trawl fleet.

Since the initiation of Amendment 5, these problems have continued to get worse. The National Marine Fisheries Service (NMFS) has repeatedly proven unable to enforce Atlantic herring quotas, the first step in fishery management, due to inadequate catch monitoring. In addition, the practice of slipping catch at sea continues to undermine efforts to identify and record everything that is caught by herring vessels. Alarming interactions with groundfish also continue, as midwater trawl fishermen recently demanded and received a five-fold increase in their haddock bycatch allowance.

Moreover, river herring populations remain depleted, forcing Atlantic seaboard states to close traditional fisheries and deprive recreational anglers and the public of this important resource. NMFS is now considering listing river herring under the Endangered Species Act.

I urge you, as trustees of our nation's marine resources, to fulfill your duty to conserve and manage these resources sustainably by approving this long-awaited revision without further delay. In particular, I strongly support:

- \* A catch limit, or cap, on the total amount of river herring caught in the Atlantic herring fishery (Section 3.3.5, modified to require immediate implementation of the catch cap).
- \* 100 percent at-sea monitoring on all midwater trawl fishing trips in order to provide reliable estimates of all catch, including bycatch of depleted river herring and other marine life (Section 3.2.1.2 Alternative 2).
- \* An accountability system to discourage the wasteful slippage of catch, including a fleet-wide allowance of five slippage events for

each herring management area, after which any slippage event would require a return to port (Section 3.2.3.4 Option 4D).

\* No herring midwater trawling in areas established to promote rebuilding of groundfish populations (Section 3.4.4 Alternative 5).

\* A requirement to accurately weigh and report all catch (Section 3.1.5 Option 2).

Thank you for the opportunity to comment and for your sustained commitment and support of these priority reforms.

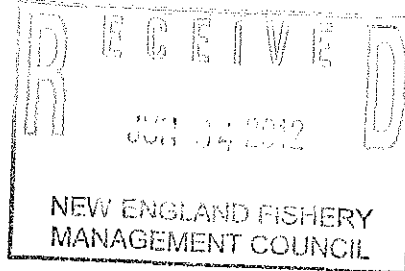
Sincerely,  
Mr. P Henry



THE  
**PEW**  
ENVIRONMENT GROUP

Captain Paul J Howard, Executive Director  
New England Fishery Management Council  
50 Water Street Mill 2  
Newburyport, MA 01950

June 4, 2012



RE: Comments on Draft Amendment 5

Dear Captain Howard,

On behalf of the Pew Environment Group I am writing in response to the New England Fishery Management Council's (NEFMC or Council) request for public comments on Amendment 5 (Am 5) Draft Environment Impact Statement (DEIS) to the Atlantic Herring Fishery Management Plan (FMP). Providing adequate conservation and management of the forage fish resources of the Northeast Shelf ecosystem, including target (Atlantic herring) and non-target (river herring and shad) species in the Atlantic herring fishery, requires immediate and fundamental changes in this FMP encompassing catch monitoring, bycatch/incidental catch reduction, and bycatch/incidental catch limits. As the core of its final action on this FMP amendment, the Council must select the following alternatives from the Am 5 DEIS:

- A requirement to accurately weigh and report all catch (**Section 3.1.5 Option 2**).
- 100 percent at-sea monitoring on the largest vessels in the fishery (permit category A & B) in order to provide reliable estimates of all catch, including catch of depleted river herring and other marine life (**Section 3.2.1.2 Alternative 2**).
- An accountability system to discourage the wasteful slippage, or dumping, of catch, including a fleet-wide limit of five slippage events for each herring management area, after which any slippage event would require a return to port (**Section 3.2.3.4 Option 4D**).
- An immediate catch limit, or cap, on the total amount of river herring and shad caught in the directed Atlantic herring fishery (**Section 3.3.5, modified to require immediate implementation of a catch cap**).
- Add river herring and shad as “non-target stocks in the fishery” with immediate initiation of an action to establish the status determination criteria and other required management measures (**Section 3.3.5, modified to include river herring and shad as non-target stocks in the FMP**).
- Closure to directed herring fishing of areas where interactions with river herring have been demonstrated to be high; we support immediate closure of the River Herring Protection Areas to directed herring fishing (**Section 3.3.3.2.1 Option 1**). Since the “River Herring Protection Areas” that would be closed under this option are relatively small, the Council should approve **Section 3.3.4** to allow for a future expansion, through a Framework Adjustment, of the closures to the larger “River Herring Monitoring/Avoidance Areas” if appropriate.
- A ban on herring midwater trawling in areas established to promote rebuilding of groundfish populations (**Section 3.4.4 Alternative 5**).

### Introduction:

The NEFMC decided to initiate the management action now known as Amendment 5 in the fall of 2007, in response to what were, at the time, the most comments it had ever received on an issue: over 10,000 calling for bycatch monitoring and reduction reforms and sent by concerned members of the public, conservationists, and commercial and recreational fishermen.<sup>1</sup> These voices overwhelmingly called for robust observer coverage including controls on at-sea dumping of un-sampled catch, eliminating midwater trawl (MWT) vessel access to Groundfish Closed Areas (GFCA), and introducing measures to protect severely depleted populations of anadromous river herring. The NEFMC deserves credit for responding to these voices, but because the development of these actions has been repeatedly delayed, and thus the call for action has perhaps become a remote echo to some, it is useful to look back at the past five years to illustrate that the voices have only grown louder, and the problems in the fishery are more evident and troubling than ever before.

First, a brief review of new information on the extent of problems in the fishery, much of which has come to light through the process of developing Am 5, shows that the concerns of the Pew Environment Group and the public are firmly validated:

- The status quo monitoring regime in the fishery cannot provide precise and accurate estimates of catch<sup>2</sup>, nor is it even capable of preventing repeated and destructive quota overages.<sup>3</sup>
- At-sea dumping of un-sampled catch has been demonstrated to be serious and widespread, affecting over 30% of observed hauls in the fishery in 2010 alone.<sup>4</sup> It has also been shown to undermine the validity of catch data and in most cases to be unnecessary and wasteful bycatch, in turn undermining conservation objectives of the FMP.<sup>5</sup>
- Groundfish bycatch problems have increased, as evidenced by midwater trawl industry demands for a five-fold increase in their haddock bycatch allowance, granted by the

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<sup>1</sup> See public comment compilation for November 2007 NEFMC meeting at [http://www.nefmc.org/press/council\\_discussion\\_docs/Nov2007/Priorities.pdf](http://www.nefmc.org/press/council_discussion_docs/Nov2007/Priorities.pdf) and Pew Environment Group press release dated November 7, 2007 available at <http://www.pewenvironment.org/news-room/press-releases/statement-of-peter-baker-of-the-pew-environment-group-and-director-of-the-herring-alliance-on-the-new-england-fishery-management-council-nefmc-voting-to-protect-atlantic-herring-8589935244>

<sup>2</sup> See Am 5 DEIS at page 366 explaining that the Standardized Bycatch Reporting Methodology (SBRM) Amendment governing observer coverage in Northeast U.S. fisheries was recently vacated in response to a federal court ruling, at page 486 acknowledging the high degree of uncertainty in river herring removals estimates, and at page 415 illustrating that in 2010 over 450,000 pounds of catch in the fishery could not be identified to species (i.e. was classified as “Herring, Not Known” or “Fish, Not Known.”)

<sup>3</sup> See Final Rule implementing Amendment 4 to the Herring FMP, available at <http://www.nero.noaa.gov/nero/regs/frdoc/11/11HerAmend4FR.pdf> which includes an analysis showing that between 2001 and 2009, management area closure thresholds were exceeded on 8 of 36 occasions, and NMFS quota monitoring reports at [http://www.nero.noaa.gov/ro/fso/reports/reports\\_frame.htm](http://www.nero.noaa.gov/ro/fso/reports/reports_frame.htm) showing that this trend has continued in recent years, with cascading overages in management Area 1B of 138% (2010) and 156% (2012).

<sup>4</sup> See Am 5 DEIS at page 414

<sup>5</sup> See Am 5 DEIS at page 415 illustrating extent of catch not identified to species level due to dumping, and at page 419 illustrating that most at-sea dumping is not necessary

Council in April 2011.<sup>6</sup> Newly available data also demonstrate that far too much of this problem results from fishing by MWT vessels in the GFCA's.<sup>7</sup> Finally, troubling evidence of the extent of seafloor contact by MWT gear has emerged, validating concerns that, contrary to MWT industry claims, their gear is being fished in close proximity to rebuilding groundfish populations.<sup>8</sup>

- River herring populations remain in a severely depleted state, and ocean catch in federal waters has been firmly identified as an ongoing threat to these fish.<sup>9</sup> The Atlantic States Marine Fisheries Commission (ASMFC) has implemented aggressive conservation measures in state waters up and down the coast, but while it initially considered protections for federal waters, it ultimately did not adopt any, placing the responsibility squarely on the NEFMC and other federal management entities.<sup>10</sup>
- Additional developments since the initiation of Am 5 demonstrate the extent and severity of the threat to river herring populations and highlight the Council's duty to act. First, NMFS recently determined that a listing of river herring species as "threatened" under the Endangered Species Act may be warranted.<sup>11</sup> Second, a federal judge ruled that NMFS and the Council's prior decision not to include river herring and shad as stocks in the Herring FMP was illegal, and makes clear that the Council needs to add catch limits (or caps) and other protections for river herring and shad.<sup>12</sup>

Overwhelming stakeholder and public comment has again flooded into NMFS and the NEFMC citing all of the above concerns and reiterating the same calls for action that were expressed in 2007, this time in support of the specific management proposals in Am 5 that will deliver real reform. Specifically, over 40,000 comments have been received to date, the vast majority of them supporting 100% observer coverage on Category A and B herring vessels, the strongest possible dumping controls mirroring those currently in place under a pilot program in Groundfish Closed Area I, a requirement to accurately weigh all landings, a prohibition on MWT access to GFCAs, and the immediate establishment of a river herring catch cap.<sup>13</sup> At a series of public hearings up and down the East Coast, hundreds of concerned fishermen and other

<sup>6</sup> See Final Framework 46 to the Northeast Multispecies FMP at [http://www.nefmc.org/nemulti/frame/fw%2046/110617\\_FW\\_46\\_Resubmission.pdf](http://www.nefmc.org/nemulti/frame/fw%2046/110617_FW_46_Resubmission.pdf)

<sup>7</sup> See Am 5 DEIS at page 490

<sup>8</sup> See transcript of NEFMC Herring Oversight Committee meeting on 9/1/2010 pages 185-190 at [http://www.fishtalk.org/rc/nefmc/species/herring/transcripts/20100901\\_herring\\_am5\\_nefmc\\_os.pdf](http://www.fishtalk.org/rc/nefmc/species/herring/transcripts/20100901_herring_am5_nefmc_os.pdf)

<sup>9</sup> See ASMFC River Herring Benchmark Stock Assessment, Executive Summary, and peer review report at Page 8.

<sup>10</sup> See *A Federal Offense: River Herring Robbery* at [http://www.pewenvironment.org/uploadedFiles/PEG/Publications/Fact\\_Sheet/River\\_herring\\_map\\_FINAL.pdf](http://www.pewenvironment.org/uploadedFiles/PEG/Publications/Fact_Sheet/River_herring_map_FINAL.pdf)

<sup>11</sup> In response to a petition filed by the National Resources Defense Council (NRDC), NMFS made a 90 day finding that a listing may be warranted. 76 Fed. Reg. 67652 (Nov. 2, 2011). Listing petition available at <http://switchboard.nrdc.org/blogs/bsewell/NRDC%20Petition%20to%20List%20Alewife%20and%20BB%20Herring%208-1-11.pdf>

<sup>12</sup> See *Flaherty v. Bryson*, 2012 WL 752323 (D.D.C. Mar. 8, 2012) and available at <http://earthjustice.org/documents/legal-document/pdf/herring-a4-decision-kessler>

<sup>13</sup> See Am 5 summary of written comments to date at <http://www.nefmc.org/herring/cte%20mtg%20docs/120606/Final%20AM%205%20Comment%20Summary%20Memo%20June%206%200S%20Mtg.pdf>

members of the public took time to tell Council members in person of their support for these important reforms.<sup>14</sup>

Atlantic herring, river herring, and the shad species are all critical forage stocks which support the marine food web in the Northeast Shelf Ecosystem. As such, their abundance and availability (presence or absence) reverberates through the ocean and through coastal economies. Whether as targets of traditional fisheries in and of themselves, as prey for a large and diverse set of commercially and recreationally valuable fish stocks, or as food for marine mammals and seabirds, their importance cannot be understated. In the last year alone we have seen three seminal scientific reports highlighting the importance of conserving forage species.

A study released in July 2011 by Smith et al. demonstrated that fishing on forage species can have significant negative impacts on marine ecosystems and in particular commercial and recreationally valuable species.<sup>15</sup> The study went on to recommend management reference points and exploitation rates for existing forage fisheries that are twice as conservative as the traditional maximum sustainable yield approach.

In November 2011 a study was published by Cury et al. that found when forage fish biomass falls below one third of the maximum historical biomass, seabird populations respond by producing fewer chicks.<sup>16</sup> Most surprising here is that the predator response was consistent across ecosystems and seabird species. Of importance to resource managers is that this study provides a threshold of minimum forage species biomass needed to sustain seabird populations and productivity over the long term.

In April 2012, the Lenfest Forage Fish Task Force, a group of 13 preeminent scientists from around the globe, released a report providing practical, science-based recommendations for the management of forage species, given their critical role in marine ecosystems and the need to transition toward an ecosystem-based approach to fisheries management. The report demonstrated that forage fish are twice as valuable left in the water as in the net due to the reliance of commercially-valuable species such as tuna and cod on healthy forage fish populations.<sup>17</sup> The report also raised warnings about the vulnerability of forage fish populations to collapse. It recommended severely restricting fishing pressure for data-poor forage stocks (which may be particularly relevant in the case of the alosines in the Atlantic herring fishery) and it stressed that spatial and temporal closures may be needed to protect ecosystem function, another finding of importance to managers as they consider the time-area closures proposed in Am 5 to protect river herring and groundfish.

<sup>14</sup> See Am 5 Public Hearings Summary at

<http://www.nefmc.org/herring/cte%20mtg%20docs/120606/Amendment5PublicHearingSummaries.pdf>

<sup>15</sup> Smith ADM et al 2011. Impacts of Fishing Low-Trophic Level Species on Marine Ecosystems. *Science* 333 (6046): 1147-50, 26 August 2011 (published online July 21, 2011); available at [www.scienceexpress.org](http://www.scienceexpress.org).

<sup>16</sup> Cury, P.M. et al. 2011. "Global Seabird Response to Forage Fish Depletion – One Third for the Birds." *Science* 334:1703-06

<sup>17</sup> Pikitch, E., et al. 2012. *Little Fish, Big Impact: Managing a Crucial Link in Ocean Food Webs*. Lenfest Ocean Program. Washington, DC



Catch limits and catch accounting through monitoring are the bedrock of modern fisheries management in this country and around the world. This amendment must establish limits for the stocks that are involved in this fishery but which as yet lack limits (river herring and shad) and it must ensure comprehensive monitoring of the industrial trawl fleet at work in New England (Category A & B).

On the following pages we describe our preferred Am 5 alternatives in the order presented in the DEIS. Within each section we present our highest priorities first.

### **Section 3.1: Proposed Adjustments to the Fishery Management Program**

The most critical priorities of the Council for this section must be those actions that will improve the monitoring of catch in the fishery. While this section mainly proposes refinements to various self-reporting mechanisms (as opposed to true catch monitoring, which should be done by trained, independent third-party personnel such as fishery observers) and other administrative changes to the FMP, there are two proposed measures in Section 3.1 that are of particular importance to catch monitoring. The first is to require the accurate and verifiable weighing of catch. The second is to carefully avoid the creation of potential loopholes in the catch monitoring program through the encouragement of unnecessary new effort in the fishery. In many fisheries the veracity of catch reporting benefits from the opposing interests of those that catch and those that purchase the fish. Such is not the case in the industrial herring fishery where, due to vertical integration, under-reporting can be in the interest of both the seller and the buyer because they are essentially the same entity. We support the following measures in Section 3.1:

- **Section 3.1.5 Option 2** (Dealers must accurately weigh all landed fish) with all of the following Sub-Options:
  - Sub-Options 2A: (Annual documentation of catch composition estimation methodology)
  - Sub-Options 2B: (Weekly<sup>18</sup> reporting of catch composition estimation for each individual landing)
  - Sub-Options 2C: (Dealer participation in SAFIS with vessel error-checking through Fish-on-Line)

Standardizing the methods by which dealers weigh all catch, and requiring vessels to verify the amount of fish landed, will aid in better overall estimates of catch, in addition to being essential for ensuring that directed quotas are not exceeded. Improved data on landings will also aid in the monitoring of a mortality cap or in achieving the objective of better catch estimates of river herring and shad. As the Draft Environmental Impact Statement (DEIS) for Amendment 14 (Am 14) to the Squid, Mackerel and Butterfish (SMB) Fishery Management Plan (FMP) points out, “accurate monitoring of the target

<sup>18</sup> Note that the Am 5 DEIS narrative description of Sub-Option 2B on page 29 does not specify that weekly submission of landing event reports is required, however the description of this sub-option in the Executive Summary on page xvi does specify that this is a weekly reporting requirement.

species can be as important as determining the encounter rates of [river herring and shad]” in the determination of river herring and shad catch estimates, due to the use of discard-to-kept ratios, or bycatch/incidental catch ratios, for catch estimation.<sup>19</sup>

Dealer or vessel self-reporting of unverifiable, un-standardized “hail” weights or visually-based volumetric estimates is inadequate and unacceptable. These status-quo methods present far too much opportunity for deliberate or accidental mis-reporting, they are not standardized, and offer no opportunity for third-party observers, port samplers, or law enforcement personnel to verify that accurate and complete catch weights are being reported.

Sub-Option 2A is basically a simple Catch Monitoring and Control Plan<sup>20</sup> (CMCP) under which each dealer would be required to explain, in an annual report to the National Marine Fisheries Service (NMFS), how that dealer estimates the amount of bycatch in an unsorted (bait) landing. Sub-Option 2B would require dealers to compile species-specific reports for each landing event and submit them once a week.<sup>21</sup> Sub-Option 2C will facilitate the process of cross-checking dealer reports against vessel reports and speed up timeliness of data processing. In the absence of third-party landings verification, which is not proposed in Am 5, cross-checking is a necessary (if fallible) backstop to identify and prevent misreporting.<sup>22</sup>

The Council should consider modifying this entire option to include as much third-party verification of landed catch weights as possible. In fact, the most powerful aspect of requiring a verifiable weight or verifiable volumetric proxy is that it can be verified by a third-party observer. This is not the case for the current captain’s “hail” weight or captain/dealer visual volumetric estimate. There are simple solutions the Council could include. For instance, the Council could require that NMFS Observers, when present on a trip, remain with the vessel throughout the offloading operation to verify the landed weight. With 100% observer coverage and calibrated holds, considerable efficiency could be gained through involving on-board observers in objective catch estimation before off-load. This is another obvious benefit of 100% observer coverage on A & B vessels.

- **Section 3.1.6 Option 1** (No Action- no increase in open access herring possession limits)

No changes to current open-access possession limits in the Herring FMP are necessary or justified. Furthermore, to implement any of the proposed changes would potentially undermine the catch monitoring reforms proposed in this amendment through the creation of significant new additional herring fishing effort that might not be appropriately included in the monitoring program.

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<sup>19</sup> See Amendment 14 DEIS, page 279

<sup>20</sup> See Am 5 DEIS at page 94

<sup>21</sup> See footnote 1 regarding the need for the Council to clarify this sub-option

<sup>22</sup> See Am 5 DEIS at page 353 which explains that Sub-Option 2C is “designed to identify erroneous data discrepancies between dealer and vessels reports” including through NMFS follow-up.

The information in Am 5 is clear, stating that “available fishery data do not indicate that the current 3 [metric ton] possession limit of herring for open access permit holders is problematic at this time” and that this possession limit “does not appear to be resulting in bycatch/regulatory discards for vessels fishing in any of the management areas.”<sup>23</sup>

Furthermore, the herring fishery may have overcapacity concerns already, including in the sensitive inshore grounds of Area 2 and also the inshore portions of Area 3. This is illustrated most recently by the 2012 Mackerel Advisory Panel Fishery Performance Report, which cites industry statements that the directed mackerel fishery in 2012 effectively experienced a premature closure due to rapid harvest of the available herring quota in Herring Management Area 2.<sup>24</sup>

- **Section 3.1.1 Option B** (Adopt new fishery definitions)
- **Section 3.1.2 Option B** (Adopt Administrative/General Provisions) Sub-Options as follows:
  - Option 2A (Expand possession restrictions to vessels working cooperatively)
  - Option 2B (Eliminate the VMS power-down provision)
  - Option 2C (Establish an At-Sea Herring Dealer permit)
- **Section 3.1.3.2 Option 2** (Require VMS for carriers)
- **Section 3.1.3.3 Option 3** (Restrict At-Sea Transfers to only permitted herring vessels)
- **Section 3.1.4 Option 2** (Expand pre-trip notification requirements) and **Option 3** (Expand pre-landing notification requirements)\*

We support all of the measures above since it appears that they will improve catch reporting and some may indirectly support catch monitoring by providing a better understanding of overall fleet activities. However we caution that unverified self-reporting should not be a substitute for robust third-party catch monitoring, especially for the Category A and B vessels that catch the vast majority of the fish.

The proposed new fishery definitions appear to be reasonable and necessary; however we caution that the top priority of the Council and NMFS relative to this section must be to ensure that no loopholes are created which allow catch to inadvertently fall through the cracks of new monitoring requirements instituted through Am 5. For instance, it appears that some At-Sea Transfers are actually also offloads, and the Council should clarify this issue.

<sup>23</sup> See Am 5 DEIS at page 357

<sup>24</sup> See 2012 Industry Performance Report. Available at: [http://www.mafmc.org/meeting\\_materials/SSC/2012-05/1-Staff\\_2013\\_MSB\\_ABC\\_Memo.pdf](http://www.mafmc.org/meeting_materials/SSC/2012-05/1-Staff_2013_MSB_ABC_Memo.pdf), Page 5-6.

We support Option 3 in Section 3.1.3.3 since it will likely allow managers to better understand the practice of at-sea transfer (AST) by requiring all participating boats to have a herring permit, and thus to report their activities more robustly. We oppose Option 2 since it would appear to restrict the practice of AST to only the largest vessels in the fishery, at the expense of traditional small boat herring fishermen.

\* The Council should consider modifying Options 2 and 3 in Section 3.1.4 to specify that the pre-trip and pre-landing notification requirements also apply to Category D vessels fishing with midwater trawl gear in all herring management areas (Option 2 already proposes applying it to them in Areas 1A, 1B and 3). Fishery stakeholders and the public have expressed serious concerns about MWT bycatch that apply to the entire herring fishery, across all management areas, and it appears there may be some large MWT vessels that are mainly active in the mackerel fishery but that possess Category D herring permits. Requiring pre-trip and pre-landing notifications from all MWT vessels in all areas would facilitate placement of observers and portside spot-checks by NMFS Office of Law Enforcement (OLE).

### **Section 3.2: Catch Monitoring: At-Sea**

The Council's highest priorities in this section should be to approve a robust at-sea observer program for the largest vessels in the herring fleet: the large midwater and midwater pair trawl vessels operating with Category A and Category B permits. The Council should require 100% observer coverage on these vessels. In addition the Council should close loopholes in current regulations that undermine the accuracy, precision, reliability and completeness of observer data. Some of these loopholes are simple, and easy to fix. For instance, the Council should explicitly and firmly abandon the practice of placing an observer on only one vessel in a pair trawl operation. Others are somewhat more complex, such as those that allow significant amounts of catch to be discarded at sea prior to being sampled by observers. The Council should approve a system to reduce and limit this practice, known also as "dumping" or "slipping" catch. Such a system must have three critical parts: 1) a prohibition on the practice except when necessary, 2) a set of limited exceptions under which catch may be dumped, and most importantly, 3) a set of accountability measures, consisting of concrete disincentives, that apply when the exceptions are exercised to discourage abuse of the exceptions. It should also be considered that with 100% monitoring, the independent estimation of the soon-to-be landed target catch could easily be carried out by appropriately trained at-sea observers during or upon the return to port. This could be done by inspection of certified/calibrated holds (standardized volumetric proxy for actual weight) and could reduce some of the administrative and economic burden contemplated under Reporting Requirements (section 3.1.5).

We support the following measures in Section 3.2:

- **Section 3.2.1 Alternative 2** (100% At-Sea Observer coverage on Limited Access herring vessels, Category A and B only) with the following sub-options:

- Funding Option 2 (Federal and Industry funds)
- Service Provider Option 1 (No Action)
- No issuance of waivers (no fishing would be allowed without an onboard observers)<sup>25</sup>

Between 2007 and 2010, Category A and B vessels caught 98% of the fish in the fishery, and realized 98% of the fishery revenues.<sup>26</sup> Clearly this sector of the fishery is the most important one to monitor, and the one best equipped to handle the costs. It is also a relatively small fleet sailing a relatively small number of trips: Between 2008 and 2010, an average of only 48 vessels held Category A and B permits, and of these only 30 were actually active in the fishery (defined as landing more than one pound of herring per year), sailing an average of only 650 trips per year.<sup>27</sup>

The public and fishery stakeholders have overwhelmingly supported this measure. In fact, the Am 5 Public Comment Summary released on June 1, 2012 states that support for 100% observer coverage on Category A/B vessels was “one of the most common comments from many individuals, fishermen, industry and [stakeholders] alike.”<sup>28</sup>

The simple fact is that vessels of this size and fishing power, fishing with a small-mesh gear prone to catastrophic bycatch events of depleted species like river herring, require very high levels of observer coverage. In fact, the only two comparable fleets in the U.S., the west coast MWT fishery for Pacific whiting (hake) and the Alaska pollock (walleye) MWT fishery, both employ mandatory 100% at-sea observer coverage.<sup>29</sup>

The Am 5 DEIS recognizes that “overall, the benefits to the Atlantic herring resource would likely be greatest under Alternative 2 relative to the other alternatives because it proposes the highest level of observer coverage and increases the likelihood of better documenting herring catch.”<sup>30</sup> The DEIS states much the same for non-target species in the fishery, such as river herring.<sup>31</sup> We would submit that by providing the greatest benefit to target and non-target species, this alternative provides the greatest net benefit to all components of the fishery, including herring harvesters, herring processors, and the stakeholders who rely on herring in the water as prey for other species. The DEIS, in section 5.2.6 (impacts of observer coverage alternatives on fishery-related businesses and communities), cites the positive impacts on herring harvesters and processors, and on

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<sup>25</sup> While the Am 5 DEIS (see page 35) does not explicitly describe labeled options allowing or disallowing the issuance of waivers, it does describe these two possibilities and request public comment on the issue

<sup>26</sup> See Am 5 DEIS Table 52 on page 231

<sup>27</sup> See Am 5 DEIS page 225 and page 250

<sup>28</sup> See page 2 of Am 5 summary of written comments to date at

<http://www.nefmc.org/herring/cte%20mtg%20docs/120606/Final%20AM%205%20Comment%20Summary%20Memo%20June%206%20OS%20Mtg.pdf>

<sup>29</sup> See Electronic Code of Federal Regulations Part 660.140, Part 660.150 and 660.160 (Whiting) and Part 679.50 (Pollock)

<sup>30</sup> See Am 5 DEIS at page 370

<sup>31</sup> See Am 5 DEIS at page 381

other components of the fishery that rely on herring as prey, that would result from increased observer coverage and the reductions in scientific and management uncertainty it would produce.<sup>32</sup>

We support Funding Option 2, under which an industry-funded observer program would be implemented to meet the goal of 100% coverage in cases when federal funds were unavailable. A number of herring harvesting and processing entities, along with the vast majority of other herring fishery stakeholders, have supported this option.<sup>33</sup> We are opposed to “grandfathering” all states in the Northeast Region as service providers for sea sampling and we are opposed to the issuance of waivers which would essentially nullify any requirement for 100% observer coverage in the fishery. No states are currently providing observer services and as such none have acquired NMFS approval as service providers.<sup>34</sup> Therefore the very concept of “grandfathering” is not applicable. Absent full certification by NMFS of any state wishing to provide observer services, NMFS and the public would have no assurances that the states would comply with NMFS data collection, processing, management, sharing, and transparency standards. As the Am 5 DEIS points out, their “operational details would be unknown.”<sup>35</sup> This is not an acceptable scenario, and even the Northeast Observer Program (NEFOP) opposes this option.<sup>36</sup> Finally, one hundred percent coverage must mean just that: 100%. A blanket provision allowing the unlimited issuance of waivers with no backstops or other accountability measures is likely to seriously undermine any 100% coverage requirement or other target coverage level.

- **Section 3.2.3 Option 4D (Closed Area I Provisions with Trip Termination)**

Effective conservation and management of Atlantic herring, river herring, and other marine resources in a manner consistent with the Atlantic herring FMP and the Magnuson Stevens Act require that the wasteful, unnecessary and data-undermining practice of at-sea dumping be reduced and limited. Only Option 4D will effectively do so, and we urge the Council to approve this measure, which is based closely on a highly successful pilot program in CAI that has proven to effectively control dumping without undue impact on herring fishery operations.

The Council should also explicitly clarify that, consistent with the current CAI sampling regulations, under Option 4D operational discards a) must be brought aboard for sampling, b) may only be dumped under one of the other three allowable exceptions (safety, mechanical failure, and spiny dogfish clogging the pump) and c) if dumped would be subject to the accountability requirements outlined in the measure (the dumping

<sup>32</sup> See Am 5 DEIS at page 391

<sup>33</sup> See Am 5 written comment compilations at

<http://www.nefmc.org/herring/cte%20mtg%20docs/120606/HR%20A5%20COMMENTS%20NEFMC%20.pdf> and <http://www.nefmc.org/herring/cte%20mtg%20docs/120606/HR%20A5%20COMMENTS%20NERO.pdf>

<sup>34</sup> See Am 5 DEIS at page 394

<sup>35</sup> Ibid

<sup>36</sup> Ibid

event would be tallied toward the fleet-wide allowance of 5 dumping events per herring management area, and subsequent dumping would trigger a requirement to terminate the trip and return to port). We point out that in January 2011, the NEFMC passed a motion clarifying that any reference to current federal regulations (i.e. the current CAI provisions) in the Am 5 document refers to those regulations as specifically codified in the CFR, which indicates that Option 4D must treat operational discards as they are treated under current CAI rules.<sup>37</sup>

NMFS has acknowledged a) that accurate catch composition records cannot be obtained for dumped catch (including operational discards), b) that there are safe and operationally-feasible ways to get all catch aboard for sampling (including operational discards), and c) that issues such as stratification of catch in the cod-end or the strainer-like effect of the fish pump intake grate raise serious questions about the composition of operational discards.<sup>38</sup> Taken together, these issues clearly demonstrate that current regulations allowing dumping undermine conservation objectives of the herring FMP.

At-sea dumping of unobserved catch, sometimes referred to as slippage or released catch and including the aforementioned operational discards, is an ongoing problem in the Atlantic herring fishery. Furthermore, the CAI rules currently in place in this fishery provide a compelling example of successful accountability measures for dumping. Between 2008 and 2009, nearly 30% of observed hauls in the Atlantic herring fishery included dumped catch that was not sampled, and even this is acknowledged as an underestimate because vessel captains did not provide information on dumped catch on all observed hauls.<sup>39</sup> In contrast, vessels fishing under Closed Area I (CAI) regulations in the Atlantic herring fishery had no observed slippage events recorded in 2010.<sup>40</sup> This reduction in dumping clearly demonstrates that the CAI rules are effective. It is important to note, however, that this effectiveness is due to the accountability measures in place to discourage abuse of the dumping exceptions, which require a vessel to stop fishing and exit CAI if it releases an un-sampled net. This accountability approach must be retained and therefore the measure must be effectively translated from one that is custom-crafted to apply to CAI to one that works for the entire fishery.

The hybrid approach, which grants a fleet-wide allowance of dumping events per herring management area, to be followed by a trip termination requirement, is a sensible and justified solution. The proposed fleetwide allowance is neither arbitrary nor unreasonable. As the Am 5 DEIS points out, observed dumping events in the fishery in past years are not unreasonably out of proportion to the proposed allowance under Option 4D, especially if one considers the probable elimination of unnecessary dumping that will

<sup>37</sup> See summary of NEFMC motions from January 2011 at <http://www.nefmc.org/actions/motions/motions-jan11.pdf>

<sup>38</sup> See Final Rule entitled **Fisheries of the Northeastern United States; Discard Provision for Herring Midwater Trawl Vessels Fishing in Groundfish Closed Area I**, Federal Register November 30, 2010 available at <http://www.nero.noaa.gov/nero/regs/frdoc/10/10HerMultiClosedAreaMidWaterDiscard.pdf>

<sup>39</sup> See Am 5 DEIS at pages 408-409

<sup>40</sup> See Am 5 DEIS at page 414

result from the new rules driving behavioral changes.<sup>41</sup> Given the buffer against trip termination provided by the dumping allowance, the three exceptions provided under which dumping could occur, and the success to date of the CAI pilot program (no trips were required to leave CAI in 2010, and to date there have been no reports of safety or operational problems in 2011, the first year in which operational discards were required to be brought aboard) Option 4D provides a reasonable balance that will deter slippage without undue penalty.

- **Section 3.2.2 Option 2** (Implement Additional Measures to Improve Sampling) Sub-Options as follows:
  - Sub-Option 2A (Provide a Safe Sampling Station)
  - Sub-Option 2B (Provide Reasonable Assistance)
  - Sub-Option 2C (Provide Notice of Starting Pumping Operations)
  - Sub-Option 2E (Improve Communications between Pair Trawl Vessels)

We support the measures listed above as they will improve catch sampling by at-sea observers.

We oppose Sub-Options 2D (Requirements for Trips with Multiple Vessels) and 2F (Visual Access to the Net/Codend).

We oppose Sub-Option 2D, which would seemingly require a sensible step (the deployment of an observer on both vessels of any pair trawl trip assigned observer coverage) because it contains an unacceptable loophole (the inclusion of the phrase “wherever/whenever possible”). Since a pair trawling operation is considered one trip by NEFOP, and since NEFOP has stated that it already adheres to this policy, this is one of the simplest monitoring reforms that can and should be applied to the fishery. Pumping of catch to an unobserved vessel in a pair trawl team is one of the largest culprits in the widespread problem of the “Fish, Not Known” category that undermines catch composition data in the fishery.<sup>42</sup>

We also oppose Sub-Option 2F, which would require vessel operators to provide “visual access” to the net for observers. This is an entirely unacceptable, loophole-ridden variation on status-quo, and will not allow for any actual catch sampling. NMFS has acknowledged that so-called visual access does not allow reliable catch estimation, stating in the Final Rule implementing the revised CAI sampling requirements that absent the catch being brought aboard “species identification of fish remaining in the net is not typically possible. Observers may be able to identify large-bodied organisms in the net, but are unable to reliably differentiate many fish to their species. Even if fish at the

<sup>41</sup> See Am 5 DEIS at page 433

<sup>42</sup> See Am 5 DEIS at page 418



surface of the net are identifiable, the contents may not be homogeneous and the observer cannot determine the full composition of the net.”<sup>43</sup>

### **Section 3.3: Management Measures to Address River Herring Bycatch**

The Council must take proactive action in Am 5 to conserve and manage severely depleted alosine<sup>44</sup> species that are clearly involved in the fishery and are indisputably in need of conservation and management. Specifically, these stocks are currently caught, killed, and in most cases harvested from the Exclusive Economic Zone (EEZ, the federally managed ocean waters between 3 and 200 miles from shore), in very large numbers, by vessels in the Atlantic herring fishery. Most are then landed and even sold, yet there are no federal regulations of any kind to manage this impact. The Council must accept responsibility for this unmanaged mortality and approve measures to monitor, reduce and limit it through the implementation of new regulations on the Category A and B vessels that catch the vast majority of the fish and realize the vast majority of the revenue in the fishery.

Please note that while there are river herring-specific monitoring measures proposed in this section, for instance options to apply higher levels of observer coverage or limit at-sea dumping, these would apply only to certain areas identified as river herring bycatch “hotspots” (referred to in the DEIS as the “River Herring Monitoring/Avoidance Areas”). Even worse, in some cases these proposed measures would apply only after large amounts of river herring bycatch were detected on a fleet-wide basis (the so-called “trigger” approach). We oppose all of these measures because the Council should not limit the application of a robust monitoring program for the vessels catching most of the fish in this fishery to these limited areas. The Category A and B vessels must be monitored robustly in all times and areas, including 100% at-sea observer coverage and a system to control at-sea dumping, not just in river herring hotspots. Robust monitoring of river herring catch will be delivered by fishery-wide monitoring measures for the Category A and B fleet, which the Council should select and approve from Section 3.2 as we outline earlier in this letter. The Council must focus its efforts in this section on measures to both reduce (utilizing hotspot closures) and limit (utilizing a catch cap) the catch of severely depleted river herring and shad by vessels engaged in directed herring fishing.

Therefore we support the following measures to address river herring catch and bycatch in this section.

- **Modified Section 3.3.5** (An immediate catch limit, or cap, on the total amount of river herring and shad caught in the directed Atlantic herring fishery, with cap amounts based on the median annual river herring and shad catch by management area using a 3 or 5

<sup>43</sup> See Final Rule entitled **Fisheries of the Northeastern United States; Discard Provision for Herring Midwater Trawl Vessels Fishing in Groundfish Closed Area I**, Federal Register November 30, 2010 available at <http://www.nero.noaa.gov/nero/regs/frdoc/10/10HerMultiClosedAreaIMidWaterDiscard.pdf>

<sup>44</sup> Alewife (*Alosa pseudoharengus*), blueback herring (*Alosa aestivalis*), American shad (*Alosa sapidissima*) and hickory shad (*Alosa mediocris*)

year window, with a provision for updating the cap through specifications based on new scientific information as it becomes available.)

- **Modified Section 3.3.5** (Add river herring and shad as “non-target stocks in the fishery” with immediate initiation of an action to establish the status determination criteria and other required management measures.)
- **Section 3.3.3.2.1 Option1** (Closed Areas: Close River Herring Protection Areas (“hotspots”) to directed herring fishing). Since the “River Herring Protection Areas” that would be closed under this option are relatively small, the Council should approve **Section 3.3.4** to allow for a future expansion, through a Framework Adjustment, of the closures to the larger “River Herring Monitoring/Avoidance Areas” if appropriate.

The Council and NMFS are legally obligated to add river herring and shad to the Atlantic herring fishery management plan. *See Flaherty v. Bryson*, 2012 WL 752323, \*13 (D.D.C. Mar. 8, 2012). Until they are added to the plan with fully implemented status determination criteria and other legally required measures, the Council must take immediate action to decrease the incidental catch of river herring and shad in the Atlantic herring fishery. *Id.* at \*16. These measures must be accompanied by the application of a robust monitoring program with 100% at-sea monitoring and a system to control dumping. In addition to adding river herring and shad as stocks in the fishery of the Atlantic Herring FMP (discussed further below), we support the following alternatives as interim measures to reduce incidental catch of river herring and shad:

**Until River Herring and Shad are Fully Integrated into the FMP the Council Must Establish a River Herring and Shad Catch Cap**

**We support a modification of Alternative Section 3.3.5. It should be modified to implement an immediate cap for all alosines (river herring and shad, or “River Herring”) based on the 3 or 5 year median annual river herring and shad catch by management area, with a provision for updating the cap based on new scientific information as it becomes available (through specifications).** The Amendment 5 record and DEIS fully support approval of this modified alternative, and the Council has the authority and the legal obligation to initiate this cap immediately. *See Flaherty v. Bryson*, 2012 WL 752323 at \*16 (“to meet their responsibility to ensure compliance with the National Standards, Defendants must demonstrate that they have evaluated whether the FMP or amendment minimized bycatch to the extent practicable.”)

Amendment 5 has been developed to address the widely-recognized need to reduce bycatch in the Atlantic herring fishery and has specifically identified River Herring as a key issue to be addressed.<sup>45</sup> River Herring are caught, killed and either landed or discarded in federally-managed waters between 3 and 200 miles from shore by vessels in the Atlantic herring fishery. Although the majority appears to be landed and sold with Atlantic herring and mackerel, there are no meaningful federal regulations under any fishery management plan that manages this catch. The Council must take responsibility for this unmanaged mortality in the herring fishery and approve measures that will improve monitoring, reduce bycatch/incidental catch, and establish catch caps/limits for these species, especially for the Category A and B vessels that

<sup>45</sup> *See* 74 Fed. Reg. 68577 (Dec. 28, 2009).

catch the vast majority of River Herring and realize the vast majority of the revenue in this fishery.

The Herring Alliance has previously requested a catch cap for River Herring.<sup>46</sup> As noted by the PDT report referenced below, catch caps are often based on recent catch history when it is decided not to use an existing stock assessment for establishing a catch limit or one is not available. This would provide strong incentive to avoid River Herring and help to minimize its overall catch. For guidance on various analyses, please see the document prepared for the Atlantic Herring PDT entitled *Developing River Herring Catch Cap Options in the Directed Atlantic Herring Fishery*<sup>47</sup> and contained in Volume II of the DEIS for Amendment 5, particularly Table 4 which provides Sub-Options for River Herring Catch Triggers by Area.

**Until River Herring are Fully-Integrated into the FMP, the Council Must Implement Hotspot Closures**

The New England Council has identified a variety of “River Herring Protection Areas” (relatively small) and “River Herring Monitoring/Avoidance Areas” (larger) in Amendment 5 as areas where river herring interactions are high. As an immediate interim measure until river herring and shad (“River Herring”) are fully integrated into the FMP, herring vessels should be excluded from the River Herring Protection Areas. **With modifications, we support Alternative Sections 3.3.3.2.1 and 3.3.4.**

Alternative Section 3.3.3.2.1 should be modified to clarify that “directed fishing for herring” in these closures means herring-permitted vessels fishing for, possessing, catching, transferring or landing more than 2,000 pounds of herring from the River Herring Protection Areas on all fishing trips. In addition, it should also be modified to reflect that Category C & D permits will not be affected by these closures if not carrying gear capable of catching Atlantic herring.

**Although we support the closures identified, we are opposed to the sub-option which allows a vessel to “declare out of the fishery”** because it provides a loophole for limited access herring vessels to avoid having to comply with the Closed Areas prohibition. Alternatives 3.3.3.2.1 and 3.3.3.2.3 already provide appropriate exemptions, although the exemptions under 3.3.3.2.1 should be clarified to include vessels not fishing with mesh gear (e.g. hook and line). If adopted, this is an area where the NEFMC and the MAFMC should coordinate their actions in Amendment 5 and Amendment 14 so that all small-mesh gear types capable of catching River Herring are prohibited from fishing in the closed areas, regardless of the target species.

Because the hotspots closed under Alternative 3.3.3.2.1 are relatively small, the Council should also approve Section 3.3.4 which allows for future expansion or modification, through a Framework Adjustment. The closure of larger “River Herring Monitoring/Avoidance Areas” should be considered, as well as other areas if justified

<sup>46</sup> See January 21, 2011 Letter from Herring Alliance to Executive Director NEFMC re: Capping River Herring Catch in the Atlantic Sea Herring Fishery.

<sup>47</sup> Amendment 5 DEIS, Volume II, Appendix VII, pp. 362-376.

through further analyses, including data from 100% monitoring of the fishery. Based on various analyses provided in Volume II of Amendment 5 DEIS, closing the protection areas will help to minimize bycatch of river herring and shad populations in the short-term; however, the distribution of these species is likely too variable for these small closed areas to be effective, especially standing alone, in the long-term. **We oppose the trigger-based closures under this alternative because the Council should not limit its application of a robust monitoring program to those limited areas for the vessels catching most of the fish in this fishery.** Category A and B vessels must be monitored robustly at all times and in all areas, including through 100% at-sea monitoring with a system to control at-sea dumping, not just in river herring hotspots. Further, because herring and mackerel are often targeted by the same vessels at the same time, the Council should coordinate these closures with the MAFMC to ensure consistency.

**The Council Cannot Rely on a Voluntary Bycatch Avoidance Program such as the SFC/SMAS/DMF Project described in Alternative 3.3.2.2.4 to Satisfy its National Standard 9 Obligation to Minimize Bycatch**

Any voluntary bycatch avoidance program, such as the SFC/SMAS/DMF Project described in Alternative 3.3.2.2.4, a University-based voluntary program, is inappropriate as a regulatory measure and would be ineffective without a mortality cap. This alternative contemplates a “stand-alone approach for river herring bycatch” and must be removed from consideration in Amendment 5. There are simply no meaningful incentives to avoid bycatch through the program without a cap. Any positive results from the program to date are the result of the incentive to avoid meaningful regulation through this amendment, and will disappear as soon as Amendment 5 passes. The bycatch avoidance program for the Atlantic scallop fishery is successful at reducing bycatch only because there is a yellowtail flounder cap that scallop fishermen must avoid to continue fishing.

**The Council Must Add River Herring and Shad to the Atlantic Herring FMP**

The Magnuson-Stevens Act requires federal FMPs to describe the fish stocks involved in a fishery, and NMFS and the councils to manage those stocks in need of conservation and management.<sup>48</sup> FMPs must contain conservation and management measures consistent with the

<sup>48</sup> The Magnuson-Stevens Act requires an FMP or an amendment for those fisheries requiring “conservation and management.” See 16 U.S.C. §§ 1852(h)(1); 1853(a)(2). For purposes of determining which target and non-target stocks require conservation and management, the Act provides a definition of “conservation and management” at 16 U.S.C. § 1802(5). *Id.* at \*1, fn 3. This definition should be looked to for guidance in making decisions about what stocks belong in a FMP, and refers to rebuilding, restoring, or maintaining “any fishery resource and the marine environment,” assuring among other things, a food supply, recreational benefits, and avoiding long-term adverse effects on fishery resources and the marine environment. National Standard 7 guidelines include a set of criteria for determining whether a fishery needs management that tracks this statutory definition and other MSA objectives and requirements, including examination of the condition of the stock or stocks of fish. The criteria also note that “adequate” management by an entity like the ASMFC could be one factor in determining whether a stock should be added to a fishery. In this case, although ASMFC management was noted by NMFS during briefing the *Flaherty v. Bryson* case, the Court did not address it in its opinion because (as even NMFS recognized) the ASMFC plan does not address federal waters. 50 C.F.R. § 600.340(b).

National Standards, including National Standards One and Nine which require management measures that prevent overfishing and minimize bycatch.<sup>49</sup> The Act requires annual catch limits (ACLs) and accountability measures (AMs) for *all* stocks in need of conservation and management.<sup>50</sup> To prevent overfishing the National Standard One Guidelines require councils to identify the stocks in the fishery, including non-target stocks caught incidentally and retained or discarded at sea.<sup>51</sup> A stock can be identified in more than one fishery.<sup>52</sup> Identification as a stock in the fishery triggers ACL requirements and the standard approach to setting ACLs contained in the National Standard 1 Guidelines. NMFS must review council decisions to ensure that they comply with the Act, and disapprove those that do not.

The question of which stocks must be included in the Atlantic herring FMP was recently addressed in federal court. *See Flaherty*, 2012 WL at \*13 (holding that the Magnuson-Stevens Act requires Councils to prepare an FMP or amendment for any stock of fish that “requires conservation and management.”). Councils must make two determinations: (1) which stocks can be treated as a unit for purposes of management, and therefore should be considered a fishery, and (2) which of these fisheries then “require conservation and management.” *Id.* at \*9. The law does not allow managers to unreasonably delay decision-making regarding the appropriate composition of a fishery given their statutory obligations to ensure that overfishing does not occur. *Id.* at \*12. The court also rejected any interpretation of the National Standard One Guideline found at 50 C.F.R. § 600.310(d)(1), as providing the Council with unreviewable discretion to determine what stocks belong in an FMP. *Id.* The Court held that while the Council’s role is to name the species to be managed “in the first instance,” NMFS has a duty “in the second instance” to ensure an FMP, including the composition of its fishery, satisfies MSA requirements. *Id.* at \*\*13, 14. Moreover, Councils and NMFS cannot limit the stocks they include in a fishery to just those stocks that already happen to be part of an FMP, or those they have officially designated as overfished (or where overfishing is occurring). *Id.* at \*\*12-14.

<sup>49</sup> 16 U.S.C. § 1851(a)(1) & (9).

<sup>50</sup> *Id.* § 1853(a)(15).

<sup>51</sup> 50 CFR § 600.310(d)(3), (4). A “fishery” is defined as “one or more stocks of fish which can be treated as a unit for purposes of conservation and management and which are identified on the basis of geographical, scientific, technical, recreational, and economic characteristics.” *Id.* § 1802(13). A “stock of fish” is defined as a “species, subspecies, geographical grouping, or other category of fish capable of management as a unit.” *Id.* § 1802(42). The National Standard One Guidelines provide additional guidance on the classification of the stocks in an FMP. *See* 50 C.F.R. § 600.310(d)(1) (“Magnuson-Stevens Act section 303(a)(2) requires that an FMP contain, among other things, a description of the species of fish involved in the fishery. The relevant Council [in the first instance] determines which specific target stocks and/or non-target stocks to include in a fishery consistent with the Act’s requirements. *See Flaherty v. Bryson*, 2012 WL 752323, \*14. The regulations define “target stocks” as “stocks that fishers seek to catch for sale or personal use, including ‘economic discards’ as defined under Magnuson-Stevens Act section 3(9),” and “non-target species” and “non-target stocks” as “fish caught incidentally during the pursuit of target stocks in a fishery, including ‘regulatory discards’ as defined under the Magnuson-Stevens Act section 3(38). They may or may not be retained for sale or personal use. Non-target species may be included in a fishery and, if so, they should be identified at the stock level.” *Id.* § 600.310(d)(2)-(4).

<sup>52</sup> *See* 50 C.F.R. § 600.310 (d)(7) (“If a stock is identified in more than one fishery, Councils should choose which FMP will be the primary FMP in which management objectives, SDC, the stock’s overall ACL and other reference points for the stock are established.”)

Thus, binding precedent makes clear that stocks in need of conservation and management must be added to an FMP. A decision by this Council to wait for a specific remedy order in the *Flaherty v. Bryson* case or to ignore the law outlined in that opinion when making management decisions about River Herring would ignore critical information on how to determine the composition of this fishery for management and violate the law.

River herring and shad are involved in the Atlantic herring fishery and capable of being managed as part of it. *See* Amendment 5 DEIS at p. 134; see also p. 447 (Coincidence of River Herring and Shad; *see also Flaherty*, 2012 WL at \* 12 (“Defendants’ conclusory statement that river herring would simply have to wait until a future amendment does not suffice.”) The incidental catch of river herring and shad by all ocean-intercept fisheries (including the herring fishery) averaged an estimated 459 metric tons of river herring per year and an estimated 63 metric tons of shad per year.<sup>53</sup> By contrast, landings of river herring and shad, provided by the ASMFC for fisheries in state waters during the same time period, averaged 601 and 581 metric tons respectively.<sup>54</sup> Further, it is estimated that the mid-water trawl fishery for both Atlantic herring and Atlantic mackerel accounts for 71% of the combined incidental catch of river herring and shads. NMFS observer records show that at-sea fishing vessels may take as much as 20,000 pounds of blueback herring in a single net haul.<sup>55</sup> River herring and shad are caught, kept, landed and sold in this fishery, as well as discarded as bycatch.<sup>56</sup> Thus, it is indisputable that these species are involved in the Atlantic herring fishery and can be managed as part of it.

River herring and shad are in dire need of conservation and management. In addition to the science identified in the DEIS for Amendment 5 (and the DEIS for Amendment 14),<sup>57</sup> the new benchmark stock assessment for river herring, approved for management use by the ASMFC on May 1, 2012, confirms that river herring along the entire Atlantic seaboard are depleted, with many of the river runs barely persisting and near historic lows.<sup>58</sup> Of 24 river stocks that the stock assessment team was able to characterize regarding current condition, 92% were described as depleted.<sup>59</sup> There were “severe declines in [fishery] landings” which “began coastwide in the early 1970s and domestic landings are now a fraction of what they were at their peak having remained at persistently low levels since the mid-1990s.”<sup>60</sup> U.S. commercial landings are down 93% from the 1970’s.<sup>61</sup> The peer review panel similarly observed that “[s]tocks of river herring are greatly depleted compared to the early 17th century baseline, as well as compared to that of

<sup>53</sup> *See* Amendment 14 DEIS at p. 222.

<sup>54</sup> *Id.*

<sup>55</sup> Haul data from North East Fisheries Observer Program, NMFS; Landings data from NOAA’s Annual Commercial Landing Statistics, available at: [www.st.nmfs.noaa.gov/st1/commercial/landings/annual\\_landings.html](http://www.st.nmfs.noaa.gov/st1/commercial/landings/annual_landings.html).

<sup>56</sup> *See* Amendment 5 DEIS at pp. 54, 134, 447; *see also* Appendix IIA, VI, VII (Volume II).

<sup>57</sup> *See* Amendment 14 DEIS, § 2.1.9 Addition of RH as “Stocks in the Fishery” in the MSB FMP at pp. 82-89, § 6.2.5 River Herring Stock Status at p. 210, §6.5.6 Description of Candidate Species for Listing Under the ESA, at p. 240.

<sup>58</sup> *See* The ASMFC’s River Herring Stock Assessment Report No. 12-02, Volume I – Coastwide (May 2012) (“Stock Assessment Report”).

<sup>59</sup> Stock Assessment Report - Executive Summary.

<sup>60</sup> Stock Assessment Report - Executive Summary.

<sup>61</sup> Stock Assessment Report - Executive Summary.

the late 19th century.”<sup>62</sup> The peer review “concur[s] with the SASC [stock assessment sub-committee] conclusions that river herring stocks are depleted, that ocean bycatch is an issue, and that recovery will require management on multiple fronts.”<sup>63</sup> For the first time, ocean bycatch of river herring was examined in a stock assessment, and it concluded that at-sea fisheries are a significant factor in the decline of the species’ populations over the last 50 years.<sup>64</sup>

In addition to the new stock assessment, NMFS recently determined that a listing of river herring (blueback herring and alewife) as “threatened” under the Endangered Species Act may be warranted.<sup>65</sup> Finding that the petition presented “substantial scientific information that the petitioned action may be warranted,” NMFS initiated a year-long status review. As described in the petition, existing state and federal regulatory mechanisms are insufficient for river herring.<sup>66</sup> The current federal/state/regional management framework has avoided the coordinated management necessary to conserve and manage these species. Specifically, the regulatory measures drafted by the Atlantic States Marine Fisheries Commission (ASMFC) in Amendment 2 to the Interstate Fishery Management Plan for Shad and River Herring, and implemented through state laws, have proven insufficient because this interstate compact agency has confined the reach of its plan to state waters. Moratoriums on directed fisheries for river herring in several states have been in place for years without sufficiently beneficial results.<sup>67</sup> Although the ASMFC is required to coordinate its management measures with NMFS to promote the conservation of stocks throughout their ranges, this authority has not been exercised.

Shads also need conservation and management. As noted above, figures used to develop Amendment 14 indicate that on average 120,000 pounds of shad were caught per year in ocean intercept fisheries including the Atlantic herring fishery from 2006-2010.<sup>68</sup> Of these approximately 600,000 fish, many of them were juveniles.<sup>69</sup> Currently, shads are managed under Amendment 3 to the IFMP for Shad and River Herring and according to the most recent stock assessment their status is “depleted” as well. The assessment states that shad “stocks were at all-time lows and did not appear to be recovering to acceptable levels.”<sup>70</sup> The stock assessment also

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<sup>62</sup> *Terms of Reference & Advisory Report of the River Herring Stock Assessment Peer Review* (March 2012) (“Peer Review Report”), Introduction at p. 8.

<sup>63</sup> *Id.* at p. 8.

<sup>64</sup> *Id.*

<sup>65</sup> In response to a petition filed by the National Resources Defense Council (NRDC), NMFS made a 90 day finding that a listing may be warranted. 76 Fed. Reg. 67652 (Nov. 2, 2011). Listing determinations are made solely on the basis of the best scientific and commercial data available, after a full status review, and taking into account all efforts to protect and manage the species. 16 U.S.C. § 1533(b)(1)(A).

<sup>66</sup> NRDC Petition at 78-79.

<sup>67</sup> Connecticut, Massachusetts, Rhode Island, and North Carolina have prohibited harvest for several years without recovery of species’ populations. See Species Profile: River Herring States and Jurisdictions Work to Develop Sustainable Fisheries Plans for River Herring Management, p.2 available at:

<http://www.asmfc.org/shadRiverHerring.htm>. Sustainable Fishery Plans have been approved for 5 states (Maine, New Hampshire, North Carolina, South Carolina and New York).

<sup>68</sup> See Amendment 14 DEIS, §4.1.B at p. 111.

<sup>69</sup> *Id.*

<sup>70</sup> ASMFC. August 2007. Stock Assessment Report No. 07-01 (Supplement) of the Atlantic States Marine Fisheries Commission: American Shad Stock Assessment for Peer Review, Volume 1.

noted that coast-wide declining trends raised flags that ocean mortality was having a serious impact, and the peer review team listed bycatch monitoring as a high priority for future action.<sup>71</sup> Amendment 3 currently prohibits ocean intercept fishing for shad, however there is little enforcement. No assessments are available for hickory shad but as noted in the Amendment 14 DEIS, “many runs are likely below historical levels for reasons similar to those discussed below for Atlantic shad.”<sup>72</sup>

River herring and shad populations remain in a severely depleted state, and ocean catch in federal waters has been firmly identified as an ongoing threat to these fish. While the ASMFC has implemented conservation measures in state waters up and down the coast, it has ultimately not adopted any protections for federal waters, placing the responsibility squarely on the New England Council, as well as NMFS and the Mid-Atlantic Council to conserve and manage these species.

### **Section 3.4: Management Measures to Address Midwater Trawl Access to Groundfish Closed Areas**

The Council should acknowledge the fundamental change in the understanding of the impacts of midwater trawl gear that has occurred in the years since it was approved for use in the year-round Groundfish Closed Areas (GFCA). Even since Amendment 5 (originally known as Amendment 4<sup>73</sup>) was initiated, new information about this gear has emerged that shows that groundfish bycatch problems have increased. In fact, haddock interactions have become so frequent and problematic that the midwater trawl industry demanded and received a five-fold increase in their haddock bycatch allowance in April 2011.<sup>74</sup> Newly available data also demonstrate that far too much of this problem results from fishing by MWT vessels in the GFCA.<sup>75</sup> Finally, troubling evidence of the extent of seafloor contact by MWT gear has emerged, validating concerns that, contrary to MWT industry claims, their gear is being fished in close proximity to the bottom where rebuilding groundfish populations aggregate.<sup>76</sup> Midwater trawl gear was approved for use in these sensitive groundfish spawning and nursery areas in 1998 based on the assumption that the gear was incapable of catching significant amounts of groundfish. This was based in part on limited at-sea observer data (13 tows, to be precise, with little to none in the actual groundfish closed areas).<sup>77</sup> It is now clear that the assumption that MWTs do not catch groundfish is not correct.

Since approval in 1998, standards for approving access to these areas have changed. Fishermen wishing to conduct operations in these areas today must conduct robust experimental fisheries

<sup>71</sup> See ASMFC American Shad Stock Assessment Peer Review Panel, Stock Assessment Report No. 07-01 of the ASMFC, Terms of Reference & Advisory Report to the American Shad Stock Assessment Peer Review, July 2007.

<sup>72</sup> Amendment 14 DEIS, s. 6.2.6 at p. 213.

<sup>73</sup> See Am 5 DEIS at page 6

<sup>74</sup> See footnote 6 on page 2 of this letter

<sup>75</sup> See footnote 7 on page 3 of this letter

<sup>76</sup> See footnote 8 on page 3 of this letter

<sup>77</sup> See Framework Adjustment 18 to the Northeast Multispecies FMP at [http://www.nemulti/frame/Groundfish\\_Framework\\_18.pdf](http://www.nemulti/frame/Groundfish_Framework_18.pdf)



with 100% catch sampling by independent observers, and may do so only after applying for and receiving Exempted Fishing Permits (EFP). EFPs outline rigorous requirements for the scientific sampling of the catch, and typically include very stringent EFP-specific caps on target catch and on bycatch species. Successful experimental fisheries must analyze and submit data and report on results to NMFS and the Council, including a rigorous review process before results can be used for management purposes.<sup>78</sup> Finally, fishermen must successfully secure management measures through a change to an FMP in order to create new fishing opportunities in the GFCAs based on the experimental results.

Therefore the Council should approve the following measures:

- **Section 3.5 Alternative 5 (Closed Areas)**

The Council should rescind access to these sensitive areas immediately for all midwater trawl and paired midwater trawl vessels. Regardless of whether a new, more robust at-sea monitoring program is applied to the entire Category A and B herring fleet through other actions in this amendment, the year-round groundfish closed areas can and should be subject to a higher standard. There is ample precedent for applying such a higher standard to fishing operations in the GFCAs. For instance, there is the previously mentioned EFP process for securing the opportunity to fish in these areas. There is also the current set of special rules created for herring vessels in Groundfish Closed Area I (CAI) which require midwater trawlers to have 100% observer coverage and to adhere to special rules that limit dumping of un-sampled catch.

Closing these areas would encourage herring fishermen to design, apply for, and implement responsible and well-regulated experimental fisheries to determine if, where, when and how any future midwater trawling in these areas should occur. This option would ensure that a public process takes place prior to the issuance of any potential EFPs, such that the public and other affected fishery stakeholders (i.e. groundfishermen) have the opportunity to provide critical input on EFP conditions and experimental design. There are a number of highly-appropriate monitoring measures which are beyond the scope of this amendment or fishery-wide adoption at this time, but which are perfectly appropriate for vessels applying for access to these areas. These include deployment of more than one observer on each vessel to ensure more effective and complete catch sampling, use of electronic monitoring measures especially bottom contact or footrope height sensors, use of video cameras at key locations where fish might be discarded but where observers do not have clear lines of sight, and at-sea catch weighing. In addition, any EFP allowing access to these areas for midwater trawl vessels can and should impose stringent EFP-specific caps on catch and bycatch, or other effort-based controls (such as limits on fishing near or on the seafloor) to control and limit negative impacts on groundfish from the experimental fishery.

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<sup>78</sup> See NEFMC Research Steering Committee Research Review Policy at [http://www.nefmc.org/research/RSC%20ResearchReviewPolicy%20\(2\).pdf](http://www.nefmc.org/research/RSC%20ResearchReviewPolicy%20(2).pdf)

**Consolidation of Management:**

Overlap between the Atlantic mackerel fishery and the Atlantic herring fishery is well-documented.<sup>79</sup> Improved monitoring and data collection will provide both Councils (as well as the ASFMC) with a more complete picture regarding the overlap of the Atlantic mackerel and Atlantic herring fisheries and their interactions with river herring and shads; however, in order to improve management of all stocks it will be imperative for one FMP to ultimately manage the stocks. We urge the Council to begin discussions with NFMS, the NEFMC, and the ASFMC to create a viable single management plan that will best steward the resources.

**Closing comments:**

Pew Environment Group strongly supports the NEFMC in its effort to improve the conservation and management of critical forage fish resources involved in this fishery, including both target (Atlantic herring), and non-target (depleted river herring and shads) stocks. Direct and indirect impacts on other marine species caught accidentally in the fishery, or affected by a loss of prey caused by herring and river herring removals, should also be better monitored and controlled. For too long, large midwater trawl vessels have operated in this fishery with substandard monitoring and accountability, to the detriment of other fishermen, the public and the ecosystem.

Sincerely,



Peter Baker, Director  
Northeast Fisheries Program  
Pew Environment Group

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<sup>79</sup> See New England Fishery Management Council Herring Committee and Advisory Panel memo, July 22, 2008, regarding "Background Information re. Herring/Mackerel Fishery Interactions"

and 315, specifically asking the applicants to certify that the proposed assignment or transfer complies with the unjust enrichment provisions of the Commission's competitive bidding rules. The instructions for FCC Form 316 have been revised to assist applicants with completing the new questions.

Federal Communications Commission.

Gloria Miles,

Federal Register Liaison.

[FR Doc. 2010-29671 Filed 11-29-10; 8:45 am]

BILLING CODE 6712-01-P

## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

#### 50 CFR Part 648

[Docket No. 100813358-0560-02]

RIN 0648-BA16

#### Fisheries of the Northeastern United States; Discard Provision for Herring Midwater Trawl Vessels Fishing in Groundfish Closed Area I

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Final rule.

**SUMMARY:** Through this action, NMFS removes a regulatory exemption for midwater trawl herring vessels, which was originally implemented by a November 2, 2009, final rule. The exemption allowed midwater trawl vessels with an All Areas and/or Areas 2 and 3 Atlantic herring limited access permit fishing in Northeast (NE) multispecies Closed Area I (CA I) to release fish that cannot be pumped from the net at the end of pumping operations, without those fish being sampled by a NMFS at-sea observer. As a result of this rule, vessels will be required to bring the fish on board the vessel and make them available to the at-sea observer for sampling. The publication of this action is part of a Court-approved joint motion to stay pending litigation.

**DATES:** Effective January 31, 2011.

**FOR FURTHER INFORMATION CONTACT:** Douglas Potts, Fishery Policy Analyst, (978) 281-9341, fax (978) 281-9135.

#### SUPPLEMENTARY INFORMATION:

##### Background

On September 4, 2009, NMFS published a proposed rule (74 FR 45796) to implement changes to access

requirements for midwater trawl vessels fishing in CA I, at the request of the New England Fishery Management Council (Council), with the intended goal of collecting better information on bycatch in the midwater trawl fishery. A final rule was published on November 2, 2009 (74 FR 56562), that implemented regulations requiring 100-percent observer coverage of trips by vessels with limited access Atlantic herring All Areas and/or Areas 2 and 3 category permits fishing for herring in CA I with midwater trawl gear. The rule also prohibited these vessels from releasing fish from the codend of the net, transferring fish to another vessel that is not carrying an observer, or otherwise discarding fish at sea, unless the fish has first been brought on board the vessel and made available for sampling and inspection by the observer. The regulations implemented by the November 2, 2009, rule (74 FR 56562) provided the following exemptions to this prohibition:

- The vessel operator has determined there is a compelling safety reason; or
- A mechanical failure precludes bringing the fish aboard the vessel for inspection; or,
- After pumping of fish onto the vessel has begun, the vessel operator determines that pumping becomes impossible as a result of spiny dogfish clogging the pump intake. Under this scenario, the vessel operator must take reasonable measures (such as strapping and splitting the net) to remove all fish that can be pumped from the net prior to release; or
- When there are small amounts of fish that cannot be pumped and remain in the net at the completion of pumping operations.

Additionally, under these regulations, if a codend is released in accordance with one of the first three exemptions, the vessel operator must complete and sign an affidavit to NOAA's Office of Law Enforcement (OLE) stating the vessel name and permit number; the vessel trip report (VTR) serial number; where, when, and for what reason the catch was released; the total weight of fish caught on that tow; and the weight of fish released (if less than the full tow). Completed affidavits are to be submitted to OLE at the conclusion of the trip. Following a released codend under one of the first three exemptions, the vessel may not fish in CA I for the remainder of the trip.

The exception allowing small amounts of fish that cannot be pumped from the net (sometimes called operational discards) to be released unobserved from the net while still in the water was not specifically

mentioned in the proposed rule. NMFS considered this exemption to be a logical outgrowth of the proposed rule that needed no further public comment because it addressed a foreseeable practical problem that a small amount of fish may be left in a net after pumping operations were completed.

However, following publication of the final rule three fishermen filed a lawsuit challenging the exemption allowing the release of small amounts of fish that remain after pumping (*Taylor et al. v. Locke*, 09-CV-02289-HHK). Plaintiffs alleged that this additional exemption violated the Administrative Procedure Act because it was not a "logical outgrowth" of the proposed rule and should have been subjected to public comment, and that it violated conservation requirements of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) by allowing fish to be released from herring nets unobserved. Plaintiffs also claimed that the terms "small amounts of fish" and "at the completion of pumping operations" were not adequately defined.

Without admitting any violation of applicable law in publishing the original final rule, NMFS and the plaintiffs agreed to stay the litigation while NMFS repromulgated the challenged provision, to solicit public comment. On September 7, 2010, NMFS published a proposed rule (75 FR 54292), that repromulgated the challenged provision (§ 648.80(d)(7)(ii)(D)) and solicited public comment on whether to retain, delete, or amend the additional exemption in question. The proposed rule sought comment on: Retaining the exemption as it currently exists (status quo); eliminating the exemption (Alternative 1); modifying the exemption by specifying a maximum of 200 lb (90.7 kg) of fish that could be released (Alternative 2); or modifying the exemption by requiring that the codend either be brought on board or lifted out of the water, at the captain's discretion, so the observer could better estimate the amount and type of fish being released (Alternative 3). Public comments were accepted through October 7, 2010. Comments received are summarized and responded to below.

Based on public comment received, NMFS is implementing "Alternative 1," and is removing the exemption for operational discards at § 648.80(d)(7)(ii)(D). Therefore, if fish remain in the net at the conclusion of pumping operations, those fish will have to be brought on board the vessel and made available for sampling and

inspection by the observer, unless one of the other three exemptions applies. Therefore, fish that have not been pumped on board the vessel may be released if the vessel operator finds that: Pumping the catch could compromise the safety of the vessel; mechanical failure precludes bringing some or all of a catch on board the vessel; or spiny dogfish have clogged the pump and consequently prevent pumping of the rest of the catch. If a net is released for any of these three reasons, the vessel operator must complete and sign a CA I Midwater Trawl Released Codend Affidavit stating where, when, and why the net was released, as well as a good-faith estimate of both the total weight of fish caught on that tow and the weight of fish released (if the tow had been partially pumped). The completed affidavit form must be submitted to NMFS within 48 hr of the completion of the trip.

Following the release of a net for one of the three exemptions, the vessel is required to exit CA I. The vessel may continue to fish, but may not fish in CA I for the remainder of the trip.

#### Comments and Responses

A total of 5,924 comments were received during the comment period for the proposed rule from: 2 representatives of the commercial herring midwater trawl industry; 2 coalitions of herring advocacy groups; 5 representatives of recreational fishing organizations; 4 commercial groundfish organizations; 2 state elected officials (MA State Senator Robert A. O'Leary and MA State Representative Sarah K. Peake); 1 U.S. Congressman (Representative William Delahunt, MA); 6 environmental organizations; 1 community organization; 2 agriculture and fishery advocacy groups; the Atlantic States Marine Fisheries Commission (ASMFC); and 5,898 individuals. One comment was received after the close of the comment period. The vast majority of comments were form letters submitted by environmental organizations. The two representatives from the commercial herring midwater trawl industry supported the status quo. All other comments received supported Alternative 1 in the proposed rule. Alternatives 2 or 3 were not supported by any commenters and were criticized as being impractical or ineffective.

**Comment 1:** The two representatives of the commercial midwater trawl herring industry supported the status quo measure and raised concerns about each of the proposed alternatives. To illustrate their concerns, they described current procedures and how these procedures are not compatible with the

proposed alternatives. The commenters noted that, under current operations, a vessel typically brings the full net alongside the vessel, where the end of the net is hoisted aboard in order to attach the pump. The pump and net are then lowered back into the water and splitting lines and straps are used to move catch to the pump. When the pump is moving mostly water, with an occasional fish, pumping is stopped, and the pump is removed from the net, leaving the codend open and releasing any fish that are still in the net. The empty net is then brought aboard in order to reset clips and rings before being set out for the next tow. The commenters assert that it could be dangerous for a vessel to attempt to re-cinch the end of the net after pumping is concluded in order to then bring the net aboard with the remaining catch.

**Response:** NMFS acknowledges that some vessels may need to adjust their fishing practices in order to remove the fish pump from the net without releasing the remaining fish, so that the fish in the net can be brought aboard for the observer to sample. The time between publication of this rule and when it becomes effective can be used by these vessels to develop alternative methods that allow safe operation within these requirements. A vessel may continue to fish outside of CA I while new procedures are developed. NMFS believes the safety and other exemptions sufficiently address commenters' concerns regarding the practical and safety operational difficulties of bringing nets on board vessels after pumping operations while creating a disincentive to invoke the exemption without justification. For any safety problems in bringing the net on board for inspection after pumping operations are complete, the vessel operator may take advantage of the exemption allowing release of fish for vessel safety. However, the vessel would still need to abide by the requirements of this exemption, including leaving CA I for the remainder of that trip.

**Comment 2:** The two representatives of the commercial midwater trawl herring industry asserted that it is impossible for these vessels to safely bring full nets and brailers over the side or over the stern of the vessel. In contrast, several other commenters cited remarks from a member of the commercial herring midwater trawl industry at the July 15, 2010, meeting of the Council's Atlantic Herring Plan Development Team, that a midwater trawl vessel could not bring aboard a full net, but could bring aboard up to 1 ton (907.1 kg) of fish in the net. A commenter who claimed experience on

both midwater trawl and purse seine herring vessels also asserted that up to 1 ton (907.1 kg) of fish could safely be brought on board a midwater trawl vessel.

**Response:** This action does not require full nets and brailers to be brought aboard a vessel. The intent of the subject exemption was the release of very small amounts of fish, perhaps a few hundred pounds per tow, which physically could not be pumped. It was not intended to cover the release of larger amounts of fish. Three other exemptions, for safety, mechanical failure, or spiny dogfish clogging the pump allow release of larger catches that cannot be pumped aboard.

**Comment 3:** The representatives of the commercial midwater trawl herring industry stated that the proposed alternatives are unnecessary because at-sea observers are currently provided nearly every opportunity to estimate the volume, and most often the species of fish, remaining in the net before it is released. Conversely, on this subject several individuals, commercial groundfish organizations, and coalitions of herring advocacy groups opposed observer sampling protocols that rely on such "visual access" to the codend to estimate catch that is released. These commenters supported Alternative 1 as the only way to accurately account for all catch by the midwater trawl vessels operating in CA I.

**Response:** When determining the volume of fish before release, the at-sea observer must often rely on the estimations provided by the vessel operator and crew who are much more familiar with the specific gear in use. Species identification of fish remaining in the net is not typically possible. Observers may be able to identify large-bodied organisms in the net, but are unable to reliably differentiate many fish to their species. Even if fish at the surface of the net are identifiable, the contents may not be homogeneous and the observer cannot determine the full composition of the net. Therefore, released catch is typically classified as "Fish, NK" (i.e., fish, species not known). The Council's request for increased observer coverage in CA I was intended in part to provide additional information on the total catch of this fishery that could then inform future management actions. In order to provide the most complete and valuable information for this purpose, it is important to record, as completely and accurately as possible, the catch of vessels subject to this increased observer coverage. The removal of this exemption may help to address continued questions regarding

stratification of catch within a net or whether the pump housing, which is primarily designed to keep the net out of the pump, might also exclude some larger hodied species.

*Comment 4:* The ASMFC supported Alternative 1, but suggested NMFS periodically review this measure to determine if the level of data collection continues to be necessary and if the burden to the industry is justified.

*Response:* This rule may be reconsidered and even superseded by a future Council action modifying the catch monitoring program for the Atlantic herring fishery as a whole. If the Council does not choose to review and reevaluate the requirements for access to CA I, the regulations would still be subject to the normal periodic review process and could be changed to account for new information about the burden on the fishery if necessary or appropriate.

*Comment 5:* No commenter supported either Alternative 2 or Alternative 3. Representatives of the commercial herring midwater trawl industry, representatives of commercial groundfish industry, and environmental groups all criticized these proposed alternatives as being unworkable.

*Response:* As explained in the proposed rule, these alternatives were intended as examples of possible modification to the existing regulation. The limit on how much can be released in Alternative 2 would be difficult to estimate, and could put the observer in an enforcement role. Alternative 3 would require the vessel crew to re-cinch the net after pumping, which is one of the major hurdles to bringing the catch on board. In addition, raising the net out of the water does not address the question of catch composition within the net and may pose even more logistical problems than bringing the net and catch on board. Therefore, NMFS did not consider either of these as acceptable alternatives for this final rule.

*Comment 6:* Some commenters objected to the Council granting midwater trawl vessels access to CA I for various reasons, including that midwater trawl access to groundfish closed areas was authorized based on less research and analysis than was required for the establishment of the NE Multispecies CA I Hook Gear Haddock Special Access Program (SAP). These comments included opposition to all midwater trawling, requests that the 100 percent observer coverage requirements apply to all groundfish closed areas, questions on the use and enforcement of the Closed Area I Midwater Trawl Released Codend Affidavit, and

objections to the Council's requirement that in order to access CA I vessels targeting groundfish through the NE Multispecies CA I, Hook Gear Haddock Special Access Program had to meet a higher hurdle in terms of documenting bycatch than did midwater trawl vessels.

*Response:* These comments question the underlying provision of allowing midwater trawl vessels access to CA I, and other attendant requirements, which is beyond the scope of this rule, and, therefore not addressed in this final rule.

#### Classification

Pursuant to section 304(b)(1)(A) of the Magnuson-Stevens Act, the NMFS Assistant Administrator has determined that this final rule is consistent with the Atlantic Herring and NE Multispecies FMPs, other provisions of the Magnuson-Stevens Act, and other applicable law.

This final rule has been determined to be not significant for purposes of Executive Order 12866.

The Chief Counsel for Regulation of the Department of Commerce certified to the Chief Counsel for Advocacy of the Small Business Administration during the proposed rule stage that this action would not have a significant economic impact on a substantial number of small entities. The factual basis for the certification was published in the proposed rule and is not repeated here. NMFS received no comments questioning or regarding this certification.

Dated: November 24, 2010.

**Samuel D. Rauch III,**

*Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.*

■ For the reasons set out in the preamble, 50 CFR part 648 is amended as follows:

#### PART 648—FISHERIES OF THE NORTHEASTERN UNITED STATES

■ 1. The authority citation for part 648 continues to read as follows:

Authority: 16 U.S.C. 1801 *et seq.*

##### § 648.80 [Amended]

■ 2. In § 648.80, remove paragraph (d)(7)(ii)(D).

[FR Doc. 2010-30152 Filed 11-29-10; 8:45 am]

BILLING CODE 3510-22-P

#### DEPARTMENT OF COMMERCE

##### National Oceanic and Atmospheric Administration

##### 50 CFR Part 679

[Docket No. 0910131362-0087-02]

RIN 0648-XA066

##### Fisheries of the Exclusive Economic Zone Off Alaska; Big Skate in the Central Regulatory Area of the Gulf of Alaska

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Temporary rule; closure.

**SUMMARY:** NMFS is prohibiting retention of big skate in the Central Regulatory Area of the Gulf of Alaska (GOA). This action is necessary because the 2010 total allowable catch (TAC) of big skate in the Central Regulatory Area of the GOA has been reached.

**DATES:** Effective 1200 hrs, Alaska local time (A.l.t.), November 24, 2010, through 2400 hrs, A.l.t., December 31, 2010.

**FOR FURTHER INFORMATION CONTACT:** Josh Keaton, 907-586-7228.

**SUPPLEMENTARY INFORMATION:** NMFS manages the groundfish fishery in the GOA exclusive economic zone according to the Fishery Management Plan for Groundfish of the Gulf of Alaska (FMP) prepared by the North Pacific Fishery Management Council under authority of the Magnuson-Stevens Fishery Conservation and Management Act. Regulations governing fishing by U.S. vessels in accordance with the FMP appear at subpart H of 50 CFR part 600 and 50 CFR part 679.

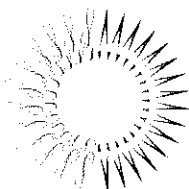
The 2010 TAC of big skate in the Central Regulatory Area of the GOA is 2,049 metric tons (mt) as established by the final 2010 and 2011 harvest specifications for groundfish of the GOA (75 FR 11749, March 12, 2010).

In accordance with § 679.20(d)(2), the Administrator, Alaska Region, NMFS (Regional Administrator), has determined that the 2010 TAC of big skate in the Central Regulatory Area of the GOA has been reached. Therefore, NMFS is requiring that big skate caught in the Central Regulatory Area of the GOA be treated as prohibited species in accordance with § 679.21(b).

#### Classification

This action responds to the best available information recently obtained from the fishery. The Assistant Administrator for Fisheries, NOAA





THE  
**PEW**  
ENVIRONMENT GROUP

June 4, 2012

Dr. Chris Moore, Executive Director  
Mid-Atlantic Fishery Management Council  
800 North State Street, Suite 201  
Dover, DE 19901

RE: AMENDMENT 14

Dear Dr. Moore,

On behalf of the Pew Environment Group I am writing in response to the Mid-Atlantic Fishery Management Council's (MAFMC or Council) request for public comments on the Amendment 14 (AM 14) Draft Environment Impact Statement (DEIS) to the Atlantic Mackerel, Squid, and Butterfish Fishery Management Plan (MSB FMP). For a full list of our preferred alternatives, please see Table 1 provided at the end of these comments.

Providing adequate conservation and management for river herrings and shad in federal waters requires that catch of these species be effectively monitored, reduced and limited, therefore the Council must select the following alternatives from the AM 14 DEIS:

- Add river herring and shads as non-target stocks in the MSB FMP. **(Alternatives 9b-e)**
- Implement immediate interim measures to reduce and limit incidental catch of river herring and shads until the full suite of conservation and management measures to integrate them as non-target stocks is developed and implemented as required.
  - Implement mortality caps for river herring and shads (alosines) in the mackerel fishery. Modify the proposed caps to reduce the incidental mackerel catch allowable to 2,000 pounds per trip once the cap is exceeded and directed fishing for mackerel stops. **(Modified Alternatives 6b and 6c, and Alternative 6f)**
  - Close river herring hotspots to directed squid and mackerel fishing. Close the "River Herring Protection Areas" identified by the NEFMC in Am 5 to the Herring Plan **(Modified Alternative 8eMack and Alternative 8eLong)** and also create a mechanism under which the larger "River Herring Monitoring/Avoidance Areas" identified in Am 5 could be closed through a future Framework Adjustment. **(Modified Alternative 8b)**
- Improve vessel reporting and catch monitoring program for all MSB permits, including 100% observer coverage for midwater trawl vessels in the mackerel fishery, and 50% coverage in the squid fishery, in order to improve precision and accuracy in incidental catch estimates. **(Modified Alternatives 5b4, 5c and 5d, Alternative 5f, Modified Alternative 5h, and Alternatives 1c, Modified 1d48, 1eMack & 1eLong, 1f Mack, Modified 1gMack & 1gLong; Modified Alternatives 2b, 2c, 2d, 2e, 2f; 3b, 3c, 3d, Modified 3j, 3l, 3n, 3o)**
- Include flexible management options, either through the specifications process or through a framework option, to easily adapt management in the future.

### **River Herring and Shad Must Be Included as Stocks in the Fishery:**

The only alternatives available to the Council that will ensure the long-term protection and recovery of river herring and shads are the inclusion of these species as non-target stocks in the Mackerel, Squid and Butterfish FMP (Alternative Set 9b-e). Stocks in the fishery will most effectively allow the MAFMC to control mortality in its jurisdiction. Furthermore, because shads and river herring are involved in this fishery and in need of conservation and management, their addition as stocks in the MSB FMP is required as a matter of law.<sup>1</sup> Under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the National Marine Fisheries Service (NMFS) is required, through the regional councils, to prepare an FMP or amendments for *all* fish stocks that are in need of conservation and management.<sup>2</sup> This requirement was recently affirmed in *Flaherty v. Bryson*, which reiterated the MSA's directive that, under Section 302 of the MSA, Councils must prepare an FMP or amendment for any stock of fish that "requires conservation and management."<sup>3</sup> The Council must then set ACL, AMs and other conservation and management measures for all of the stocks in the fishery.<sup>4</sup>

However, since Alternative Set 9b-e states that fully integrating river herring and shads to the MSB FMP as stocks in the fishery will require a further amendment, the Council must also use additional alternatives within Amendment 14 as interim measures to reduce and limit the unregulated incidental catch of river herring and shads discussed below, beginning on page 6.

The MAFMC must include river herring and shads within the MSB FMP as non-target stocks, as required by the MSA and outlined by the revised National Standard 1 (NS1) Guidelines.<sup>5</sup> The MSA requires management of fish stocks that are in need of conservation and management.<sup>6</sup> River herring and shads, as outlined in the following section, are in desperate need of conservation and management at the federal level. This management can take place directly through federal FMPs created by regional councils and implemented by NMFS, through a Secretarial FMP created and implemented by NMFS alone, or through NMFS implementation of regulations consistent with an Interstate Fishery Management Plan (IFMP) and the MSA's National Standards.<sup>7</sup>

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<sup>1</sup> See *Flaherty v. Bryson*, 2012 WL 752323 (D.D.C. Mar. 8, 2012).

<sup>2</sup> 16 U.S.C. § 1852(h)(1); § 1854(c)(1); 16 U.S.C. § 5103(b)(1). (Emphasis added). See also *Flaherty*, 2012 WL at \*13.

<sup>3</sup> 2012 WL 752323, \*13, 14 (D.D.C. Mar. 8, 2012) ("[16 U.S.C. § 1852(h)(1)] requires FMPs and necessary amendments for all 'stocks of fish which can be treated as a unit for purposes of conservation and management' and which are in need of conservation and management. *Id.* §§ 1802(13)(a), 1852(h)(1).").

<sup>4</sup> See *Flaherty*, 2012 WL at \*9.

<sup>5</sup> 50 CFR § 600.310(d)(3-4).

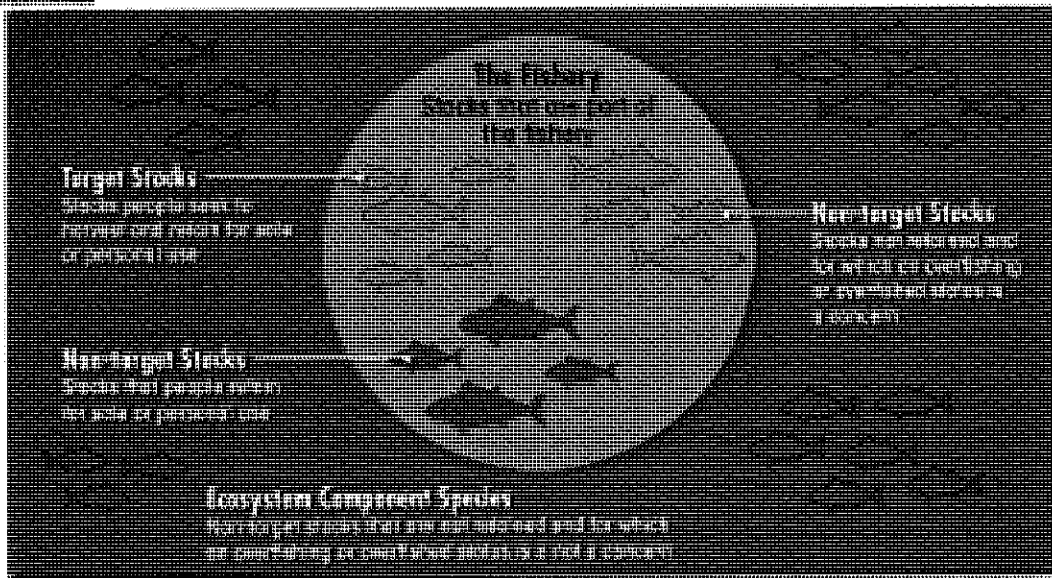
<sup>6</sup> 16 U.S.C. §§ 1852(h)(1); § 1854(c)(1); 16 U.S.C. § 5103(b)(1). See also *Flaherty*, 2012 WL at \*13.

<sup>7</sup> *Id.* This provision of the Atlantic Coastal Fishery Management Act provides that in the absence of an approved and implemented federal FMP, after consulting the appropriate council(s) NMFS can implement regulation for federal waters that are both compatible with the IFMP and consistent with the national standards. Regulations to implement an approved federal FMP prepared by the appropriate council would supersede any regulation issued by the Secretary.



In the absence of independent action by NMFS, not including river herring and shad in the SMB FMP is in violation of the MSA requirements to conserve and manage marine resources, and is inconsistent with the best practices recommended by the NS1 Guidelines. The MSA requires that federal FMPs describe the fish stocks involved in a fishery.<sup>8</sup> To comply with the MSA's mandate to prevent overfishing, the revised NS1 Guidelines require relevant councils to identify the stocks in the fishery, including the non-targeted stocks that are caught incidentally and retained or discarded at sea. The MSA defines 'non-target stocks' as fish that are "caught incidentally during the pursuit of target stocks in a fishery, including 'regulatory discards' as defined under Magnuson-Stevens Act section 3(38). They may or may not be retained for sale or personal use."<sup>9</sup> Figure 1 (below) outlines the NS1 approach to classifying aspects of the fishery. There is no question the river herring and shads are involved in the SMB fishery and are capable of being managed as part of the FMP.<sup>10</sup> River herring and shads are both caught as incidental catch and in most cases retained for sale,<sup>11</sup> are clearly stocks that are part of the fishery, and as such should be included in the FMP as non-target stocks.

Figure 1-12



<sup>8</sup> 16 U.S.C. § 1853(a)(2)

<sup>9</sup> 50 C.F.R. § 600.310(d)(4)

<sup>10</sup> See 16 U.S.C. § 1853(a)(2). The Act requires an FMP to contain, among other things, a description of the species of fish involved in the fishery. A "fishery" is defined as "one or more stocks of fish which can be treated as a unit for purposes of conservation and management and which are identified on the basis of geographical, scientific, technical, recreational, and economic characteristics." *Id.* § 1802(13). A "stock of fish" is defined as a "species, subspecies, geographical grouping, or other category of fish capable of management as a unit." *Id.* § 1802(42). National Standard Seven Guidelines provide limited additional guidance stating that the Act requires plans for "fisheries where regulation would serve some useful purpose and where the present or future benefits of regulation would justify the costs." 50 C.F.R. § 600.340(b).

<sup>11</sup> See Amendment 14 DEIS, Incidental Catch Analysis, page 569-582.

<sup>12</sup> *Preventing Overfishing*. (n.d.). retrieved from <http://www.preventoverfishing.com/aclpo/115.html>

In *Flaherty v. Bryson*, the Court made clear that the MSA requires management of populations in need of conservation and management, such as depleted river herring and shad stating, “the MRSA [Revised Magnuson-Stevens Act] requires ACLs and AMs for all stocks in need of conservation and management, not just those stocks which were part of the fishery prior to the passage of the MRSA...The setting of ACLs and AMs necessarily entails a decision as to which stocks require conservation and management.”<sup>13</sup> In this case, the Court held that NMFS’s rubber stamping of the New England Fishery Management Council’s (NEFMC) failure to include river herring as a non-target stock in the Atlantic Herring FMP, without ensuring that it was consistent with the MSA’s “conservation and management requirement,” was unlawful.<sup>14</sup> Since, as demonstrated previously, river herring and shads are involved in the SMB FMP and in need of conservation and management, they must be added to the MSB FMP. NMFS must review Council decisions to ensure that they comply with these requirements of the MSA, and disapprove those that do not.

In the subsequent FMP amendment, triggered by Alternative set 9, the Council should develop the required annual catch limits (ACLs) and other Status Determination Criteria (SDC) for river herring and shad, and any appropriate measures that would be required to ensure that the limits are not exceeded, or seek alternative methods to satisfy the ACL requirements in consultation with NMFS. In addition, the Council should consider any other measures necessary to reduce bycatch, as required by National Standard 9.

#### **River Herring and Shad are in Need of Conservation and Management in the MSB FMP:**

The MAFMC should look to the MSA’s definition of “conservation and management”<sup>15</sup> in making its decision to add these species to the FMP. This definition addresses stocks where action is necessary to rebuild, restore, or maintain “any fishery resource and the marine environment,” to ensure a constant food supply and recreational benefits, and to avoid irreversible or long-term adverse effects on the fishery resources and the marine environment. National Standard 7 and its guidelines provide some additional criteria that can be looked to for guidance.<sup>16</sup>

River herring and American shad populations are at historic and dramatic lows.<sup>17</sup> Currently river herring and shads are managed by the Atlantic States Marine Fisheries Commission (ASMFC)

<sup>13</sup> See *Flaherty*, 2012 WL at \*11. *Parenthesis added*

<sup>14</sup> See *Flaherty v. Bryson*, 2012 WL 752323 (D.D.C. Mar. 8, 2012).

<sup>15</sup> 16 U.S.C. § 1802(5).

<sup>16</sup> See 50 C.F.R. 600.340(b). Although the criteria note that adequate management by an entity like the ASMFC could be one factor in determining whether a stock should be added to a fishery, in this case, the ASMFC plan does not address the catch of river herring and shads in federal waters. The Court in *Flaherty v. Bryson* did not address this in the opinion because even NMFS recognized that the ASMFC plan does not address the federal waters.

<sup>17</sup> The ASMFC lists the status of American shad, alewife and blueback herring as depleted in accordance with the most recent stock assessments for these species. American Shad: ASMFC. August 2007. Stock Assessment Report No. 07-01 (Supplement) of the Atlantic States Marine Fisheries Commission; American Shad Stock Assessment for Peer Review, Volume 1. River Herring: ASMFC. May 2012. Stock Assessment Report No. 12-02 of the Atlantic States Marine Fisheries Commission; River Herring Benchmark Stock Assessment, Volume 1. See also: Hall CJ (2009) Damming of Maine Watersheds and the Consequences for Coastal Ecosystems with a Focus on the

under Amendments 2 and 3 to the Interstate Fishery Management Plan for Shad and River Herring. This plan, however, only implements conservation and management measures in state waters, and is irrelevant to whether or not river herring and shads are in need of conservation and management measures in *federal* waters. Equally irrelevant to the decision about whether to add these stocks to an FMP is the fact that NMFS has failed to identify them as overfished or that overfishing is not occurring.<sup>18</sup> What is relevant is that the ASMFC's recently released stock assessment for river herring found that alewife and blueback herring along East Coast are "depleted," with many populations in a dangerously diminished state.<sup>19</sup> Their disappearance from traditional fishing grounds in rivers and estuaries is alarming, not only for the communities and fishermen that depend on them, but for the coastal ecosystem as a whole. Restoration of these anadromous species depends on a comprehensive management plan that protects them throughout their lifecycle and migratory range, including while at sea.

Total catch (bycatch and incidental) in federal waters is impeding shad and river herring rebuilding efforts. According to the ASMFC's 2012 stock assessment, at-sea fisheries are a significant factor in the decline of river herring populations over the last 50 years.<sup>20</sup> In some years, more than 2 million pounds of adult and juvenile river herring are killed incidentally by at-sea fisheries, of which the Mid-Atlantic mackerel and squid fisheries contribute to approximately half of the total at-sea catch.<sup>21</sup> Of the roughly 5 million river herring taken at sea every year, many are immature. The majority of the 600,000 American shad taken are also juveniles.<sup>22</sup> High fishing mortality on immature fish has a significant negative effect on stock status and reduces effectiveness of rebuilding efforts,<sup>23</sup> an issue of concern highlighted by the Peer Review Panel in the recent river herring stock assessment.<sup>24</sup> The Peer Review Panel also found that total mortality levels in all runs examined surpassed the recommended mortality benchmark and called for all sources of mortality to be addressed, **including ocean bycatch**.<sup>25</sup> NMFS observer records show that at-sea fishing vessels may take as much as 20,000 pounds of blueback herring in a *single net haul*.<sup>26</sup> To put this in perspective, consider that the 2008 commercial blueback herring landings from the states of New York, Delaware, and Virginia *combined* totaled just 26,000 pounds. If the fish are aggregated while at sea, a single haul could obliterate an entire river's herring population.

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Anadromous River Herring (*Alosa pseudoharengus* and *Alosa aestivalis*): A Four Century Analysis. Masters' Thesis, Marine and Atmospheric Science, Stony Brook University; Limburg KE, Waldman JR (2009) Dramatic Declines in North Atlantic Diadromous Fishes. *BioScience* 59(11): 955-965

<sup>18</sup> See *Flaherty*, 2012 WL at \*13.

<sup>19</sup> See Atlantic States Marine Fisheries Commission, River Herring Benchmark Stock Assessment Report, Executive Summary.

<sup>20</sup> See River Herring Benchmark Stock Assessment, Peer review report, Page 8.

<sup>21</sup> See Amendment 14 DEIS, Incidental Catch Analysis, Page 571

<sup>22</sup> See Amendment 14 DEIS, p. 111

<sup>23</sup> See Vasilakopoulos, P., O'Neill, F. G., and Marshall, C. T. 2011. Misspent youth: does catching immature fish affect fisheries sustainability? – *ICES Journal of Marine Science*, 68: 1525–1534.

<sup>24</sup> See ASMFC. May 2012. Stock Assessment Report No. 12-02 of the Atlantic States Marine Fisheries Commission: River Herring Benchmark Stock Assessment, Volume 1. pp. 15-16.

<sup>25</sup> *Id.*, at page 29

<sup>26</sup> Haul data from North East Fisheries Observer Program, NMFS; Landings data from NOAA's Annual Commercial Landing Statistics: [www.st.nmfs.noaa.gov/st1/commercial/landings/annual\\_landings.html](http://www.st.nmfs.noaa.gov/st1/commercial/landings/annual_landings.html)

Despite efforts to improve riverine ecosystems and longstanding bans on fishing both in-river and in coastal state waters in a number of states, river herring and shad continue to struggle along the eastern seaboard. In 2012, all but 5 states<sup>27</sup> on the East Coast placed a moratorium on river herring in state waters for both commercial and recreational fishing. Even in the states without a moratorium, fishing for river herring is extremely restricted. In 2013, many states will add new restrictions to the catch of American shad within state waters, or go into moratorium as well. Without a federal management plan that compliments the rebuilding efforts within state waters, river herring and shad fisheries in state waters are unlikely to reopen in the future.

These fish have been an integral part of coastal community life for centuries, and the MSB fishery is adversely affecting these economically, biologically, and culturally important resources. In previous decades, when abundance was substantially higher, these fish also played a key role as forage for a great number of predators including larger, commercially important fish such as Atlantic cod and striped bass – alosines were once a vital link between the sea and coastal estuaries, streams and lakes. These ecological and cultural functions must be restored. Further, because they are forage fish critically important to the diets of dozens of other marine and terrestrial species, these adverse impacts ripple through the ecosystem and coastal economies.

#### **The MAFMC Should Implement an Interim Catch Cap for Alosines in the Mackerel Fishery:**

Adding river herring and shad as stocks in the MSB fishery through AM 14 will not constitute sufficient action in and of itself. While the Council develops a trailing amendment to meet criteria required under the MSA for fully integrating river herring and shads as stocks in the MSB FMP, the Council must establish a mortality cap through AM 14 to immediately begin reducing and limiting at-sea mortality of these depleted species. This interim catch cap should be effective in 2013, and remain in effect until replaced by ACLs or similar conservation measures under the MSB FMP once the river herring and shads are fully integrated in the FMP.

**The Council should select Alternatives 6b and 6c, to jointly function as a single mortality cap in the mackerel fishery.** However, due to the overlap of the mackerel fishery with the herring fishery,<sup>28</sup> these alternatives should be modified to improve consistency between the two FMP's, improve effectiveness of the cap, and ensure that vessels cannot circumvent a cap by simply declaring into another fishery. These alternatives should be modified to more effectively ensure that directed mackerel fishing stops, that mackerel discarding does not continue or increase, and that river herring and shad removals cease if a cap is reached by lowering the incidental trip allowance of mackerel that can be fished for, possessed or retained.

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<sup>27</sup> Maine, New Hampshire, New York, North and South Carolina submitted Sustainable Fishing Plans under ASMFC regulations and received approval from ASMFC for limited in-river and state waters fisheries.

<sup>28</sup> See July 22, 2008 New England Fishery Management Council (NEFMC) Herring Committee and Advisory Panel memo, regarding "Background Information re. Herring/Mackerel Fishery Interactions".

The mackerel fishery should close once it is determined that it created a certain level of alosine mortality (that level would be determined annually by the Council in a specification process, and should be set as a proportion of recent alosine catch history,<sup>29</sup> until better data are available). Such a combined cap (river herring and shads together) would afford better protection to all alosine species and can be refined once the Council attains more precise estimates of incidental catch with increased observer coverage. However, because overlap between the Atlantic herring and Atlantic mackerel fisheries, particularly among large midwater trawl vessels which constitute the majority of the catch, would complicate the implementation of a cap on the mackerel fishery alone, Alternatives 6b and 6c should be modified to lower the incidental trip allowance.

The current mackerel incidental allowance of 20,000 pounds that is proposed under 6b and 6c may not sufficiently deter directed fishing. This alternative set should be modified to be consistent with the Atlantic Herring FMP, which uses a 2,000 pound incidental Atlantic herring limit to define, deter and close directed herring fishing, including for the purposes of enforcing herring ACL's and sub-ACL's.<sup>30</sup> This incidental limit has proven effective in Atlantic herring management<sup>31</sup> and would provide for more consistent regulation of the mixed herring and mackerel fisheries, including for the purposes of a river herring mortality cap. The AM 14 DEIS raises the valid concern that directed Atlantic herring fishing might continue, in some cases by the same vessels, under a closure of the mackerel fishery due to a cap, undermining the effectiveness of the cap. However, a reduced mackerel incidental limit consistent with the Atlantic herring limit would likely deter directed Atlantic herring fishing quite effectively and ensure the integrity of the cap. This is illustrated, via a converse example, by the 2012 Mackerel Advisory Panel Performance Report, which cites industry statements that the directed mackerel fishery in 2012 effectively closed once the directed herring fishery in Management Area 2 was closed via the 2,000 pound limit.<sup>32</sup> If the cap is reached, the directed mackerel fishery should be closed through implementation of an incidental catch allowance of 2,000 pounds, instead of the 20,000 pounds proposed. Further, the implementing language for that incidental limit should be consistent with the language in the Herring FMP such that the 2,000 pound limit would apply to vessels "fishing for, catching, possessing, transferring, or landing more than 2,000 lb."<sup>33</sup>

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<sup>29</sup> The MAFMC currently sets ABCs/ACLs in the MSB fisheries using past catch history, and this approach would be consistent with best available science on setting catch limits on data poor stocks ; catch limits for Atlantic herring are also based upon recent catch.

<sup>30</sup> The 2,000 pound limit used to close the directed fishery was approved in Amendment 4 to the Herring FMP as the sole proactive Accountability Measure for preventing ACL overages and is described in Amendment 4 at: [http://www.nefmc.org/herring/planamen/final\\_a4/AM%204%20DOCUMENT%20FORMAL%20SUBMISSION\\_100423.pdf](http://www.nefmc.org/herring/planamen/final_a4/AM%204%20DOCUMENT%20FORMAL%20SUBMISSION_100423.pdf). (see page29).

<sup>31</sup> While there have been numerous sub-ACL overages in the herring fishery that are demonstrative of the inadequacies of the Amendment 4 ACL/AM regime, these have typically been the result of a failure to close the directed fishery by implementing the 2,000 pound limit in a timely fashion, rather than as a result of any failure of the 2,000 pound limit to adequately end directed fishing.

<sup>32</sup> See 2012 Industry Performance Report. Available at: [http://www.mafmc.org/meeting\\_materials/SSC/2012-05/1-Staff\\_2013\\_MSB\\_ABC\\_Memo.pdf](http://www.mafmc.org/meeting_materials/SSC/2012-05/1-Staff_2013_MSB_ABC_Memo.pdf), Page 5-6.

<sup>33</sup> Those regulations state that upon closure of the directed Atlantic Herring fishery, NMFS shall "prohibit herring vessel permit holders from fishing for, catching, possessing, transferring, or landing more than 2,000 lb (907.2 kg) of herring per calendar day in or from the specified management area for the remainder of the closure period." See

Alternative 6f, which adds mortality caps to the list of measures that can be introduced through a framework, should also be selected in order to allow for a catch cap on the squid fisheries. As data improves through better catch monitoring and sampling, the Council may find that caps in the squid fishery (or in the butterfish fishery, should butterfish catch limits increase significantly and a directed fishery is re-instituted) are necessary. Currently the MSB FMP does not list incidental catch caps as frameworkable measures, and this alternative would facilitate implementation of caps or cap adjustments, should new data reveal a more significant alosine catch in any of the MSB target fisheries.

### **Hot Spot Restrictions:**

Pew Environment Group supports the closure to directed mackerel and squid fishing of temporal and spatial protection areas identified as having high rates of river herring or shad bycatch (“hot-spots”) as an additional tool that should be deployed to reduce catch of river herring and shad as an interim measure (i.e., until these stocks are fully integrated as stocks in the fishery), in addition to the immediate implementation of a mortality cap. The protection areas identified by the NEFMC Herring Plan Development Team (PDT) are small, and the MAFMC’s Fishery Management Action Team (FMAT) analyses indicate that protection of small areas alone may not be adequate to effectively reduce catch, or may result in a fishing effort shift that could increase river herring and shad mortality. However, coupled with a mortality cap, and based on the PDT’s analysis of the same provisions in Amendment 5,<sup>34</sup> the river herring protection areas will provide a positive conservation benefit until management measures for river herrings and shads are fully integrated into the FMP (as stocks in the fishery). Consequently we also request that the alternatives below be utilized to reduce the total catch of river herring and shad at sea. As more data becomes available through increased monitoring, the Council should have all possible tools available at its disposal. The Council should also provide an option under which the protection areas could be expanded, through a framework action, relative to the specific areas that are protected initially. For example, consideration should be given to affording protection to the larger areas identified as “River Herring Monitoring/Avoidance Areas”<sup>35</sup> in Amendment 5 (NEFMC). Finally, the MAFMC should modify the hotspot alternative for mackerel vessels to close them to directed mackerel fishing using a 2,000 pound incidental limit instead of 20,000 pounds as proposed, again to ensure consistency with the herring FMP and to prevent vessels from circumventing the hotspot requirements. See the preceding section exploring this issue relative to the mortality cap for a detailed rationale for this modification.

We support the selection of the following measures in this section:

- **Modified Alternative 8b:** Make implementing the hotspot requirements of NEFMC’s Amendment 5 frameworkable. The MAFMC should provide a mechanism through which

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most recent herring fishery closure notice dated February 23, 2012 in the Federal Register at <http://www.nero.noaa.gov/nero/regs/frdoc/12/12HerAear2ClosureTR.pdf>

<sup>34</sup> See Draft Amendment 5 to the Fishery Management Plan for Atlantic Herring, Volume II, Appendices.

<sup>35</sup> Also described in Am 14 DEIS (See pages 72-77)

the Council could, through a Framework Adjustment, expand the hotspots to encompass the larger River Herring Monitoring/Avoidance Areas, or adjust hotspot requirements to achieve consistency with the Herring FMP. Due to the overlap in these fisheries, if hotspot closures are implemented in the SMB fishery that differ from any implemented in the Atlantic herring fishery, the conservation benefit of the protection areas could be decreased, for instance if small-mesh gears capable of taking river herring were also permitted in the closed areas simply by declaring into a different fishery (i.e. declaring a different target species). As noted before, it is important that the two FMPs achieve consistency.

- **Modified Alternative 8eMack:** Vessels possessing a federal mackerel permit would not be able to **fish for, catch, possess, retain, transfer, or land**<sup>36</sup> more than an incidental level of fish (**2,000** pounds mackerel) while in a River Herring Protection Area unless no mesh smaller than 5.5 inches is onboard the vessel.
- **Alternative 8eLong:** Vessels possessing a federal moratorium longfin squid permit would not be able to **fish for, catch, possess, retain, transfer, or land**<sup>37</sup> more than an incidental level of fish (2,500 pounds longfin squid) while in a River Herring Protection Area unless no mesh smaller than 5.5 inches is onboard the vessel.

Again, as noted in our comments above on mortality caps, Alternative 8eMack should be modified to improve consistency between the SMB and Atlantic Herring FMP's by aligning the incidental trip allowances and implementing language. Adjusting this parameter of 8eMack from 20,000 pounds to 2,000 pounds and more closely aligning the regulatory language will ensure that vessels cannot circumvent these measures by declaring into another fishery. The Council should carefully monitor the effectiveness of the hotspot regime for squid vessels to determine if any similar adjustments are warranted.

### **Improved Monitoring and Data Collection:**

In order to achieve the stated goals of Amendment 14, and ensure the effectiveness of the above recommended alternatives, it is imperative that the Council improve vessel reporting and third-party catch monitoring for all MSB permits. The Council should select as their preferred alternatives those which increase the accuracy and timeliness of vessel and dealer reporting, coupled with the management measures that greatly improve the accuracy and precision of third-party (i.e. observer) incidental catch estimates. In order to do so, it is critical that the Council dramatically increase observer coverage and ensure that observers have access to all catch for sampling. As such, we support the alternatives detailed below and outlined in Table 1. These alternatives should be consistent with the NEFMC's Atlantic herring FMP in order to avoid discrepancies in measures between the Council's that would cause significant difficulties in implementation or allow for fishing effort to avoid more robust monitoring in one of the FMP's by selectively declaring into the other.

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<sup>36</sup> Proposed revisions to make this measure more consistent with incidental catch allowance regulations in the Atlantic Herring FMP. See footnote 33

<sup>37</sup> Ibid

Furthermore, we oppose the addition of a sunset clause for any increased observer coverage levels that are implemented through AM 14. The alternatives already contemplate a review of the observer requirements by the Council in two years (Alternative 5h). This is a more appropriate approach. The Service has also indicated that it may take time for an expanded observer program to be designed for these fisheries and fully established on the water. It would be unfortunate for a sunset clause to kick in prior to a full observer program, and prior to gaining the necessary data that the coverage was intended to obtain. Additionally, it must be recognized that observation can improve performance (e.g., *observer effect*) and consequently it is risky to assume that information gathered under 100% monitoring can be used to predict what the fishery will do without 100% monitoring; the notion that a few years of 100% monitoring can provide a solid foundation for future management is therefore flawed. We also oppose the issuance of waivers, under which a vessel or trip assigned an observer would be allowed to sail without an observer. A robust at-sea monitoring program on vessels of this size, gear type and fishing power, and which have a known potential for infrequent but destructive bycatch events, must have 100% coverage. One hundred percent coverage must mean just that: 100%. A blanket provision allowing the unlimited issuance of waivers with no backstops or other accountability measures is likely to seriously undermine any 100% coverage requirement or other target coverage level.

#### **At-Sea Observer Coverage Requirements (Alternative Set 5):**

The at-sea observer program, which obtains data for both kept and discarded catch, is critical to understanding total catch of river herring and shads, and must be prioritized by the Council. To ensure accurate and statistically reliable accounting of catch, increased observer coverage is necessary.<sup>38</sup> In contrast to at-sea observers, portside sampling only obtains information for the catch that is retained, and therefore misses an important part of the equation. Without maximized retention (which is not considered in Amendment 14) we cannot support portside sampling (Alternative Set 4) for deriving estimates on river herring and shad incidental catch. Taken alone, it would miss at-sea discards and provide insufficient data. Absent maximized retention and the related need for at-sea sampling, portside sampling becomes redundant and inefficient.

The current levels of monitoring and data collection within the Mid-Atlantic's midwater trawl and small-mesh fisheries are inadequate.<sup>39</sup> We support the following measures:

- **Modified Alternative 5b4:** Require 100% of MWT mackerel trips by federal vessels intending to **fish for, catch, possess, retain, transfer, or land** over **2,000** pounds of mackerel to carry observers. The NEFSC would assign coverage based on pre-trip notifications. Vessels would not be able to **fish for, catch, possess, retain, transfer, or land** more than **2,000** pounds of mackerel unless they had notified their intent to

<sup>38</sup> See [http://www.mafmc.org/fmp/current/SMB/River\\_Herring\\_Letters.pdf](http://www.mafmc.org/fmp/current/SMB/River_Herring_Letters.pdf).

<sup>39</sup> See June 24<sup>th</sup>, 2009 MAFMC letter to NMFS, at [http://www.mafmc.org/fmp/current/SMB/River\\_Herring\\_Letters.pdf](http://www.mafmc.org/fmp/current/SMB/River_Herring_Letters.pdf)



**fish for, catch, possess, retain, transfer, or land more than 2,000 pounds of mackerel.**<sup>40</sup>

Midwater trawl vessels account for 75.7% of river herring incidental catch and 41.8% of shad incidental catch,<sup>41</sup> and are responsible for the majority of mackerel landings, accounting for 62% of landings in 2010.<sup>42</sup> According to information presented in Amendment 11 to the MSB FMP, there are 15 midwater trawl vessels that are eligible for the mackerel limited access program (13 in Tier 1, and 2 in Tier 2).<sup>43</sup> Given the high volume nature of these vessels, and the fact that significant shad and river herring catch events may be infrequent (but events can be large when they occur), 100% coverage is necessary for an accurate accounting of incidental catch. In addition, midwater trawl vessels are in the top permit tiers of the Atlantic herring limited access fishery, for which the New England Council is considering 100% observer coverage. Given the overlap in the midwater trawl fisheries for Atlantic herring and mackerel, observer coverage levels should be consistent between the FMPs.<sup>44</sup> Furthermore, for essentially the same reasons stated above in our explanation for the need to adjust the mackerel incidental limit downward from 20,000 pounds to 2,000 pounds to better align it with Atlantic Herring FMP language and ensure the integrity of a mortality cap, the same adjustments should be made for this alternative. Absent this modification, it is possible that a significant amount of directed mackerel fishing could take place outside the scope of a 100% observer coverage requirement, if the vessels simply declared an intent to fish in the herring fishery (and if the Herring FMP did not have a similar coverage requirement). Allowing vessels 20,000 pounds of mackerel will not sufficiently deter directed fishing by these large vessels that comprise the most significant component of the herring-mackerel fishery overlap.

- **Modified Alternative 5c:** This alternative should be modified to require 100% of Small Mesh Bottom Trawl (SMBT, i.e. mesh <3.5 in) mackerel trips by Tier 1 and Tier 2 limited access mackerel vessels intending to **fish for, catch, possess, retain, transfer, or land** over **2,000** pounds of mackerel to carry observers. Require 25% of SMBT trips by Tier 3 vessels intending to **fish for, catch, possess, retain, transfer, or land** over **2,000** pounds of mackerel to carry observers.<sup>45</sup>

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<sup>40</sup> Proposed revisions to make this measure more consistent with incidental catch allowance regulations in the Atlantic Herring FMP. See footnote 33

<sup>41</sup> See Amendment 14, Appendix 2, page 581

<sup>42</sup> See Amendment 14, Table 29, page 247

<sup>43</sup> See MAFMC. Amendment 11 to the Atlantic Mackerel, Squid, and Butterfish (MSB) Fishery Management Plan (FMP). May 2011, Tables 94-96, pages 447-448.

<sup>44</sup> See Amendment 14, Appendix 2, page 574

<sup>45</sup> Proposed revisions to make this measure more consistent with incidental catch allowance regulations in the Atlantic Herring FMP. See footnote 33

Small-mesh bottom trawls are believed to contribute to 23.7% and 25.6% of river herring and shad incidental catch respectively; therefore, it is important to improve observer coverage in this fleet to achieve accuracy and precision in incidental catch estimates. Because industry funding will be necessary to achieve coverage levels above the status quo, it is important to distribute the observer cost burden equitably among fishery participants. For the mackerel limited access program, 10 SMBT vessels are eligible for Tier 1, and 19 are eligible for Tier 2.<sup>46</sup> Neither Tier 1 nor Tier 2 vessels are capped by a percentage of the quota, with no trip limits for Tier 1 vessels. For Tier 3, however, 138 vessels qualify,<sup>47</sup> and this tier is capped at 3% of the annual quota. Additionally, the average length of a Tier 3 vessel is 65 ft, compared to 78 ft for Tier 2 and 110 ft for Tier 1,<sup>48</sup> likely making the observer costs significantly more burdensome for vessels in Tier 3 relative to their daily operating costs. One hundred percent coverage on Tier 1 and Tier 2 SMBT vessels engaging in directed mackerel fishing represents a manageable objective that will cover the majority of the catch by this gear type, without undue burden on small boats or the observer infrastructure.

Consistent with our prior suggestions, the MAFMC should also adjust the mackerel incidental catch limit under this alternative to 2,000 pounds to ensure consistency with the Atlantic Herring FMP and to prevent vessels from circumventing observer requirements.

- **Modified Alternative 5d:** This alternative should be modified to require 50% of SMBT (<3.5 in) longfin squid trips by major longfin squid moratorium permitted vessels intending to retain<sup>49</sup> over 2,500 pounds of longfin squid to carry observers.

Only 3.5% of longfin squid catches by weight have been observed in recent years (2006-2010),<sup>50</sup> contributing to great uncertainty in the shad and river herring incidental catch estimates for this fishery. As described above, small-mesh bottom trawls (SMBT) do contribute significantly to shad and river herring incidental catch, and higher levels of at-sea observer coverage will be needed for the Northeast's SMBT fleet, in order to obtain reasonably accurate and precise estimates of this catch. Coverage must be equitably distributed among vessels according to their activity in the fishery. While there are approximately 400 vessels that hold moratorium permits, an average of only 103 vessels have been major vessels in this fishery in the last 5 years, and these major vessels account for around 95% of the annual landings.<sup>51</sup> Of these vessels, 57 account for 75% of

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<sup>46</sup> *Id.*

<sup>47</sup> *Id.*

<sup>48</sup> See MAFMC Amendment 11 to the Atlantic Mackerel, Squid, and Butterfish (MSB) Fishery Management Plan (FMP). May 2011, Table 82, page 435.

<sup>49</sup> While herring-mackerel fishery overlap and consistency concerns are likely not as acute for squid vessels, if the Council's intent is to ensure observer coverage on a target percentage of directed squid fishing trips, it may want to consider revising this alternative to reflect the previously noted language used in the Atlantic herring FMP to define directed fishing ("fishing for, catching, possessing, transferring, or landing"), and which has been proven effective. See footnote 33

<sup>50</sup> See Amendment 14 DEIS, page 147.

<sup>51</sup> See April 2012 MAFMC Staff Memo, AP Informational Document, Table 6.

landings. The Council should identify the approximately 100 most active longfin squid vessels (or outline procedures whereby they would self-identify) in advance of the fishing year so that they are clearly and explicitly assigned to the 50% observer coverage bin for that fishing year. Criteria that could be utilized to sort and assign the fleet in this manner include an analysis of recent catch history to identify whether these vessels vary significantly from year to year and/or whether there is a logical annual landings threshold where the line can be drawn. Alternatively, the Council could identify a reasonable and typical annual threshold for landings that makes it likely they will capture the most active vessels (i.e. those which collectively catch 95% of the longfin squid) and require that vessels wishing to land over that number for the year must declare into the higher observer coverage program .

- **Alternative 5f:** Industry would have to pay for observers that are greater than the existing sea day allocation assigned. NEFSC would accredit the observers.

As detailed above, no waivers should be issued without explicit limits and accountability measures to ensure that waivers do not significantly undermine the target coverage level.

- **Modified Alternative 5h:** Require reevaluation of coverage requirement after 2 years to determine if incidental catch rates justify continued expense of continued high coverage rates.

As stated above, we oppose the addition of a sunset clause for any increased observer coverage levels that are implemented through AM 14, and believe that a review of the observer requirements by the Council in two years is a more appropriate approach. However, the language in this alternative needs to be modified. As written, it is too restrictive and hints at foregone conclusions. A review of observer coverage should not be restricted to whether coverage rates are too high and should be reduced. The review should be a comprehensive analysis of whether coverage levels should be adjusted in general, including whether they need to be increased.

### **Observer Optimization Measures (Alternative Set 3):**

One of Amendment 14's main goals is to reduce total catch of river herring and American shad in the SMB fisheries. In order to successfully reduce total catch of these species, Amendment 14 must have reliable total catch estimates. Estimates of the amount of catch are dependent upon good estimates of the total overall catch because total catch is used in scaling up from the amounts observed in samples. All of the following measures will aid or enhance more accurate estimates of total catch.

- **Alternative 3b:** Require the following reasonable assistance measures: provision of a safe sampling station; help with measuring decks, codends, and holding bins; help with bycatch collection; and help with basket sample collection by crew on vessels with mackerel limited access and/or longfin squid/butterfish moratorium permits.

- **Alternative 3c:** Require vessel operators to provide observers notice when pumping/haul-back occurs on vessels with mackerel limited access and/or longfin squid moratorium permits.
- **Modified Alternative 3d:** When observers are deployed on trips involving more than one vessel, observers would be required on any vessel taking on fish wherever/whenever possible on vessels with mackerel limited access and/or longfin squid moratorium permits.

The language “wherever/whenever possible” should be removed from this alternative. Should the Council choose 100% monitoring, this language would provide a loophole to such a requirement and frustrate the goal of more accurate observer data. The majority of “Fish NK” (or fish unknown) records are associated with fish that are pumped to the paired trawl vessel not carrying the observer.<sup>52</sup> Between July 2009 and June 2010 over 5.7 million pounds of catch was recorded as Fish NK in the observer database.<sup>53</sup> The Council should be clear and explicit that any pair trawl trip assigned observer coverage will require an observer on each platform, and should prohibit the taking of fish on a vessel without an observer.

- **Modified Alternative 3j:** Apply “Closed Area I” (CA1) requirements to mackerel limited access and longfin squid moratorium permitted vessels. These requirements are currently in force in the Atlantic herring fishery for midwater trawl vessels intending to fish in Groundfish Closed Area 1. This alternative would require that all fish be brought aboard for observer sampling with exceptions made for safety, mechanical failure, or spiny dog fish clogging the pump.

Alternative 3j should also clarify that, consistent with the current CA1 sampling regulations, operational discards must be brought aboard for sampling, may only be dumped under one of the other three allowable exceptions, and therefore if dumped would be subject to the accountability requirements outlined in 3l, 3n and 3o. Vessels would be permitted to discard (release) un-sampled catch under those limited exceptions, and those only. Further, consistent with these CA1 rules, and in order to prevent any abuse of those limited exceptions, an accountability framework should be layered over the three exceptions as outlined below (Alternatives 3l, 3n and 3o). NMFS has acknowledged that accurate catch composition records cannot be obtained for dumped catch (including operational discards), that there are safe and operationally-feasible ways to get all catch aboard for sampling (including operational discards), and that issues such as stratification of catch in the cod-end or the strainer-like effect of the pump-intake grate raise serious questions about the composition of operational discards.<sup>54</sup> In addition, and consistent with our prior suggestions, this alternative should be modified such that the mackerel incidental allowance is **2,000** pounds instead of 20,000 pounds, and the

<sup>52</sup> See Appendix 5 of the DEIS, page 662.

<sup>53</sup> See NEFSC. Standardized Bycatch Reporting Methodology Annual Discard Report 201: Section 2, page 189. [http://www.nefsc.noaa.gov/fsb/SBRM/2011/SBRM\\_Annual\\_Discard\\_Rpt\\_2011\\_Section2.pdf](http://www.nefsc.noaa.gov/fsb/SBRM/2011/SBRM_Annual_Discard_Rpt_2011_Section2.pdf)

<sup>54</sup> See Final Rule entitled **Fisheries of the Northeastern United States; Discard Provision for Herring Midwater Trawl Vessels Fishing in Groundfish Closed Area I**, Federal Register November 30, 2010,

implementing language should be revised so that the measures apply to trips “fishing for, catching, possessing, transferring, or landing” the specified amount of the target species.<sup>55</sup>

- **Alternative 3l:** For mackerel limited access permitted vessels, NMFS would track the number of slippage events. Once a cap of 10 slippage events (adjustable via specifications) occur in any given year for notified and observed mackerel trips then subsequent slippage events on any notified and observed mackerel trip would result in trip termination for the rest of that year. The goal is to minimize slippage events.

At-sea dumping of unobserved catch, sometimes referred to as slippage or released catch and including the aforementioned operational discards, is an ongoing problem in the SMB fishery. From 2006-2010, 26% of hauls on observed mackerel trips had some unobserved catch.<sup>56</sup> It is also a problem in the overlapping Atlantic herring fishery, from which an illustrative example of successful dumping accountability measures can be drawn. Prior to the implementation of the CA1 rules discussed on the previous page, nearly 30% of observed hauls in the Atlantic herring fishery included dumped catch that was not sampled, and even this is acknowledged as an underestimate because vessel captains did not provide information on dumped catch on all observed hauls.<sup>57</sup> In contrast, vessels fishing under Closed Area I (CA1) regulations in the Atlantic herring fishery had no observed slippage events recorded in 2010.<sup>58</sup> This reduction in dumping in the herring fishery clearly demonstrates that the CA1 rules are effective. It is important to note, however, that the effectiveness of the CA1 regulations is due to the accountability measures tied to the dumping exceptions, which requires a vessel to stop fishing and exit CA1 if it releases an un-sampled net. The MAFMC should select final AM 14 measures that replicate the CA1 regulations. Given the three exceptions provided for under Alternative 3j, permitting 10 slippage events before slippage results in trip termination provides a reasonable balance that will deter slippage without being unduly penalizing.

- **Alternative 3n:** For longfin squid moratorium permitted vessels, NMFS would track the number of slippage events. Once a cap of 10 slippage events (adjustable via specifications) occur in any given trimester for notified and observed longfin squid trips then subsequent slippage events on any notified and observed longfin squid trip would result in trip termination for the rest of that trimester. The goal is to maximize sampling of catch on observed trips and to discourage and minimize slippage events.

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<sup>55</sup> See footnote 33

<sup>56</sup> See Amendment 14 DEIS, page 130

<sup>57</sup> See Amendment 14 DEIS, Appendix 5, pp. 652-653

<sup>58</sup> See Amendment 14 DEIS, Appendix 5, page 658.

This alternative should be implemented in conjunction with Alternative 3j. On observed longfin squid trips, an average of 9% to 14 % of hauls are not seen or sampled by observers.<sup>59</sup> As discussed above, an accountability measure is an important component to the CA1 sampling requirements to ensure compliance, and an allowance of 10 slippage events per trimester before trip termination is implemented is appropriate for deterring slippage.

- **Alternative 3o:** For mackerel and/or longfin squid permitted vessels, if a trip is terminated within 24 hours because of any of the anti-slippage provisions, then the relevant vessel would have to take an observer on its next trip.

This alternative is necessary if observer coverage levels are not high enough to effectively deter vessels from dumping unwanted catch or catch they suspect contains bycatch on the rare occasions they are observed. If there is a high likelihood the next trip will not be observed, vessels may not be sufficiently discouraged from dumping early in a trip by the trip termination requirement.

#### **Vessel Reporting (Alternative Set 1):**

Weekly VTR submission and daily VMS reporting would improve data accuracy and facilitate quota tracking (directed landings and/or incidental mortality cap if applicable) and reduce the risk of overages to any potential mortality cap. It is important to note that the Atlantic herring FMP already mandates reporting measures identical to or very similar to each of the alternatives listed below, making these proposed measures necessary to improve consistency between the FMP's.

- **Alternative 1c:** Weekly vessel trip reporting (VTR) for all MSB permits.
- **Modified Alternative 1d48:** Require 48 hour pre-trip notification to NMFS to **fish for, catch, possess, retain, transfer, or land**<sup>60</sup> more than **2,000** pounds of mackerel so as to facilitate observer placement.
- **Alternative 1eMack & 1eLong:** Require VMS for limited access mackerel vessels and for longfin squid/butterfish moratorium vessels.
- **Alternative 1fMack:** Require daily VMS reporting of catch by limited access mackerel vessels so as to facilitate monitoring (directed and/or incidental catch) and cross checking with other data sources.
- **Alternative 1fLong:** Should be made frameworkable in the event that a mortality cap becomes necessary in the squid fishery.

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<sup>59</sup>See Amendment 14, p.130 states that 9% of hauls on observer trips go unobserved. SSC materials from May 2012 suggest that slippage has increased from previous estimates under the Butterfish Bycatch Program to 14%. See [http://www.mafmc.org/meeting\\_materials/SSC/2012-05/3-2011-Butterfish-Cap-Report\(May%202012\).pdf](http://www.mafmc.org/meeting_materials/SSC/2012-05/3-2011-Butterfish-Cap-Report(May%202012).pdf).

<sup>60</sup> Proposed revisions to make this measure more consistent with incidental catch allowance regulations in the Atlantic Herring FMP. See footnote 33

- **Modified Alternative 1gMack & Alternative 1g Long:** Require 6 hour pre-landing notification via VMS to land more than 2,000 pounds of mackerel or more than 2,500 pounds of longfin squid, which could facilitate quota monitoring, enforcement, and/or portside monitoring.

### **Dealer Reporting (Alternative Set 2):**

Standardizing the methods by which dealers weigh all catch and requiring vessels to confirm the amount of fish landed will aid in better overall estimates of catch, in addition to being essential for ensuring that directed quotas are not exceeded. More accurate data on landings will also aid in the monitoring of a mortality cap or in achieving the objective of better catch and bycatch estimates of river herring and shad. As the AM 14 DEIS points out, “accurate monitoring of the target species can be as important as determining the encounter rates of [river herring and shad]” in the determination of river herring and shad catch estimates, due to the use of discard-to-kept ratios or other bycatch/incidental catch extrapolations.<sup>61</sup>

Dealer or vessel self-reporting of unverifiable, unstandardized “hail” weights or visually-based volumetric estimates are inadequate and unacceptable. They present far too much opportunity for deliberate or accidental misreporting, and offer no opportunity for third-party observers, port samplers, or law enforcement personnel to verify that accurate, complete and honest catch weights are being reported.

- **Modified Alternative 2b:** Require federally permitted SMB dealers to obtain vessel representative confirmation of SAFIS transaction records for mackerel landings over 2,000 pounds, Illex landings over 10,000 pounds, and longfin squid landings over 2,500 pounds to catch data errors at first point of entry.
- **Modified Alternative 2c-f:** Require that federally permitted SMB dealers weigh all landings related to mackerel transactions over 2,000 pounds and longfin squid transactions over 2,500 pounds.

### **Consolidation of Management:**

Overlap between the Atlantic mackerel fishery and the Atlantic herring fishery is well-documented.<sup>62</sup> Improved monitoring and data collection will provide both Councils (as well as the ASFMC) with a more complete picture regarding the overlap of the Atlantic mackerel and Atlantic herring fisheries and their interactions with river herring and shads; however, in order to improve management of all stocks it will be imperative for one FMP to ultimately manage the stocks. We urge the Mid-Atlantic Council to begin discussions with NFMS, the NEFMC, and the ASFMC to create a viable, single management plan that will best steward the resources.

<sup>61</sup> See Amendment 14 DEIS, page 279

<sup>62</sup> See New England Fishery Management Council Herring Committee and Advisory Panel memo, July 22, 2008, regarding “Background Information re. Herring/Mackerel Fishery Interactions.”

**Closing Comments:**

Pew Environment Group strongly supports the MAFMC in its effort to develop an amendment to the MSB FMP that will provide the strongest conservation and management measures for depleted river herring and shads, and improve monitoring and accountability of the at-sea fisheries which catch with these species in ocean waters.

Sincerely,

A handwritten signature in black ink, appearing to read 'Peter Baker', with a stylized flourish at the end.

Peter Baker  
Director, Northeast Fisheries Program  
Pew Environment Group



**Table 1:**

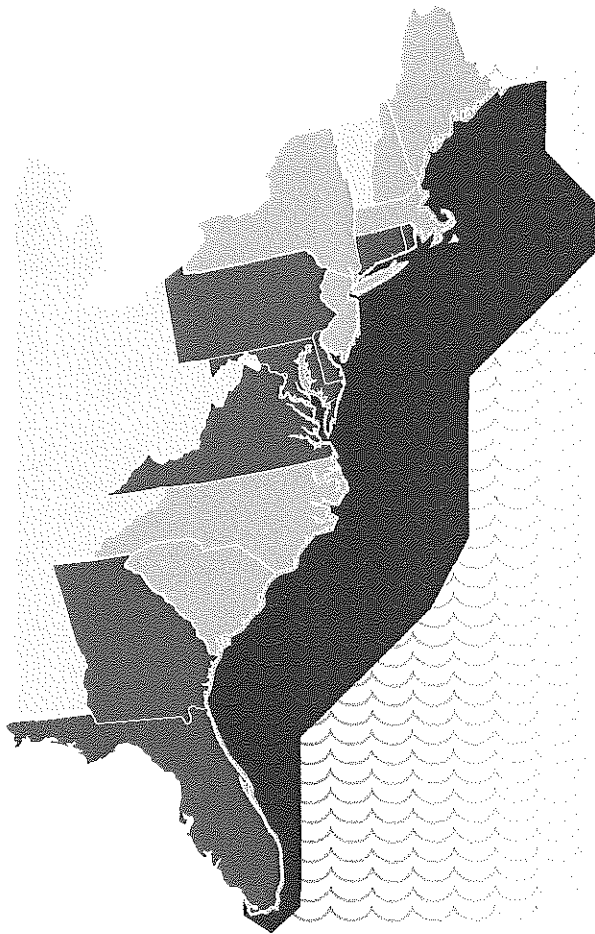
Alternative Set	Preferred Alternative	Description to be applied to the MSB FMP
<b>Set 1:</b> Vessel Reporting Measures	1c	Weekly VTR for all MSB permits
	Modified 1d48	48 hour pre-trip notification to NMFS intent to fish for, catch, possess, retain, transfer or land greater than <b>2,000 lbs</b> mackerel
	1eMack & 1eLong	VMS for all Limited Access mackerel vessels and for longfin Squid/Butterfish moratorium vessels
	1fMack	Daily VMS of catch by Limited Access mackerel vessels
	Modified 1gMack & 1gLong	6 hr. pre-landing notification via VMS to land greater than <b>2,000 lbs</b> mackerel or 2,500 lbs longfin Squid
<b>Set 2:</b> Dealer Reporting Measures	Modified 2b	Federally-permitted MSB dealers must get vessel confirmation of SAFIS trans records for mackerel landings greater than <b>2,000 lbs</b> and longfin Squid greater than 2,500 lbs
	Modified 2c, d, e, & f	Federally-permitted MSB dealers must weigh all landings related to mackerel greater than <b>2,000 lbs</b> and 2,500 lbs of longfin squid
<b>Set 3:</b> At-Sea Observation Measures	3b	Reasonable assistance measures
	3c	Vessel operators must provide observers notice when <u>pumping/hauling back</u>
	Modified 3d	When observers are on trips with more than one vessel, observers required on ANY vessel taking on fish. Whenever/wherever possible language should be modified
	Modified 3j	Closed Area 1 Requirements currently in force in Herring FMP apply to vessels fishing for, catching, possessing, retaining, transferring or landing <b>2,000 lbs</b> mackerel or 2,500 lbs squid
	3l (implemented w/ 3j)	10 slippage events per year in mackerel fishery
	3n (implemented w/ 3j)	10 slippage events per year in longfin squid fishery
	3o	If a trip is terminated within 24 hours because of any of the anti-slippage provisions then vessel must take an observer on next trip
<b>Set 5:</b> Observer Coverage	Modified 5b4	100% observer coverage of all MWT mackerel trip intending fish for, catch, possess, retain, transfer or land over <b>2,000 lbs</b> mackerel. Opposed to a sunset provision and issuance of a waiver
	Modified 5c1 and Modified 5c4	100% observer coverage on Tier 1 and Tier 2 SMBT (<3.5 in.) mackerel trips intending to fish for, catch, possess, retain, transfer or land <b>2,000 lbs</b> mackerel; 25% observer coverage of Tier 3 SMBT mackerel trips intending to fish for, catch, possess, retain, transfer or land <b>2,000 lbs</b> mackerel

Alternative Set	Preferred Alternative	Description to be applied to the MSB FMP
	Modified 5d2	50% observer coverage of SMBT major vessels in longfin squid trips intending to retain greater than 2,500 lbs longfin squid
	Modified 5f	Vessels contract and pay for observers. Modified to prohibit waivers and require States receive full provider certification in order to be providers
	Modified 5h	2 year review of observer coverage. Review should not be restricted to whether coverage rates are too high
<u>Set 6:</u> Mortality Caps	Combined and Modified 6b and 6c	Mortality cap for shad and river herring species combined for the mackerel fishery. Once cap is reached an incidental mackerel allowance of <b>2,000 lbs</b>
	6f	Add mortality caps to list of measures that can be frameworkable
<u>Set 8:</u> Hotspot Restrictions	Modified 8eMack	Vessels cannot fish for, catch, possess, retain, transfer or land <b>2,000 lbs</b> mackerel while in a River Herring Protection Area unless no mesh smaller than 5.5 inches is onboard the vessel
	8eLong	Vessels cannot fish for, catch, possess, retain, transfer or land 2,500 lbs of longfin squid while in a River Herring Protection Area unless no mesh smaller than 5.5 inches is onboard the vessel
	Modified 8b	Inclusion of the AM 5 Herring PDT hotspots, modified to allow for future modifications including expansion into larger "monitoring/avoidance" areas identified by PDT frameworkable
<u>Set 9:</u> Add River Herring and Shads as stocks in the MSB fishery	9b-9e	Add blueback herring, alewife, American shad and hickory shad as SIF under the MSB FMP

# A Federal Offense: River Herring Robbery

## How are river herring managed on the Atlantic Coast?

River herring are being considered for listing under the Endangered Species Act. While coastal states limit the catch of these important species, no restrictions prohibit commercial fisheries from catching large amounts in federal waters.



### Protective Rules

#### **No fishing**

These states do not allow recreational or commercial fishing, or the landing of river herring.

### Some Rules

#### **Limited fishing**

These states allow limited commercial and recreational river herring fishing in state waters, or boats fishing in federal waters can land river herring bycatch (in MA and NJ).

### No Rules

#### **Lots of fishing**

In federal waters, there are no restrictions on the catch of river herring.





**Massachusetts  
Striped Bass Association**

*Since 1950*

June 4, 2012

Mr. Paul Howard, Executive Director  
New England Fishery Management Council  
50 Water Street  
Newburyport, Massachusetts 01950

RE: Amendment 5 to the Atlantic Herring Fishery Management Plan

Dear Mr. Howard:

The MSBA has been recognized in many venues as speaking for the New England recreational fishing community on the issue of reforming the industrial Atlantic Herring fishery. The following comments are based upon years of communicating with individual anglers, groups of anglers at various events and finally interaction with other recreational fishing organizations including but not limited to the following:

*Honest By Catch, The Buzzards Bay Anglers Club, The MA Beach Buggy Assn, The Martha's Vineyard Surfcasters, The MV Striped Bass & Bluefish Derby, The MA Striped Bass Assn, The New Inlet Boating Assn, The Pioneer Valley Boat & Surf Club, The Plum Island Surfcasters, The Recreational Fishing Alliance (New England Chapter), [www.stripped-bass.com](http://www.stripped-bass.com)*

We are concerned that the Atlantic Herring fishery is having a detrimental effect on recreational fishing in New England. Collectively, the recreational fishing community wants to regulations adopted that bring strict monitoring and accountability to the industrial scale operators within the Atlantic Herring fishery. Our community believes that this can be achieved if the NEFMC were to adopt the following set of alternatives:

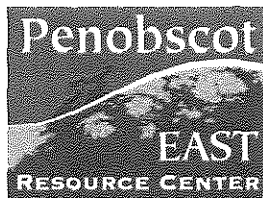
- We support adoption of section 3.2.1.2 alternative 2 (100 percent at-sea monitoring on permit category A & B)
- We support adoption of section 3.2.3.4 option 4D (regulations to discourage the slippage, or dumping, of catch, including a fleet wide limit of five slippage events for each herring management area, after which any slippage event would require a return to port).
- ***We are strongly opposed to any measures that exempt "regulatory discards" from any regulation. All marine life in the codend must be monitored and accounted for in the new regulations.***
- We support adoption of section 3.4.4 alternative 5 (prohibit mid water trawl vessels participating in the Atlantic Herring fishery from access to ground fish closed areas)

- We support adoption of section 3.3.5 (if modified to require immediate implementation of a catch cap on the total amount of river herring caught in the Atlantic herring fishery)
- We support adoption of section 3.3.3.2.1 option 1 (exclusion of category A & B vessels from areas where interactions with river herring have been demonstrated to be high)
- We support adoption of section 3.1.5 option 2a (requirement to accurately weigh and report all catch)

We thank both NEFMC members & staff for considering our comments.

Sincerely

Capt. Patrick Paquette  
MSBA Gov;t Affairs



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STONINGTON, ME 04681  
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*Securing a future for fishing communities*

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June 4, 2012

Mr. Paul Howard  
New England Fishery Management Council  
50 Water Street  
Newburyport, MA 01950

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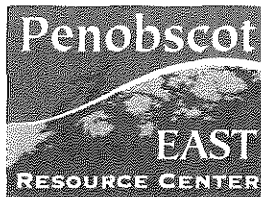
Dear Mr. Howard,

Penobscot East Resource Center submits the following comments on Amendment 5 to the Herring FMP: We are in overall support of what this amendment intends to accomplish: Better reporting measurements, maximizing at-sea sampling, addressing net slippage and river herring bycatch, and establishing criteria for access to groundfish closed areas all align with Penobscot East's work to help rebuild local groundfish stocks in Eastern Maine.

Groundfish stocks in Eastern Maine have suffered greatly over the past twenty five years, with possible causes including overfishing, loss of essential habitat, and depletion of important forage fish such as river herring, which appear to be caught as bycatch in the Atlantic herring fishery in large numbers. Regardless of whether the decline of river herring contributed to the decline of local groundfish populations, a concerted effort to protect river herring could only enhance groundfish rebuilding in this and other coastal regions, thus working to diversify opportunities for fishermen.

**We support the implementation of 100% observer coverage for Category A and B vessels.** Collection of real-time, accurate catch information at sea will improve the ability of fishery managers to make better, more informed decisions aimed at reducing river herring and groundfish bycatch in the Atlantic herring fishery. It is imperative that groundfish bycatch in this fishery be reduced and better accountability measures be implemented. Groundfish bycatch data will also be valuable to the upcoming work on cod stock structure.

This data would also address bycatch of river herring such as alewives. Alewives are a species of concern, their populations down drastically over the past twenty years - concurrent with the loss of some coastal groundfish populations. When alewives leave their spawning grounds in the river systems of coastal Maine, we do not know if or how they mix at sea. In order to better understand their stock structure and life history, at-sea data collection must be improved.



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*Securing a future for fishing communities*

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As a region, we need to be doing all we can to reduce river herring bycatch and protect these species while they are at sea. NMFS approved observers deployed on these vessels will obtain accurate catch information, and collect biological samples needed to further studies on stock structure.

**We also support prohibition of mid-water trawl access to groundfish closed areas.** These areas provide protection for spawning and juvenile recruitment. It is counterproductive to have a small mesh fishery towing through areas that are so important to the well being of many year classes of groundfish.

**We believe there should be strict disincentives for net slippage in Closed Area I, with trip termination after ten events.** Used in conjunction with 100% observer coverage, this would not only discourage slippage events, but provide further accurate catch information and accountability for high bycatch events. Net slippage should only be used when catch is deemed "too dangerous" to bring onboard, a standard that should remain high-bar, and rarely used. Overuse of this standard would render it meaningless. Under current NEFOP observer procedures, observers must obtain a visual description of the catch composition during a slippage event, and ask the captain of the vessel to make comments about the event to include in the trip data. This procedure used on herring vessels would provide valuable information on overall slippage events in the fishery.

**We support the implementation of improved dealer reporting, including the weighing of all catch at the dock.** This data can be cross-referenced with observer data for the overall improvement of accurate landings information. Better landings information translates to better population estimates, thus better management of stocks.

The Atlantic herring fishery is one of extreme importance to the Gulf of Maine and the economy of the region. The herring resource supports many other fisheries and industries across New England, particularly as a forage fish for groundfish and tuna, and as bait in the lobster fishery. As a region, we need to be moving toward methods that improve fisheries interactions with one-another, toward better management that incorporates ecosystem, rather than single-species dynamics. The management measures outlined in Amendment 5 that are referenced in this letter will have minimal negative impact on the herring fishery, and will improve full-catch accountability, science, and enable a needed shift toward ecosystem based fisheries management.

Sincerely,

Patrick Shepard  
Fisheries Policy Associate  
Penobscot East Resource Center





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June 1, 2012

New England Fisheries Management Council  
50 Water Street  
Newburyport MA, 01950

**RE: Draft Amendment 5 to the Atlantic Herring FMP**

Dear Chairman Cunningham:

The Island Institute is a community development organization that focuses on supporting Maine's 15 year-round island communities and coastal working waterfront communities. The economy of these communities is heavily focused on the natural resources of the Gulf of Maine and their future is closely tied to the sustainability of the ecosystem. Herring management is a microcosm for the future of the Gulf of Maine. Our coastal communities, fisheries, and the long-term sustainability of the ecosystem are inextricably linked.

Herring are a cornerstone species in the Gulf of Maine ecosystem and numerous species of fish, birds, and marine mammals rely on herring as part of their diet. One of the most important uses of herring in Maine is for bait in the lobster industry. Lobstering allows many families to live on the islands and the industry provides critical employment opportunities in Maine's coastal communities. Maine has around 5,000 licensed commercial lobstermen and by law, each lobsterman is a separate, owner-operated small business.

In considering the management options in Draft Amendment 5, I encourage you add measures that reduce the amount of uncertainty in herring management and allow fisheries managers to better manage the fish stocks. Specifically, we recommend:

- Include 100 % observer coverage on category A and B vessels (Section 3.2.1 Alternative 2), since these vessels land the vast majority of herring (~97 - 98 %). In addition to monitoring the herring catch, this level of observer coverage would provide reliable estimates of river herring and other bycatch. Significant increases in observer coverage on smaller vessels that land far fewer herring could place an inordinate amount of financial strain on individual fishermen. As a general matter, decisions about observer coverage and monitoring should be made in the context of the potential environmental impact of the activity. Different scales of fishing activity have different environmental impacts, and it is the

potential for impacts to the fish stock that should drive decisions surrounding observer coverage.

- All catch should be accurately weighed and reported (Section 3.1.5 Alternative 2) so that managers have an accurate sense of what is happening to the fish stocks. With this information, they can stop fishing at the right moment in a certain area to maximize the amount of herring that can be caught, while at the same time preventing too much herring from being removed from the ecosystem.
- Prohibit mid-water trawl vessels from participating in the herring fishery in areas established to promote rebuilding of groundfish populations (Section 3.4.4 Alternative 5). New knowledge regarding the frequency and severity of mid-water trawls on the seafloor and higher rates of haddock bycatch inside CAII compared to outside CAII (calculated in the FW46 analysis) support this alternative. Any exceptions for herring mid-water trawl vessels should be subject to the same appropriately high standards met by groundfishermen who are granted Experimental Fisheries Permits, including but not limited to catch and bycatch caps and increased observer coverage.
- Include robust management measures to protect river herring in the Atlantic herring fishery, such as a catch cap (by modifying Section 3.3.5), in an effort to keep Maine's healthy, sustainable, in-river fishery.
- Regulate the number of allowed net slippage events for Category A and B vessels (such as Section 3.2.3.4 Option 4D). I encourage you to adopt an accountability system that discourages wasteful dumping and allows for accurate estimation of total catch and, thus, support the concept of a maximum number of allowed slippage events. The Island Institute is not qualified to comment on the exact number of events that would be appropriate, but we feel strongly that fishermen's safety, not economic concerns, should be the driving factor in making this determination.

In considering changes to the herring management, I encourage you to undertake these changes to ensure that a sustainable harvest of this critical forage and baitfish will be available for years into the future. It is vitally important to the ecosystem of the Gulf of Maine as well as to Maine's island and working waterfront communities that local sources of bait are sustainably managed.

Sincerely,



Nick Battista  
Marine Programs Director

June 4, 2012

Paul J. Howard, Executive Director  
New England Fishery Management Council  
50 Water Street  
Newburyport, Massachusetts 01950

Dear Mr. Howard,

As organizations, businesses and individuals that are greatly concerned with the health and sustainability of our fisheries, and the ecosystems that support those fisheries, we write to urge your support for strong protections for river herring in the Atlantic herring fishery.

River herring abundance has dramatically declined along the Atlantic coast, including in New Hampshire, where the number of fish returning to the Taylor, Oyster and Exeter Rivers are at historically low levels. While many factors have led to this decline, we are particularly concerned about the lack of effective protection for these fish in ocean waters, particularly beyond three miles of the coast. According to the Northeast Fisheries Science Center, approximately four million river herring are incidentally caught each year, with the majority caught by single and pair mid-water trawl vessels fishing for Atlantic herring and mackerel.

Our organizations and the members we represent are committed to the conservation and sustainable harvest of river herring in New Hampshire. The New Hampshire Fish and Game Department and New Hampshire Department of Environmental Services, in collaboration with watershed organizations and other stakeholders, are currently working to remove dams, restore fish passage, and improve the health of rivers to promote the recovery of river herring and other diadromous fish. In addition, New Hampshire has developed and implemented river-specific harvest plans, approved by the Atlantic States Marine Fisheries Commission, to maintain a sustainable and successful river herring fishery.

To complement these efforts – and similar efforts in other Atlantic coast states – we respectfully request that the Council implement a plan that effectively monitors and limits the incidental capture of river herring in waters under your jurisdiction. Specifically we ask that you approve the following management measures in Amendment 5 to the Atlantic Herring Fishery Management Plan:

- 100% monitoring on all single and pair mid-water trawlers to collect reliable and accurate data on all catch.
- Immediate implementation of a river herring catch cap.
- A limit on the dumping or release of catch before it can be sampled by an independent observer (five released catch events per management area).
- A requirement to weigh all landed catch.

We thank you for the work that you, your staff and the Council do protect and restore sustainable fisheries and urge you to take this opportunity to do the same for river herring.

Sincerely,

Peter Wellenberger  
Great Bay-Piscataqua WATERKEEPER  
Conservation Law Foundation  
Durham, New Hampshire

Michael J. Bartlett  
President  
Audubon Society of New Hampshire  
Concord, New Hampshire

Rep. Derek Owen  
President  
Citizens for a Future New Hampshire  
Hopkinton, New Hampshire

Caroline Snyder, Ph.D.  
Chair  
Citizens for Sludge-Free Land  
North Sandwich, New Hampshire

Ben Steele  
Professor and Chair  
Department of Natural Sciences  
Colby-Sawyer College  
New London, New Hampshire

Jessica O'Hare  
Environment New Hampshire  
Concord, New Hampshire

Josh Arnold  
Coordinator  
Global Awareness Local Action  
Ossipee, New Hampshire

Mitch Kalter  
President  
Great Bay Trout Unlimited  
Dover, New Hampshire

Sharon Meeker  
Lamprey Rivers Advisory Committee Wild &  
Scenic Rivers Program  
Lee, New Hampshire

Sarah Brown  
Project Director  
Green Alliance  
Portsmouth, New Hampshire

Beth Flagler  
New Hampshire Rivers Council  
Concord, New Hampshire

Wendy Lull  
President  
Seacoast Science Center  
Rye, New Hampshire

Peter Egelston  
President  
Smuttynose Brewing Co.  
Portsmouth Brewery  
Portsmouth, New Hampshire

Roy Morrison  
Director  
Sustainability Department  
Southern New Hampshire University  
Manchester, New Hampshire

Dr. Thomas Lee, Ph.D.  
Professor of Marine Biology (ret.)  
St. Anselm College  
Goffstown, New Hampshire

Roger Burkhart, Reverend  
The United Church of Christ  
Milton, New Hampshire

Dr. William Burgess Leavenworth, Ph.D.  
Historical Marine Ecologist  
University of New Hampshire

Jean Eno  
Project Director  
Winnicut River Watershed Coalition  
North Hampton, Stratham & Greenland, New  
Hampshire

cc: Doug Grout, Chief, NH Fish & Game Department  
Cherri Patterson, Supervisor, NH Fish & Game Department

June 4, 2012

Mr. Paul J. Howard  
Executive Director  
New England Fishery Management Council

RE: Comments on Draft Amendment 5

Dear Mr. Howard:

On January 19, 2011, nineteen Massachusetts watershed associations (as well as some from other New England states) wrote to request that the New England Fishery Management Council consider a comprehensive range of options in Amendment 5 to address river herring bycatch and improvements to catch monitoring in the Atlantic herring fishery. We very much appreciate that the Council did just that. We now urge you to adopt those measures that are most effective for monitoring and minimizing interactions with river herring. Specifically, we support:

- 100% monitoring on all midwater trawl fishing trips to ensure accurate sampling of river herring catches.
- A catch cap on the amount of river herring that can be caught in the Atlantic herring fishery for immediate implementation in the next fishing year, 2013.
- No release or dumping of unsampled catch (i.e., observers should have access to all catch for sampling). The Council should also adopt an accountability system to ensure that the exceptions for mechanical failure and safety are not abused. We would like to see no more than 5 dumping events per management area permitted, after which any release/dumping of catch would require vessels to return to port.
- A requirement to weigh all landed catch.
- No midwater trawling in areas established to promote groundfish rebuilding.

Our organizations have been working for years to restore historic herring runs to our rivers and streams through removal of dams and other obstructions, and improvements in water quality. Yet despite improvements in many of our inland waters, herring runs have continued to decline to historically low levels. We are convinced that at-sea bycatch is one of the reasons. We know that hundreds of thousands of river herring are sometimes caught and killed by midwater trawlers in a single tow; that is far more than come up the great majority of our rivers and streams today. We urge you to take strong action now, before it is too late.

Sincerely,

Ian Cooke  
Executive Director  
Neponset River Watershed Association  
Canton, MA

Art Benner  
President  
Alewives Anonymous, Inc.  
Rochester, MA

Ed DeWitt  
Executive Director  
The Association to Preserve Cape Cod  
Barnstable, MA

Frederic B. Jennings Jr., Ph.D.  
Center for Ecological Economic and Ethical  
Education  
Ipswich, MA

Renata von Tscharnar  
President  
Charles River Conservancy  
Cambridge, MA

Robert Zimmerman, Jr.  
Executive Director  
Charles River Watershed Association  
Weston, MA

Ben Wright  
Environment Massachusetts  
Boston, MA

Jon Nash  
Founding member, Duxbury Management  
Commission  
Founder, Duxbury One Fly  
Duxbury, MA

Ken Pruitt  
Managing Director  
Environmental League of Massachusetts  
Boston, MA

Judy Lehrer Jacobs  
Executive Director  
Friends of the Blue Hills  
Milton, MA

Don Palladino  
President  
Friends of Herring River  
Wellfleet & Truro, MA

Tim Bennett  
President  
Green Futures  
Fall River, MA

Lynn Werner  
Executive Director  
Housatonic Valley Association  
Lee, MA

Pine DuBois  
Executive Director  
Jones River Watershed Association  
Kingston, MA

Joan Crowell  
President  
Leesville Pond Watershed and Neighborhood  
Association  
Worcester, MA

Linda Orel  
Executive Director  
Mass Association of Conservation Commissions  
Belmont, MA

Brianne Callahan  
Executive Director  
Massachusetts Baykeeper  
Watertown, MA

Ed Himlan  
Executive Director  
Massachusetts Watershed Coalition  
Leominster, MA

EkOngKar Singh Khalsa  
Executive Director  
Mystic River Watershed Association  
Arlington, MA

Carol Carson  
President  
New England Coastal Wildlife Alliance  
Middleboro, MA

Samantha Woods  
Executive Director  
North and South Rivers Watershed Association  
Norwell, MA

Alison Field-Juma  
Executive Director  
OARS (Assabet, Sudbury and Concord Rivers)  
Concord, MA

Rob Moir, Ph.D.  
Executive Director  
Ocean River Institute  
Cambridge, MA

George Comiskey  
President  
Parker River Clean Water Association  
Byfield, Massachusetts

John Duane – on behalf of:  
Town of Wellfleet Natural Resources Advisory  
Board &  
Shellfish Advisory Board  
Wellfleet, MA

Hillary Greenburg Lemos  
Wellfleet Conservation Commission  
Wellfleet, MA

Matthew C. Patrick  
Executive Director  
Westport River Watershed Alliance  
Westport, MA

cc: Doug Grout, NEFMC Herring Committee Chair  
DMF Director Paul Diodati  
DMF Deputy Director David Pierce







UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 1  
5 POST OFFICE SQUARE, SUITE 100  
BOSTON, MA 02109-3912

June 4, 2012

OFFICE OF THE  
REGIONAL ADMINISTRATOR

Daniel S. Morris  
Acting Regional Administrator  
Northeast Region  
National Marine Fisheries Service  
National Oceanic and Atmospheric Administration  
55 Great Republic Drive  
Gloucester, Massachusetts 01930-9135

Re: Draft Environmental Impact Statement for Draft Amendment 5 to the Fishery  
Management Plan for Atlantic Herring, CEQ# 20120104

Dear Mr. Morris:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, we have reviewed the Draft Environmental Impact Statement (DEIS) for Draft Amendment 5 to the Fishery Management Plan for Atlantic Herring. Based on our review of the DEIS we have no objections to the project as described and we rate this EIS "LO-1 - Lack of Objections-Adequate" in accordance with EPA's national rating system, a description of which is attached to this letter.

Thank you for the opportunity to review the DEIS. Please contact me at (617) 918-1025 with any comments or questions about this letter.

Sincerely,

A handwritten signature in cursive script, appearing to read "Timothy L. Timmermann".

Timothy L. Timmermann  
Associate Director  
Office of Environmental Review

enclosure

## **Summary of Rating Definitions and Follow-up Action**

### Environmental Impact of the Action

#### **LO--Lack of Objections**

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

#### **EC--Environmental Concerns**

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

#### **EO--Environmental Objections**

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

#### **EU--Environmentally Unsatisfactory**

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

### Adequacy of the Impact Statement

#### **Category 1--Adequate**

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

#### **Category 2--Insufficient Information**

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

#### **Category 3--Inadequate**

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

## Joan O'Leary

---

**From:** HER Amendment5 <heramendment5@noaa.gov>  
**Sent:** Tuesday, June 05, 2012 2:19 PM  
**To:** Rachel A. Neild; Joan O'Leary  
**Subject:** Fwd: Comments in support of river herring conservation, Amendment 5 & Amendment 14

NMFS received 936 letters identical to this one.

----- Forwarded message -----

**From:** Deanne O'Donnell <hottdeanne@hotmail.com>  
**Date:** Tue, Jun 5, 2012 at 2:11 PM  
**Subject:** Comments in support of river herring conservation, Amendment 5 & Amendment 14  
**To:** [heramendment5@noaa.gov](mailto:heramendment5@noaa.gov)

Dear Mr. Howard,

Dear Regional Managers,

I'm very concerned about the impacts of industrial fishing on river herring.

I would very much appreciate it if you would adopt a comprehensive monitoring and bycatch reduction program for river herring, which I'm told are not currently considered in your management of either the Atlantic herring fishery or the Mackerel, Squid, Butterfish fishery. I think it's great that most Atlantic states now ban the catch of river herring in state waters, but it worries me that these efforts are not matched in federal waters. Large scale fisheries such as these can have major impacts, and should be monitored and managed carefully to minimize impacts to not only river herring, but other species like groundfish. I support your initiative to improve this aspect of both these fisheries.

Specifically, if the monitoring and bycatch reduction program you adopt could include the following, I would be much obliged. Here's what I'd like to see the New England Fishery Management Council adopt:

- A catch limit, or cap, on the total amount of river herring caught in the Atlantic herring fishery (Section 3.3.5, modified to require immediate implementation of a catch cap).
- 100 percent at-sea monitoring on all midwater trawl fishing trips in order to provide reliable estimates of all catch, including bycatch of depleted river herring and other marine life (Section 3.2.1.2 Alternative 2).
- An accountability system to discourage the wasteful slippage, or dumping, of catch, including a fleet-wide limit of five slippage events for each herring management area, after which any slippage event would require a return to port (Section 3.2.3.4 Option 4D).
- A ban on herring mid-water trawling in areas established to promote rebuilding of groundfish populations (Section 3.4.4 Alternative 5).
- A requirement to accurately weigh and report all catch (Section 3.1.5 Option 2).

As for the Mid-Atlantic Fishery Management Council, I encourage you to adopt the following options:

- Inclusion of river herring and shad as stocks within the fishery (Alternative 9b-9e).
- Developing the long-term protections associated with this designation will take time. Therefore, the council should adopt the following interim measure to immediately reduce and limit the at-sea catch of river herring and shad:
  - A catch cap, effective in 2013 (Alternative 6b-6c), that functions effectively, does not increase wasteful discarding, and cannot be circumvented by simply declaring into another fishery. These alternatives should be

modified to more effectively ensure that directed mackerel fishing stops if a cap is reached by lowering the amount of mackerel that can be fished for, possessed, or retained.

Furthermore, I strongly urge you to incorporate all of the following:

- 100 percent at-sea monitoring on all mid-water trawl fishing trips. One observer must be assigned to each vessel in a pair trawl operation (Alternative 5b4 and Alternative 3d).
- An accountability system to discourage the wasteful dumping of unsampled catch. All catch, including "operational discards," must be made available to fishery observers for systematic sampling (Alternative 3j with operational discards prohibited). If dumping is allowed, include a fleet-wide limit of 10 dumping events (Alternative 3l and 3n) and require vessels that dump to take an observer on their next trip (Alternative 3o).
- A requirement to weigh all catch. (Alternative 2c-2f).

Thank you for considering my input, and I look forward to applauding your wise decision.

Sincerely,

Deanne O'Donnell  
1177 Spruce Street  
Greensburg, PA 15601

**Joan O'Leary**

---

**From:** HER Amendment5 <heramendment5@noaa.gov>  
**Sent:** Tuesday, June 05, 2012 2:19 PM  
**To:** Rachel A. Neild; Joan O'Leary  
**Subject:** Fwd: Comments in support of river herring conservation, Amendment 5 & Amendment 14

----- Forwarded message -----

**From:** Jane <janesrygley@yahoo.com>  
**Date:** Tue, Jun 5, 2012 at 10:15 AM  
**Subject:** Re: Comments in support of river herring conservation, Amendment 5 & Amendment 14  
**To:** HER Amendment5 <heramendment5@noaa.gov>

My comment was obviously from an activist organization but I meant every word of it. Please do whatever you can to end over-fishing.

thank you,

**Jane Srygley**

*None are more hopelessly enslaved than those who falsely believe they are free. ~ Goethe*

**From:** HER Amendment5 <heramendment5@noaa.gov>  
**To:** janesrygley@yahoo.com  
**Sent:** Monday, June 4, 2012 11:13 AM  
**Subject:** Re: Comments in support of river herring conservation, Amendment 5 & Amendment 14

Thank you for your comment on Amendment 5 to the Atlantic Herring Fishery Management Plan.



**Joan O'Leary**

---

**From:** HER Amendment5 <heramendment5@noaa.gov>  
**Sent:** Tuesday, June 05, 2012 2:20 PM  
**To:** Rachel A. Neild; Joan O'Leary  
**Subject:** Fwd: What should be done

----- Forwarded message -----

**From:** **eric olson** <[souljahdnb@gmail.com](mailto:souljahdnb@gmail.com)>  
**Date:** Mon, Jun 4, 2012 at 9:20 PM  
**Subject:** What should be done  
**To:** [HerAmendment5@noaa.gov](mailto:HerAmendment5@noaa.gov)

**The following actions should be approved:**

- **100% observer coverage on Category A and B herring vessels in order to provide reliable estimates of all catch, including bycatch of river herring, cod, haddock, striped bass, bluefish, bluefin tuna, and other marine life (Section 3.2.1.2 Alternative 2).**
- **Closed Area I (CAI) provisions with trip termination after 10 dumping events in order to reduce dumping on Category A and B vessels. Rules must be put in place to make sure that unsampled dumping is not occurring. (Section 3.2.3.4 Alternative 4C)**
- **Prohibit herring midwater trawl vessels from fishing in Groundfish Closed Areas. (Section 3.4.4 Alternative 5)**
- **Implement measures to require weighing of catch across the fishery. (Section 3.5.1 Option 2)**





## Joan O'Leary

---

**From:** HER Amendment5 <heramendment5@noaa.gov>  
**Sent:** Tuesday, June 05, 2012 2:20 PM  
**To:** Rachel A. Neild; Joan O'Leary  
**Subject:** Fwd: Comments in support of river herring conservation, Amendment 5 & Amendment 14

----- Forwarded message -----

**From:** Carol Halberstadt <carol@migrations.com>  
**Date:** Mon, Jun 4, 2012 at 8:01 PM  
**Subject:** Comments in support of river herring conservation, Amendment 5 & Amendment 14  
**To:** [heramendment5@noaa.gov](mailto:heramendment5@noaa.gov)

Dear Mr. Howard,

Dear Regional Managers,

I'm very concerned about the impacts of industrial fishing on river herring.

On behalf of this crucial fish, I ask you to adopt a comprehensive monitoring and bycatch reduction program for river herring, which I'm told are not currently considered in your management of either the Atlantic herring fishery or the Mackerel, Squid, Butterfish fishery. I think it's great that most Atlantic states now ban the catch of river herring in state waters, but it worries me that these efforts are not matched in federal waters. Large-scale fisheries such as these can have major impacts, and should be monitored and managed carefully to minimize impacts to not only river herring, but other species like groundfish. I support your initiative to improve this aspect of both these fisheries.

Specifically, if the monitoring and bycatch reduction program you adopt could include the following, I would be deeply grateful, because life in our waters would benefit enormously. Here's what I'd like to see the New England Fishery Management Council adopt:

- A catch limit, or cap, on the total amount of river herring caught in the Atlantic herring fishery (Section 3.3.5, modified to require immediate implementation of a catch cap).
- 100% at-sea monitoring on all midwater trawl fishing trips in order to provide reliable estimates of all catch, including bycatch of depleted river herring and other marine life (Section 3.2.1.2 Alternative 2).
- An accountability system to discourage the wasteful slippage, or dumping, of catch, including a fleetwide limit of five slippage events for each herring management area, after which any slippage event would require a return to port (Section 3.2.3.4 Option 4D).
- A ban on herring midwater trawling in areas established to promote rebuilding of groundfish populations (Section 3.4.4 Alternative 5).
- A requirement to accurately weigh and report all catch (Section 3.1.5 Option 2).

As for the Mid-Atlantic Fishery Management Council, I encourage you to adopt the following options:

- Inclusion of river herring and shad as stocks within the fishery (Alternative 9b-9e).
- Developing the long-term protections associated with this designation will take time. Therefore, the council should adopt the following interim measure to immediately reduce and limit the at-sea catch of river herring and shad:

- A catch cap, effective in 2013 (Alternative 6b-6c), which functions effectively, does not increase wasteful discarding, and cannot be circumvented by simply declaring into another fishery. These alternatives should be modified to more effectively ensure that directed mackerel fishing stops if a cap is reached by lowering the amount of mackerel that can be fished for, possessed, or retained.

Furthermore, I strongly urge you to incorporate all of the following:

- 100% at-sea monitoring on all midwater trawl fishing trips. One observer must be assigned to each vessel in a pair trawl operation (Alternative 5b4 and Alternative 3d).
- An accountability system to discourage the wasteful dumping of unsampled catch. All catch, including "operational discards," must be made available to fishery observers for systematic sampling (Alternative 3j with operational discards prohibited). If dumping is allowed, include a fleetwide limit of 10 dumping events (Alternative 3l and 3n) and require vessels that dump to take an observer on their next trip (Alternative 3o).
- A requirement to weigh all catch. (Alternative 2c-2f).

Thank you for considering my input, and I look forward to applauding your wise decision.

"But ask now the animals, and they shall teach you; and the birds of the sky, they will tell you. Or speak to the earth and it will teach you; and the fishes of the sea shall inform you." (--Job 12:7-8)

For life on Earth,

Sincerely,

Carol Halberstadt  
POB 543  
Newton, MA 02458

June 4, 2012

Paul J. Howard, Executive Director  
New England Fishery Management Council  
50 Water Street  
Newburyport, Massachusetts 01950

Dear Mr. Howard,

As organizations, businesses and individuals that are greatly concerned with the health and sustainability of our fisheries, and the ecosystems that support those fisheries, we write to urge your support for strong protections for river herring in the Atlantic herring fishery.

River herring abundance has dramatically declined along the Atlantic coast, including in New Hampshire, where the number of fish returning to the Taylor, Oyster and Exeter Rivers are at historically low levels. While many factors have led to this decline, we are particularly concerned about the lack of effective protection for these fish in ocean waters, particularly beyond three miles of the coast. According to the Northeast Fisheries Science Center, approximately four million river herring are incidentally caught each year, with the majority caught by single and pair mid-water trawl vessels fishing for Atlantic herring and mackerel.

Our organizations and the members we represent are committed to the conservation and sustainable harvest of river herring in New Hampshire. The New Hampshire Fish and Game Department and New Hampshire Department of Environmental Services, in collaboration with watershed organizations and other stakeholders, are currently working to remove dams, restore fish passage, and improve the health of rivers to promote the recovery of river herring and other diadromous fish. In addition, New Hampshire has developed and implemented river-specific harvest plans, approved by the Atlantic States Marine Fisheries Commission, to maintain a sustainable and successful river herring fishery.

To complement these efforts – and similar efforts in other Atlantic coast states – we respectfully request that the Council implement a plan that effectively monitors and limits the incidental capture of river herring in waters under your jurisdiction. Specifically we ask that you approve the following management measures in Amendment 5 to the Atlantic Herring Fishery Management Plan:

- 100% monitoring on all single and pair mid-water trawlers to collect reliable and accurate data on all catch.
- Immediate implementation of a river herring catch cap.
- A limit on the dumping or release of catch before it can be sampled by an independent observer (five released catch events per management area).
- A requirement to weigh all landed catch.

We thank you for the work that you, your staff and the Council do protect and restore sustainable fisheries and urge you to take this opportunity to do the same for river herring.

Sincerely,

Peter Wellenberger  
Great Bay-Piscataqua WATERKEEPER  
Conservation Law Foundation  
Durham, New Hampshire

Michael J. Bartlett  
President  
Audubon Society of New Hampshire  
Concord, New Hampshire

Rep. Derek Owen  
President  
Citizens for a Future New Hampshire  
Hopkinton, New Hampshire

Caroline Snyder, Ph.D.  
Chair  
Citizens for Sludge-Free Land  
North Sandwich, New Hampshire

Ben Steele  
Professor and Chair  
Department of Natural Sciences  
Colby-Sawyer College  
New London, New Hampshire

Jessica O'Hare  
Environment New Hampshire  
Concord, New Hampshire

Josh Arnold  
Coordinator  
Global Awareness Local Action  
Ossipee, New Hampshire

Mitch Kalter  
President  
Great Bay Trout Unlimited  
Dover, New Hampshire

Sharon Meeker  
Lamprey Rivers Advisory Committee Wild &  
Scenic Rivers Program  
Lee, New Hampshire

Sarah Brown  
Project Director  
Green Alliance  
Portsmouth, New Hampshire

Beth Flagler  
New Hampshire Rivers Council  
Concord, New Hampshire

Wendy Lull  
President  
Seacoast Science Center  
Rye, New Hampshire

Peter Egelston  
President  
Smuttynose Brewing Co.  
Portsmouth Brewery  
Portsmouth, New Hampshire

Roy Morrison  
Director  
Sustainability Department  
Southern New Hampshire University  
Manchester, New Hampshire

Dr. Thomas Lee, Ph.D.  
Professor of Marine Biology (ret.)  
St. Anselm College  
Goffstown, New Hampshire

Roger Burkhart, Reverend  
The United Church of Christ  
Milton, New Hampshire

Dr. William Burgess Leavenworth, Ph.D.  
Historical Marine Ecologist  
University of New Hampshire

Jean Eno  
Project Director  
Winnicut River Watershed Coalition  
North Hampton, Stratham & Greenland, New  
Hampshire

cc: Doug Grout, Chief, NH Fish & Game Department  
Cherri Patterson, Supervisor, NH Fish & Game Department

June 4, 2012

Captain Paul J. Howard  
Executive Director  
New England Fishery Management Council  
50 Water Street  
Newburyport, MA 01950

Dear Capt. Howard:

The undersigned organizations – representing a broad range of conservation groups, watershed associations, anglers, and recreational enthusiasts working to protect and restore Long Island Sound and its tributaries – urge the New England Fishery Management Council (NEFMC) adopt the strongest possible protections for river herring in the Atlantic herring fishery.

Long Island Sound's rivers and waterways once supported prolific runs of alewife and blueback herring, but in recent decades the number of fish returning to rivers each year has dramatically declined, to the point that they are now being considered for listing under the Endangered Species Act<sup>1</sup>. According to the Connecticut Department of Energy and Environmental Protection (DEEP), millions of river herring once returned annually to Connecticut, but environmental officials say that by 2006, only 21 passed the Holyoke Dam on the Connecticut River<sup>2</sup>. According to the Long Island Sound National Estuary Program, herring populations have declined precipitously in all Long Island Sound rivers over the past few decades.<sup>3</sup> Today, their numbers have dwindled to the point that monitoring this spring (between March and May 1, 2012) at 13 coastal rivers, generally considered to be the Sound's most productive herring river runs, recorded a total number of alewife and blueback herring of less than 500,000.<sup>4</sup>

River herring – both alewife and blueback herring – are a key component of the food web of the Sound. Not only are they critical forage food for our major Sound game fish – striped bass and blue fish – but a wide array of coastal birds and other wildlife feed on a combination of adult or young herring.

For these reasons, our organizations, in collaboration with the Connecticut DEEP and the New York Department of Environmental Conservation, have worked diligently to open rivers and streams that feed into the Sound, with substantial success. This public-private partnership has already opened up more than 150 miles of valuable freshwater spawning habitat that was previously blocked by dams. In addition, we continue to support the State of New York's exploration, and the State of Connecticut's continued renewal, of a moratorium on river herring harvest in the Sound. While we do everything we can to open up more breeding habitat and conserve herring in our coastal areas, this alone is not enough. We know our herring spend most of their adult life in the north Atlantic. Therefore, their

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<sup>1</sup> NOAA Release, November 1, 2011, announcing consideration of listing river herring under ESA

<sup>2</sup> CT DEEP Press Release of April 3, 2012, announcing continuation of ban on river herring harvest.

<sup>3</sup> Long Island Sound Study, *Sound Update*, May/June 2009

<sup>4</sup> CT DEEP, Weekly Diadromous Fish Report, May 1, 2012

recovery is dependent on your Council providing strong protections for herring throughout this north Atlantic area.

We believe that ocean bycatch is a significant concern, a finding that was recently confirmed by the 2012 River Herring Stock Assessment and Peer Review. Data obtained by the Northeast Fisheries Observer Program shows that between 2 and 5 million alewife and blueback herring were caught annually between 2005 and 2010, with the majority taken in the single and paired midwater trawl fishery for Atlantic herring in New England<sup>5</sup>. In some instances, hundreds of thousands of river herring have been removed in single net tows<sup>6</sup>. Considering that up to a half million river herring can be destroyed by a single net tow, this is the rough equivalent of the total number of river herring monitored this spring passing up 13 of Long Island Sound's most productive rivers.<sup>7</sup> These statistics are alarming and warrant immediate management measures that will promote the conservation and recovery of these species. To this end, we offer the following recommendations to improve monitoring and limit catch of river herring in the Atlantic herring fishery.

**Set a limit on river herring catch:** As mentioned above, the recent stock assessment concluded that ocean catch of river herring can be substantial; amounting to millions of fish caught each year. As a federally-listed species of concern and candidates for listing under the Endangered Species Act, river herring should be given the strongest protections possible, including setting a limit in the next fishing year.

**Support 100% monitoring on all midwater trawl vessels:** Single and pair midwater trawling for herring has raised serious concerns in the region due to their enormous catching capacity and potential impacts to depleted river herring and the overall health and productivity of the marine ecosystem. Comprehensive catch monitoring, including a requirement for scientific observers on all midwater trawlers, will greatly enhance data collection and lead to better estimates of all catch, including bycatch of river herring.

**Strengthen accountability on dumping of unmonitored catch:** The dumping of unobserved catch (i.e., release or slipping catch at sea) should be minimized to the maximum extent practicable to support accurate sampling and catch reporting. Herring vessels should be required to make all catch available for sampling by an observer. Strong accountability measures, such as limiting the fleet to five slipped catch events per management area, should be adopted as a disincentive to dumping catch at sea.

**Require weighing and reporting of all catch:** All catch delivered to port should be weighed and independently verified to ensure accurate reporting and assessment of bycatch.

If you have any questions or comments about the substance of these comments, do not hesitate to contact Curt Johnson at 203 787 0646. We appreciate your consideration of our concerns and thank you for your continued leadership and commitment to the sustainable management and conservation of our State's natural resources.

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<sup>5</sup> River Herring Benchmark Assessment Report, May 2012

<sup>6</sup> Data obtained from the Northeast Fisheries Observer Program

<sup>7</sup> CT DEEP, Weekly Diadromous Fish Report, May 1, 2012

Sincerely,

Curt Johnson  
Program Director  
Save the Sound, a program of Connecticut Fund  
for the Environment  
New Haven, CT

Margaret Miner  
Executive Director  
Rivers Alliance of CT  
Litchfield, CT

Adrienne Esposito  
Executive Director  
Citizens Campaign for the Environment  
New York & Connecticut

Sandy Breslin  
Director of Governmental Affairs  
Audubon Connecticut  
Greenwich, CT

Albert E. Caccese  
Executive Director  
Audubon New York  
Albany, NY

Carol DiPaolo  
Executive Director  
Coalition to Save Hempstead Harbor  
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Environment Connecticut  
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Patricia Aitken  
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Friends of Oyster Bay  
Oyster Bay, NY

Lynn Werner  
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Jennifer E. Herring  
President and CEO  
The Maritime Aquarium  
Norwalk, CT

Jack Stoecker  
President  
Mianus River Watershed Council  
Greenwich, CT

Robert Gregorski  
President  
Naugatuck River Watershed Association  
Naugatuck, CT

Kevin Zak  
President  
Naugatuck River Revival Group  
Naugatuck, CT

Bill Duesing, Executive Director  
Northeast Organic Farming Association,  
Connecticut Chapter  
Stevenson, CT

Rep. Mary Mushinsky  
Science Educator  
Quinnipiac River Watershed Association  
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Litchfield, CT

Bernie Noonan  
Connecticut Watershed Conservation Network  
East Hampton, CT

Martha Smith  
Connecticut Watershed Conservation Network  
New Haven, CT

Russell Dirienzo  
Selectman and Chairman  
Inland Wetlands and Watercourses Commission  
Roxbury, CT

Marianne Corona  
Member  
Coginchaug WHP Implementation Committee &  
Middlefield Inland Wetlands and Watercourses  
Commission  
Middlefield, CT

Herb Gram  
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Long Island Sound Assembly Regional Council  
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Project Oceanology  
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Representative to Saugatuck Watershed  
Partnership  
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Roxbury Conservation Commission  
Roxbury, CT

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Don Watson  
Trumbull Conservation Commission  
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Gaboury Benoit  
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New Haven, CT

Steve Gangi  
Wetlands Commissioner, Town of Branford  
Branford, CT

CC:

Director David G. Simpson, Marine Fisheries Division, Connecticut DEEP  
Mark Alexander, Supervising Fisheries Biologist, Connecticut DEEP  
Doug Grout, Herring Committee Chair, NEFMC



## Joan O'Leary

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**From:** HER Amendment5 <heramendment5@noaa.gov>  
**Sent:** Tuesday, June 05, 2012 2:22 PM  
**To:** Rachel A. Neild; Joan O'Leary  
**Subject:** Fwd: Herring Amendment V

----- Forwarded message -----

**From:** **Pat Sadr** <pat.sadr@gmail.com>  
**Date:** Mon, Jun 4, 2012 at 1:14 PM  
**Subject:** Herring Amendment V  
**To:** [HerAmendment5@noaa.gov](mailto:HerAmendment5@noaa.gov)

To the Committee ruling on Herring Regulations Amendment V,

The following actions should be approved:

- 100% observer coverage on Category A and B herring vessels in order to provide reliable estimates of all catch, including bycatch of river herring, cod, haddock, striped bass, bluefish, bluefin tuna, and other marine life (Section 3.2.1.2 Alternative 2).
- Closed Area I (CAI) provisions with trip termination after 10 dumping events in order to reduce dumping on Category A and B vessels. Rules must be put in place to make sure that unsampled dumping is not occurring. (Section 3.2.3.4 Alternative 4C)
- Prohibit herring midwater trawl vessels from fishing in Groundfish Closed Areas. (Section 3.4.4 Alternative 5)
- Implement measures to require weighing of catch across the fishery. (Section 3.5.1 Option 2)

**From:**  
Patrick Sadr  
Concerned Fisherman



## Joan O'Leary

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**From:** HER Amendment5 <heramendment5@noaa.gov>  
**Sent:** Tuesday, June 05, 2012 2:23 PM  
**To:** Rachel A. Neild; Joan O'Leary  
**Subject:** Fwd: CONSERVE river herring conservation. Info on Amendments 5 and 14.

----- Forwarded message -----

**From:** **Glen Anderson** <glen@olywa.net>  
**Date:** Mon, Jun 4, 2012 at 12:20 PM  
**Subject:** CONSERVE river herring conservation. Info on Amendments 5 and 14.  
**To:** [heramendment5@noaa.gov](mailto:heramendment5@noaa.gov)

Dear Mr. Howard,

Dear Regional Managers,

Industrial fishing is DESTROYING the sustainability of river herring.

I call upon you to adopt a comprehensive monitoring and bycatch reduction program for river herring.

Currently you are failing to address this serious concern.

When you manage the Atlantic herring fishery and the Mackerel, Squid, Butterfish fishery, I URGE YOU TO PROTECT RIVER HERRING.

Most Atlantic states prohibit catching river herring in state waters, but I CALL UPON YOU TO PROTECT RIVER HERRING IN FEDERAL WATERS TOO.

Specifically, if the monitoring and bycatch reduction program you adopt could include the following, I would be much obliged. Here's what I'd like to see the New England Fishery Management Council adopt:

- A catch limit, or cap, on the total amount of river herring caught in the Atlantic herring fishery (Section 3.3.5, modified to require immediate implementation of a catch cap).
- 100 percent at-sea monitoring on all midwater trawl fishing trips in order to provide reliable estimates of all catch, including bycatch of depleted river herring and other marine life (Section 3.2.1.2 Alternative 2).
- An accountability system to discourage the wasteful slippage, or dumping, of catch, including a fleet-wide limit of five slippage events for each herring management area, after which any slippage event would require a return to port (Section 3.2.3.4 Option 4D).
- A ban on herring mid-water trawling in areas established to promote rebuilding of groundfish populations (Section 3.4.4 Alternative 5).
- A requirement to accurately weigh and report all catch (Section 3.1.5 Option 2).

As for the Mid-Atlantic Fishery Management Council, I encourage you to adopt the following options:

- Inclusion of river herring and shad as stocks within the fishery (Alternative 9b-9e).
- Developing the long-term protections associated with this designation will take time. Therefore, the council should adopt the following interim measure to immediately reduce and limit the at-sea catch of river herring and

shad:

- A catch cap, effective in 2013 (Alternative 6b-6c), that functions effectively, does not increase wasteful discarding, and cannot be circumvented by simply declaring into another fishery. These alternatives should be modified to more effectively ensure that directed mackerel fishing stops if a cap is reached by lowering the amount of mackerel that can be fished for, possessed, or retained.

Furthermore, I strongly urge you to incorporate all of the following:

- 100 percent at-sea monitoring on all mid-water trawl fishing trips. One observer must be assigned to each vessel in a pair trawl operation (Alternative 5b4 and Alternative 3d).
- An accountability system to discourage the wasteful dumping of unsampled catch. All catch, including "operational discards," must be made available to fishery observers for systematic sampling (Alternative 3j with operational discards prohibited). If dumping is allowed, include a fleet-wide limit of 10 dumping events (Alternative 3l and 3n) and require vessels that dump to take an observer on their next trip (Alternative 3o).
- A requirement to weigh all catch. (Alternative 2c-2f).

Thank you for considering my input, and I look forward to applauding your wise decision.

Sincerely,

Glen Anderson  
5015 15th Ave SE  
Lacey, WA 98503

**Joan O'Leary**

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**From:** HER Amendment5 <heramendment5@noaa.gov>  
**Sent:** Tuesday, June 05, 2012 2:23 PM  
**To:** Rachel A. Neild; Joan O'Leary  
**Subject:** Fwd: Comments in support of river herring conservation, Amendment 5 & Amendment 14

----- Forwarded message -----

**From:** **Jill Brotman** <jrbrotman@msn.com>  
**Date:** Mon, Jun 4, 2012 at 11:57 AM  
**Subject:** Comments in support of river herring conservation, Amendment 5 & Amendment 14  
**To:** [heramendment5@noaa.gov](mailto:heramendment5@noaa.gov)

Dear Mr. Howard,

Dear Regional Managers,

I'm very concerned about the impacts of industrial fishing on river herring.

I would very much appreciate it if you would adopt a comprehensive monitoring and bycatch reduction program for river herring, which I'm told are not currently considered in your management of either the Atlantic herring fishery or the Mackerel, Squid, Butterfish fishery. I think it's great that most Atlantic states now ban the catch of river herring in state waters, but it worries me that these efforts are not matched in federal waters. Large scale fisheries such as these can have major impacts, and should be monitored and managed carefully to minimize impacts to not only river herring, but other species like groundfish. I support your initiative to improve this aspect of both these fisheries.

Thank you for considering my input, and I look forward to applauding your wise decision.

Sincerely,

Jill Brotman  
2075 Coventry Road  
Cleveland Heights, OH 44118

