

Atlantic States Marine Fisheries Commission

Shad & River Herring Management Board

February 7, 2012
10:45 a.m. – 12:45 p.m.
Alexandria, VA

Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1. Welcome/Call to Order (*M. Duval*) 10:45 a.m.
2. Board Consent 10:45 a.m.
 - Approval of Agenda
 - Approval of Proceedings from November 10, 2011
3. Public Comment 10:50 a.m.
4. Consider approval of Amendment 3 American Shad Sustainable Fishery Plans **Action** 10:55 a.m.
 - Technical Committee Report (*L. Miller*)
5. Consider Approval of 2012 American shad bycatch request **Action** 11:05 a.m.
 - Technical Committee Report (*L. Miller*)
6. Update on River Herring Bycatch Avoidance Project by the Sustainable Fisheries Coalition, School of Marine Science and Technology and Massachusetts Division of Marine Fisheries collaborative project (*D. Bethoney*) 11:10 a.m.
7. Review and Discuss NEFMC Draft Amendment 5 (*L. Steele*) **Action** 11:40 a.m.
8. Review and Discuss MAFMC Draft Amendment 14 Timeline (*K. Taylor*) 12:30 p.m.
9. Review and Populate Committee on Economics and Social Sciences Membership (*K. Taylor*) **Action** 12:35 p.m.
10. Election of Vice-Chair **Action** 12:40 p.m.
11. Other Business/Adjourn 12:45 p.m.

The meeting will be held at the Crowne Plaza Hotel, 901 North Fairfax Street, Alexandria, Virginia; 703-683-6000

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

MEETING OVERVIEW

Shad & River Herring Management Board Meeting
February 7, 2012
10:45 a.m. – 12:45 p.m.
Alexandria, VA

Chair: Michelle Duval (NC) Assumed Chairmanship: 02/12	Technical Committee Chair: Larry Miller (USFWS)	Law Enforcement Committee Representative: Bridi/Thumm
Vice Chair: Vacant	Advisory Panel Chair: Pam Lyons Gromen	Previous Board Meeting: November 10, 2011
Voting Members: ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, DC, PRFC, VA, NC, SC, GA, FL, NMFS, USFWS (19 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from November 10, 2011

3. Public Comment – At the beginning of the meeting public comment will be taken on items not on the agenda. Individuals that wish to speak at this time must sign-in at the beginning of the meeting. For agenda items that have already gone out for public hearing and/or have had a public comment period that has closed, the Board Chair may determine that additional public comment will not provide additional information. In this circumstance the Chair will not allow additional public comment on an issue. For agenda items that the public has not had a chance to provide input, the Board Chair may allow limited opportunity for comment. The Board Chair has the discretion to limit the number of speakers and/or the length of each comment.

4. Shad Sustainable Fishing Plan Review (10:55 – 11:05 a.m.) Action
<p>Background</p> <ul style="list-style-type: none"> • The Board approved Amendment 3 (American Shad) at the Winter 2010 Meeting. Under Amendment 3 states and jurisdictions were required to submit a sustainable fishing and recovery plans by August 1, 2011. Fisheries without an approved plan in place (with the exception of catch and release fisheries) are to close by January 1, 2013. • At the 2011 Annual Meeting the Board approved plans from South Carolina and Florida. • The following states or jurisdictions submitted fishing/recovery plans for American shad: Georgia, PRFC, Delaware River Cooperative, Massachusetts and New York. The following states or jurisdictions submitted American shad recovery plans: Maryland, Delaware, New Hampshire, DC and Pennsylvania. (Briefing CD). • The TC met to review the plans in January 2012.
<p>Presentations</p> <ul style="list-style-type: none"> • Technical Committee Report by L. Miller
<p>Board actions for consideration at this meeting</p> <ul style="list-style-type: none"> • Discuss and Consider Approval of American shad Sustainable FMPs

5. Review and Consider 2012 Shad Bycatch Request (11:05 – 11:10 a.m.) Action
<p>Background</p> <ul style="list-style-type: none"> The Potomac River Fisheries Commission requests an increase in their commercial by-catch allowance of American shad beginning in 2012. The restoration benchmark in the Potomac River, as set in the 2007 American Shad Stock Assessment, was exceeded for the first time in 2011. The request was preliminarily approved at the 2011 Annual Meeting, pending further revisions requested by the Technical Committee (Briefing CD).
<p>Presentations</p> <ul style="list-style-type: none"> Technical Committee Report by L. Miller
<p>Board actions for consideration at this meeting</p> <ul style="list-style-type: none"> Approval of bycatch proposal from PRFC

6. Update on River Herring Bycatch Avoidance Project (11:10 - 11:40 a.m.)
<p>Background</p> <ul style="list-style-type: none"> In order to minimize unintended bycatch of river herring and shad (alosine) in the Atlantic herring and mackerel fisheries the Sustainable Fisheries Coalition (SFC) has partnered with the Massachusetts Division of Marine Fisheries (MA DMF) and the University of Massachusetts Dartmouth School of Marine Science and Technology (SMASST) to develop alosine bycatch avoidance methods. This collaboration seeks to develop (1) a predictive model of where alosines are likely to occur in space and time, (2) a real-time bycatch avoidance intra-fleet communication system, and (3) additional support for port sampling to inform the initiative.
<p>Presentations</p> <ul style="list-style-type: none"> Sustainable Fisheries Coalition, School of Marine Science and Technology and Massachusetts Division of Marine Fisheries collaborative project by D. Bethoney

7. Review and Discuss NEFMC Draft Amendment 5 (11:40 a.m. – 12:30 p.m.) Action
<p>Background</p> <ul style="list-style-type: none"> Amendment 5 management alternatives include options to mitigate and monitor shad and river herring bycatch in the Atlantic herring fishery (Briefing CD). The New England Fishery Management Council (NEFMC) is on schedule to submit a Draft Environmental Impact Statement to NMFS in late January/early February 2012 and the 45-day public comment period is likely to open in late February 2012. The Board will not meet during the public comment period for Amendment 5 if the current schedule holds. The most recent version of Amendment 5 is the September 2011 draft. NEFMC staff has indicated that the management measures will not change significantly from the September 2011 version. Accordingly, the Board can select preferred alternatives for ASMFC staff to compile and submit when the public comment period opens.
<p>Presentations</p> <ul style="list-style-type: none"> Draft Amendment 5 by L. Steele
<p>Board actions for consideration at this meeting</p> <ul style="list-style-type: none"> Select preferred alternatives on Draft Amendment 5 Action

8. Review and Discuss MAFMC Draft Amendment 14 Timeline (12:30 – 12:35 p.m.)**Background**

- The Mid-Atlantic Fisheries Management Council approved a motion to address river herring bycatch in the Amendment 14 to the Mackerel, Squid and Butterfish (MSB) Fisheries at the MAFMC August 2009 Meeting. The Council approved the DEIS for Submission to NMFS with the preferred alternatives at the October 2011 Council Meeting. Public hearings are expected in Spring 2012, with final implementation in 2013.
- It is expected that the public comment period will fall within the ASMFC May 2012 Board meeting.

Presentations

- Update on Draft Amendment 14 timeline by K. Taylor

9. Review and Populate Committee on Economics and Social Sciences Committee (12:35 p.m. – 12:40 p.m.) Action**Background**

- The Committee on Economics and Social Sciences has recommended Dr. Winnie Ryan be appointed as the social scientist representative to the Plan Development Teams and Technical Committees for Shad & River Herring.

Presentations

- Nominations by K. Taylor

Board actions for consideration at this meeting

- Approve Dr. Ryan to the CESS Action

9. Election of Vice-Chair**10. Other Business/Adjourn**



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

MEMORANDUM

January 13, 2012

TO: Atlantic Menhaden Management Board; Shad and River herring Management Board; Summer flounder, Scup, Black sea bass Management Board; Weakfish Management Board

FROM: Melissa Paine, CESS Coordinator

SUBJECT: Recommendation for CESS Representatives to Plan Development Teams and Technical Committees

The Committee on Economics and Social Sciences (CESS) has recommended the following individuals be appointed as the economist or social scientist representative to the Plan Development Teams and Technical Committees for the following species.

Atlantic menhaden	Dr. Peter Schuhmann	Economist
Shad and River herring	Dr. Winnie Ryan	Social scientist
Summer flounder, Scup, Black sea bass	Dr. José L. Montañez	Economist
Weakfish	Mr. Manoj Shivlani	Social scientist

Dr. Peter Schuhmann is a Professor in the Department of Economics and Finance, at the University of North Carolina, Wilmington. His research interests are in fisheries policy analysis, recreation demand, discrete choice models for non-market valuation of environmental amenities and natural resources, welfare analysis of local and regional environmental issues, bioeconomic modeling, and natural resource damage assessment.

Dr. Winnie Ryan received her PhD from the Virginia Institute of Marine Science, College of William and Mary. Her research focuses on social impact assessment in fisheries and closed area management.

Dr. José L. Montañez is an economist on staff at the Mid-Atlantic Fishery Management Council and is the assistant coordinator for Summer flounder, Scup and Black sea bass.

Mr. Manoj Shivlani is the Program Manager at the Center for Independent Experts. He is pursuing his PhD on the impacts of non-fishery factors on the persistence of commercial fishing communities in the Florida Keys.

Curriculum vitae can be made available if desired.

M12-08

David Bethoney
SMAST
508-910-6386
nbethoney@umassd.edu

SFC/SMAST/DMF River Herring Bycatch Avoidance Project: **Updated 1/2012**

Sustainable Fisheries Coalition (SFC) members account for the majority of US landings of Atlantic herring and mackerel. River herring species are also encountered in these directed fisheries. Minimizing unintended bycatch has been a goal of SFC members since fisheries managers alerted the industry in 2006 that the river herring species complex was depressed. To help achieve this goal the SFC has joined with the Massachusetts Division of Marine Fisheries (MA DMF) and the University of Massachusetts Dartmouth School of Marine Science and Technology (SMAST) to develop river herring and American shad (alosine) bycatch avoidance methods. This collaboration seeks to develop (1) a predictive model of where alosines are likely to occur in space and time, (2) a real-time bycatch avoidance intra-fleet communication system, and (3) additional support for port sampling to inform the initiative.

The project will test if oceanographic features can be used to indicate areas with a high probability of large catches alosines. The project will use the National Marine Fisheries Service (NMFS) bottom trawl dataset (2000-2009) to build associations between catch at sea and environmental parameters. The analysis will be restricted to south of Cape Cod, MA during the winter because it is the region and time where the NMFS bottom trawl survey and the mid-water trawl fishery overlap, where the most alosine bycatch occurs, and reduces seasonal and regional factors. Catch at sea of alewife, blueback herring, American shad, Atlantic herring, and Atlantic mackerel will be classified as binary variables (presence/absence or a threshold amount). In-situ measurements of sea surface temperature, bottom temperature, surface salinity, bottom salinity and depth will be tested for a correlation with catch. The goal is to identify which variables can be used to identify areas likely to have alosines but not target species or vice-versa. To test the strength of this analysis the Northeast Fisheries Observer Program (NEFOP) mid-water trawl dataset will be used to test associations or areas with predicted high bycatch to at sea observations. Environmental data from the Finite-Volume Community Ocean Model (FVCOM) system will be linked to the NEFOP dataset using the using a stepwise process within ArcGIS 10. FVCOM is a verified prognostic coastal ocean circulation model that incorporates realistic time-dependent temperature projections and can identify oceanographic conditions on a daily basis.

The project relies on near real-time communication between fishing vessels, MA DMF and SMAST to circulate information regarding alosine hotspots and to relay this information to captains before and during their trips. These communication systems are ongoing, expanding, and adaptive but the methods and results of two completed communication systems are described in the following sections.

The first system was implemented during the 2011 winter mid-water trawl fishery (January through March) over an approximately 60x70 nm area off the coast of New Jersey identified as a high bycatch area by historic MA DMF port sampling, NEFOP data and the Atlantic herring

Amendment 5 draft. Bycatch information in this area was accessed and shared with captains using a coded, grid system of smaller cells approximately 5x8 nm (10' longitude x 5' latitude) (Figure 1).

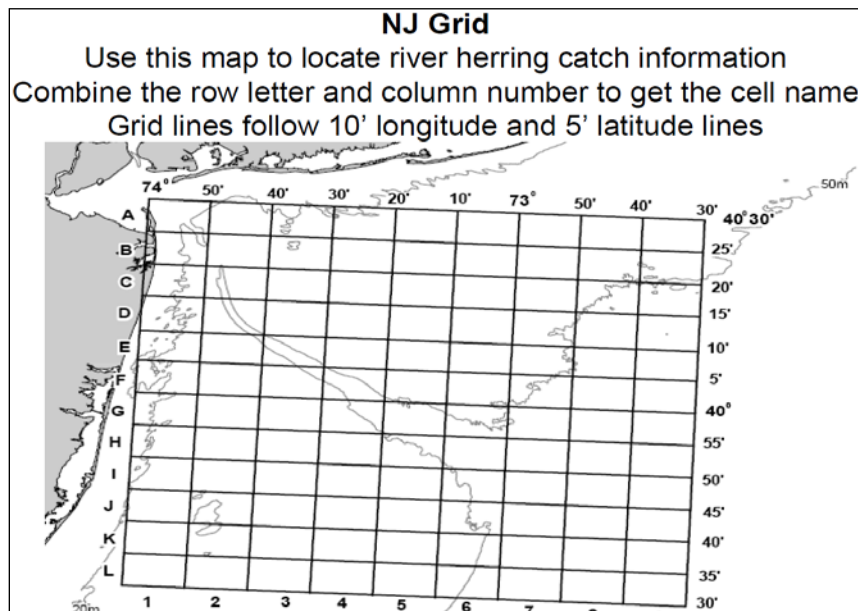


Figure 1. Grid distributed to captains and used to communicate bycatch information.

Catch composition was compiled through the MA DMF port sampling program which relied on electronic communications from captains and onshore managers that identified the location and time of vessel landings and departure. The program sampled just under 50% of all mid-water fishing trips landing in Massachusetts during the winter fishery and was an efficient and accurate method to gather bycatch data. While at sea captains of participating vessels completed MA DMF tow logs (Figure 2). Although the completed logs gave tow by tow information the resolution of catch composition was trip level. Communication with the NEFOP was critical in identifying individual tows with alosines. The NEFOP has also agreed to share logs of trips with alosine bycatch with MA DMF/SMASST in a timely manner (about 5 days).

FOR OFFICE USE ONLY:
 VV _____ Date Land _____ Trip Date: Row # _____ Title _____ Entered by: _____ on _____ (Trip Info: Date _____ 1 Pk _____)

Marine Fisheries
 Commonwealth of Massachusetts

River Herring Bycatch Avoidance
 NFWF Grant

MA DMF Trip Log

*To be filled out for EVERY mid-water trawl trip targeting herring or mackerel.

Vessel Name _____	Target Species _____	Date Sailed _____
Area(s) Fished: 1A / 1B / 2 / 3 _____	Observer Onboard: Y / N _____	Date Landed _____
Port Landed _____	Haul Weight _____	Sampled by DMF: Y / N _____

Trip start notification email sent via boatracks to SEA.HERRING@STATE.MA.US containing:

- Target Species
- Observer Onboard: Y / N
- Intended Landing Port

Tow Information – This information will complement the Observer logs and provide data essential to assessing River Herring interactions through dockside sampling.

Tow #	Tow Location (Lat/Long)	Grid ID	Grid Cell #	Tow Date/Start Time	Tow Duration	BSW Tank #	Approx. Weight
1							
2							
3							
4							
5							
6							

When headed to port:

Landing notification email sent via boatracks to SEA.HERRING@STATE.MA.US containing:

- Time and Port of Landing
- Haul Weight (trucks, tons or pounds)

Upon Landing:

MA DMF sampler will be collecting the following logs and information:

- State Copy of VTR
- Photocopy of Observers Haul, Catch Composition, Discard and Length Frequency Logs from trip (copies can be made for you by sampler)
- Hard copy of MA DMF Trip Log

⁸If your trip is not being sampled by a DMF sampler it is important that you fill out and retain this log. A DMF sampler will collect all Trip Logs during the next portside sample.

Thank you for completing this worksheet and for your participation. If you would like the results of this portside bycatch sample please ask the sampler and a copy will be made available.

Figure 2. Trip log completed by captains and returned to MA DMF/SMAST upon landing

Based on the pace of the fishery weekly or bi-weekly advisories from SMAST were appropriate. Advisories classified grid cells as either having low, moderate, or high bycatch. Information was not reported for cells without tows and advisories only included cells with information less than 2 weeks old. Cumulative bycatch information was/is available through the SMAST website. Classifications were based on ratio thresholds intended to reduce the frequency of trips with over 2,000kg of alosines. The low incidence, high impact nature of alosine bycatch in the mid-water trawl fishery justifies this goal. From 2000 through September 2010 tows with greater than 2,000kg of alosines accounted for over 80% of NEFOP observed alosine mid-water trawl bycatch by weight despite accounting for only about 10% of the number of tows with 1kg of alosines or more. MA DMF portside sampling data also reflects this pattern on a trip level (Figure 3). For this project MA DMF portside sampling numbers were used to establish the classification thresholds because it was the catch composition information source. Ratio thresholds were used instead of hard numbers to avoid biases created by small tow or trip sizes.

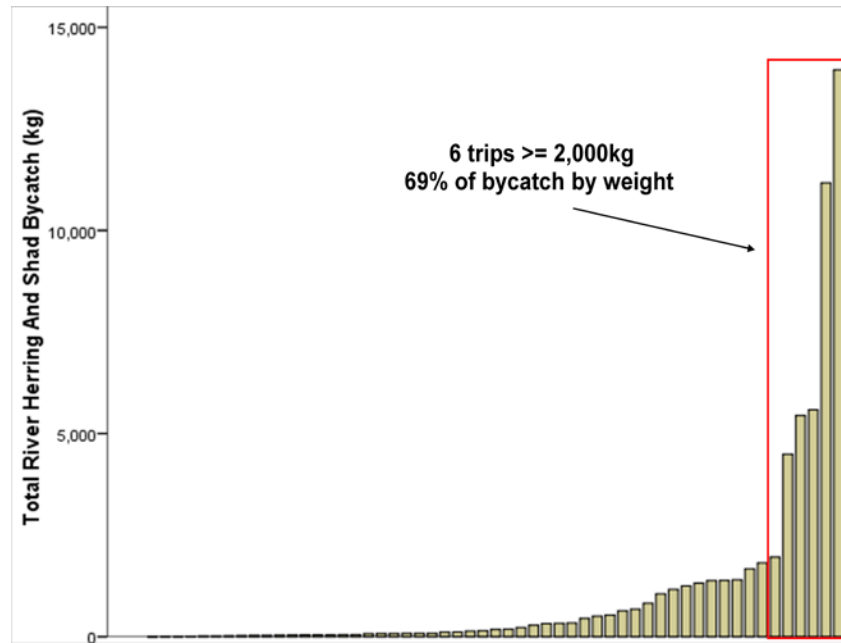


Figure 3. Seventy two mid-water trawl trips sampled by MA DMF portside sampling from May 2008-July 2010. This information was used to set the ratio thresholds used to classify areas as having high, moderate, or low bycatch.

Industry cooperation and the appearance of distinct spatial and temporal bycatch patterns within the avoidance area suggests this system may be effective at reducing alosine bycatch. Due to the number of trips within the avoidance grid, it is impossible to prove statistically from the results of one fishing season that bycatch advisories were not disregarded. However, high levels of cooperation and fishing patterns within the area suggest that advisories were not ignored. Eight of nine targeted vessels voluntarily shared detailed trip and tow information with the MA DMF and SMAST. The purpose of this high level of data sharing was to increase the fleets knowledge of the quantity, location, and timing of bycatch events. This suggests participation would be an unnecessary burden unless the occurrence of bycatch was a concern. The overall behavior of the vessels within the avoidance area also provides evidence of cooperation. Though the shift of effort from the northwest part of the avoidance area to the southeast could be due to the availability target species, the timing of this shift in effort coincides with bycatch advisories and avoidance of a known high bycatch area (Figure 4). In total 5 cells were classified as having high bycatch with only one possibly reentered. Though reentry is not ideal, it does show that target species were present in both the northwest and southeast portions of the avoidance area simultaneously (Figure 4). After the reentry and subsequent advisory, effort was primarily in the low bycatch southeast region but trips were conducted in the cells between the northwest and southeast (row F) that previously had no effort (Figure 4). This suggests the vessels were interested in "filling in" the avoidance grid, possibly to test how far west they could fish while avoiding the high and moderate bycatch cells located in the northwest.

A total of 10 trips and 24 tows occurred in the study area with two tows and one trip classified as having high bycatch. These three events accounted for 75% of alosine bycatch observed by MA DMF port sampling and all occurred between mid-February and mid-March. A high bycatch region (northwest area of grid, above row H) and low bycatch region (southeast,

row H and below) developed within the grid during the winter fishery (Figure 4.). The percentages of effort, target catch, and alosine catch in northwest and southeast regions (75, 75, 97 and 25, 25, 3 respectively) confirm this and also show both areas to be economically viable. Though the timing and exact area of alosine abundance within the study area undoubtedly varies from year to year, these results suggests it is plausible for mid-water trawl vessels to be moved to areas with low alosine bycatch and adequate levels of target species using the scale of this study.

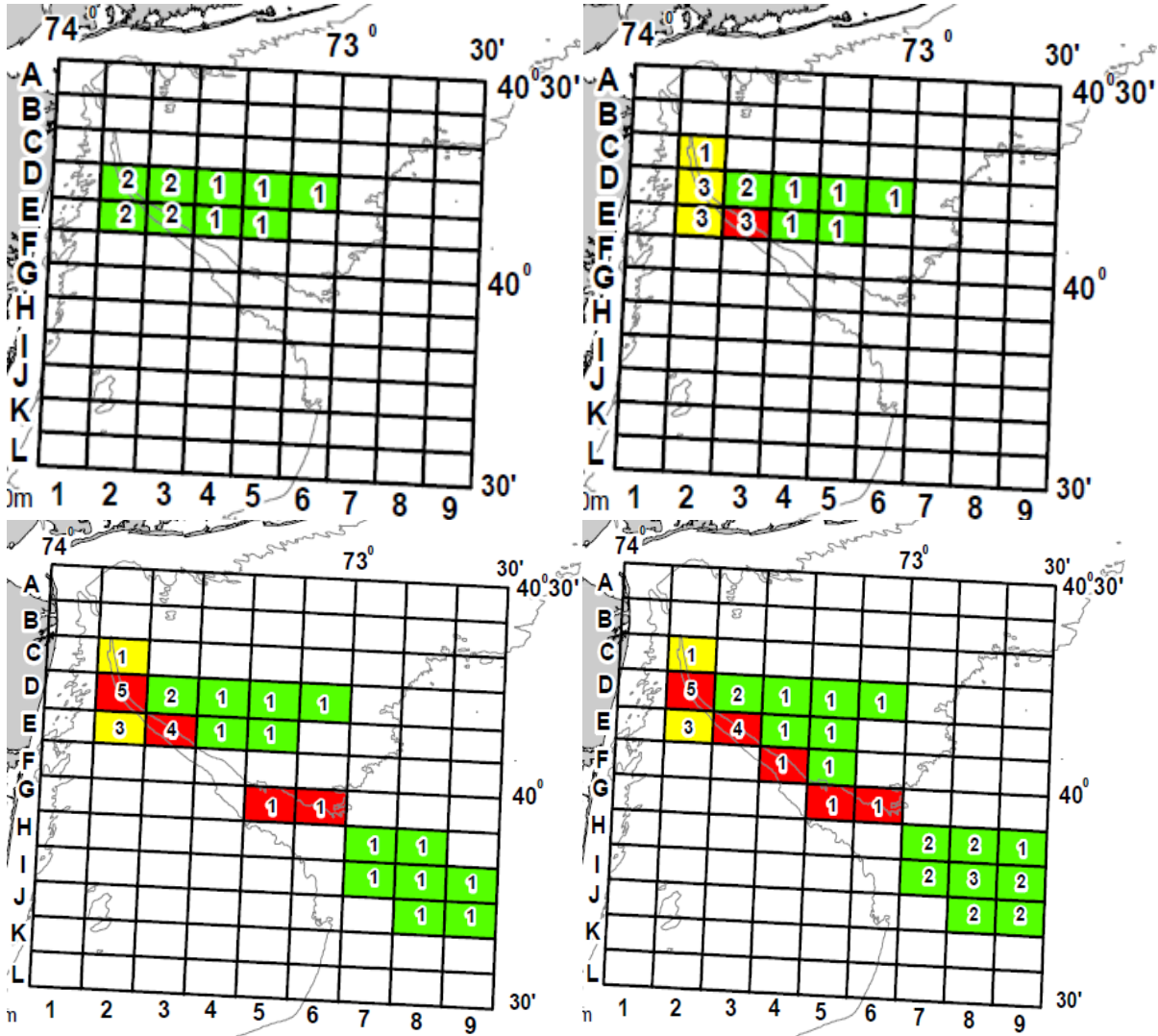


Figure 4. Cumulative bycatch information from 4 different time periods, from top left: 2/1/11, 2/17, 3/2,4/1. Numbers inside cells indicate the number of tows within each cell. Red indicates cells with high alosine bycatch while yellow and green indicate moderate and low respectively.

Using the methods described above, a second avoidance system was implemented during the fall of 2011. This system targeted an area in the Gulf of Maine identified as a high river herring bycatch area (Figure 5). Due to a limited amount of Atlantic herring Total Allowable Catch when this area was opened to mid-water trawl vessels, fishing activity was expected to

occur for approximately two weeks. Information indicating alosine bycatch was unlikely to occur at depths greater than 73m was circulated prior to the launching of the bycatch information system. Initial effort occurred in the northeast part of the grid with low bycatch (Figure 5). This information was shared with the fleet and effort continued there for the remainder of the two-week fishery with little alosine bycatch. The mean tow depth of participating vessels was significantly deeper than 73m (97m, 1-tailed t-test $P=.02$) and greater than in previous years (ANOVA, Tukey Post Hoc $P_s < .01$, except 2009 $P=.43$).

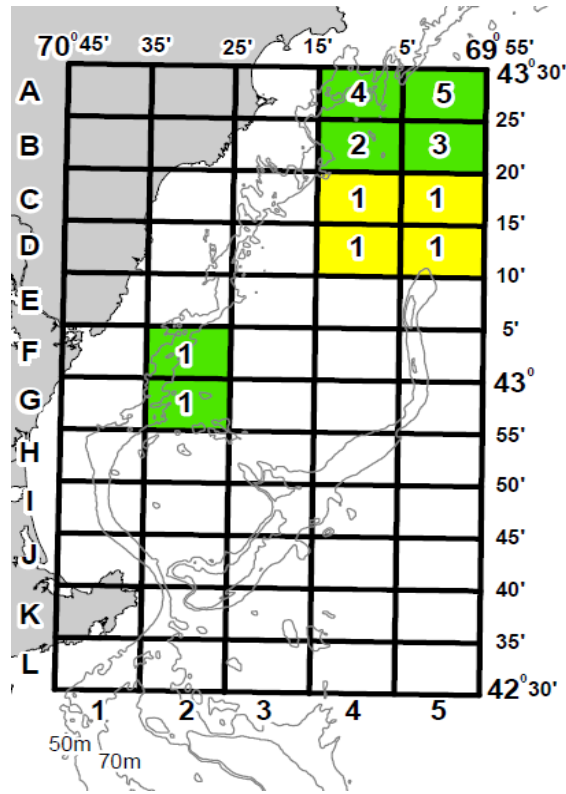


Figure 5. Cumulative bycatch information from fall 2011 avoidance system in the western Gulf of Maine. Numbers inside cells indicate the number of tows within each cell. Red indicates cells with high alosine bycatch while yellow and green indicate moderate and low respectively.



Peter K. Prybot photo

New England Council Readies for Atlantic Herring Public Hearings

• WHY IS THE COUNCIL CHANGING THE HERRING PLAN?

Draft Amendment 5 to the Herring Fishery Management Plan (FMP), which also includes a Draft Environmental Impact Statement (DEIS), has been developed by the New England Fishery Management Council over the course of several years for a number of reasons.

In particular, since the implementation of Herring Amendments 1, 2, and 4, concerns about the fishery have led the Council to determine that additional action is warranted to further address the long-term health of the herring resource, how the resource is harvested, how catch and bycatch in the fishery are accounted for, and the important role of herring as a forage fish in the Northeast.

These concerns have been reflected in the unprecedented level of interest in managing this fishery by New England's commercial and recreational fishermen, eco-tourism and shoreside businesses, and the general public.

The pages in this supplement are intended to serve as a general guide to fishermen, other stakeholders or any member of the public who is interested in the proposed changes to the program currently in place to manage the Atlantic herring fishery.

The overview here closely tracks the order of Volume I to Amendment 5. Numbers next to various elements in this text refer to sections in Volume I. Once completed, anyone looking

for more details should view it online or request a paper copy.

• WHAT IS THE TIMELINE FOR COUNCIL CONSIDERATION OF THE NEW MEASURES AND WHEN WILL THE CHANGES BECOME EFFECTIVE?

The Council plans to take a final vote on the amendment at its April 24-26, 2012 meeting in Mystic, CT. The new rules are expected to be in place by January 1, 2013.

Meanwhile, the amendment and public hearing documents are scheduled to become available in February or March. Public hearings are planned for March. Specific dates and locations for the hearings, including the deadline for comments, will be widely publicized and also posted on the Council website under the Herring Fishery Management Plan at www.nefmc.org.

• WHAT CAN I EXPECT TO FIND IN THE DRAFT AMENDMENT 5 DOCUMENT AND THE DEIS?

The draft amendment document and the DEIS constitute Volume I of this package of rules. It describes in detail the management alternatives under consideration, includes information about all of the components of the ecosystem and fishery that are potentially affected by the measures proposed and evaluates the potential impacts of the management alternatives under consideration.

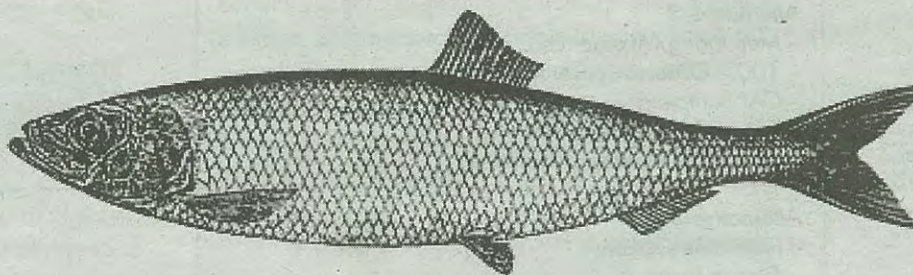
Volume I also addresses the alternatives under consideration with respect to other laws that are applicable to marine fisheries and provides the public and the Council with adequate information about the measures and their impacts to inform decision-making. Volume II contains appendices with background that interested parties may find extremely useful.

• WHICH MEASURES APPLY TO YOU?

The Council intends that the major elements of the catch monitoring program apply to the limited access herring fishery, or the 100 or so Category A/B and Category C vessels that catch more than 99% of Atlantic herring in a given year.

Because the Category A/B boats catch the vast majority of herring (about 97-98%), the Council may evaluate both costs and benefits when determining whether or not Category C

Continued on inside



THIS SUPPLEMENT PROVIDED BY THE NEW ENGLAND FISHERY MANAGEMENT COUNCIL

NEFMC HERRING AMENDMENT 5 OVERVIEW



vessels will be subject to all of the requirements of the catch monitoring program.

Similarly, while Category D vessels (open access) are not being considered in the catch monitoring program, there are other measures that could affect them. The Council is considering an option that would require Category D vessels to adhere to the management measures established in this amendment to address river herring bycatch.

This table summarizes the management measures under consideration, to which vessel categories they apply (or may affect), and the options the Council has to select from when it picks the final measures for Amendment 5. The Council is seeking comments on which permit categories the catch monitoring program and the measures to address river herring bycatch should apply.

PROPOSED MEASURES/ALTERNATIVES	CATEGORY A/B (LA DIRECTED)	CATEGORY C (LA INCIDENTAL)	CATEGORY D (OPEN ACCESS)
SECTION 3.1 – ADJUSTMENTS TO FISHERY MANAGEMENT PROGRAM			
Regulatory Definitions	✓	✓	✓
Administrative/General Provisions	✓	✓	✓
Measures to Address Carrier Vessels	<i>Apply to all carrier vessels regardless of permit category</i>		
Transfer At-Sea Option 2 (A and B Only)	✓	Prohibited	Prohibited
Transfer At-Sea Option 3 (Herring-permitted vessels only)	✓	✓	✓
Trip Notification Requirements (pre-trip and pre-landing)	✓	✓	Only D vessels that use MWT gear and/or qualify for new OA permit for Areas 2/3*
Dealer Reporting Requirements	N/A	N/A	N/A
Changes to OA Provisions for Limited Access Mackerel Vessels in Areas 2/3	N/A	N/A	✓
SECTION 3.2.1 – ALTERNATIVES TO ALLOCATE OBSERVER COVERAGE ON LA VESSELS			
Alternative 2 – 100% Coverage	✓	Proposed	N/A
Alternative 3 – SBRM Coverage as Minimum	✓	Proposed	N/A
Alternative 4 – Coverage based on Council Targets	✓	Proposed	N/A
Additional Measures to Improve Sampling At-Sea	✓	Proposed	N/A
SECTION 3.2.3 – MEASURES TO ADDRESS NET SLIPPAGE			
Option 2 – Released Catch Affidavit	✓	Proposed	N/A
Option 3 – Closed Area I Sampling Provisions	✓	Proposed	N/A
Option 4 – Catch Deduction and Possible Trip Termination	✓	Proposed	N/A
MR Experimental Fishery	✓	Proposed	N/A
SECTION 3.3 – MEASURES TO ADDRESS RIVER HERRING BYCATCH			
Alternative 2 – Monitoring/Avoidance Options – 100% Observer coverage – CAI Sampling – Trigger-Based Monitoring – Two-phase bycatch avoidance	✓	Proposed	Option to include all D permit holders
Alternative 3 – Protection Options – Closed Areas – Trigger-Based Closed Areas	✓	Proposed	Option to include all D permit holders
Section 3.4 – Measures to Address Midwater Trawl Access to Groundfish Closed Areas	<i>Applies to all vessels fishing with midwater trawl gear, regardless of permit category</i>		

Some of the Common Acronyms Used in Amendment 5

CAI – Closed Area I; **CV** – Coefficient of variation*; **DEIS** – Draft Environmental Impact Statement; **EFP** – Experimental Fishery Permit; **FMP** – Fishery Management Plan; **LA** – Limited Access; **LOAs** – Letters of Authorization; **MR** – Maximized Retention; **NEFOP** – Northeast Fishery Observer Program; **OA** – Open Access; **PTNS** – Pre-Trip Notification System; **RH** – River Herring; **SAFIS** – Standard Atlantic Fisheries Information System; **SBRM** – Standard Bycatch Reporting Methodology*; **VMS** – Vessel Monitoring System; **VTRs** – Vessel Trip Reports

***CVs or Coefficients of Variation:** CVs provide a convenient way to compare the relative uncertainty of two estimates (lower is better), but they must be interpreted carefully. Assuming a normal distribution, doubling the CV produces the approximate 95% confidence interval.

For example, a CV of 0.30 for a bycatch estimate (or 30%) means that if the data could be re-sampled or re-collected, the resulting new estimate would be within ± 60% of the original estimate 95% of the time (the other 5% of the time the new estimate would be more than 60% different).

***SBRM: Standard Bycatch Reporting Methodology** Generally, an SBRM can be viewed as the combination of sampling design, data collection procedures, and analyses used to estimate bycatch in multiple fisheries.

Major Alternatives Proposed in Herring Amendment 5

Fishery Management Program Adjustments

Regulatory Definitions

Amendment 5 would establish a regulatory definition of *transfer at sea* and a regulatory definition of *offload* to clarify provisions related to each vessel engaged in transfer operations and to clarify reporting provisions. A single alternative is under consideration, in addition to taking no action.

Defining a herring transfer at sea as: *a transfer from an Atlantic herring vessel (i.e. in the vessel hold or on deck), codend, purse seine to another vessel for personal use as bait, to an Atlantic herring carrier or at-sea processor, or to another permitted herring vessel. Two vessels hauling one codend is pair trawling and is not considered a transfer at sea.*

For the purposes of the Atlantic herring fishery, an offload or "offloading" means to remove, begin to remove, to pass over the rail, or otherwise take fish away from any vessel for sale to either a permitted at-sea Atlantic herring dealer (as defined in the proposed Amendment 5 measures) or a permitted land-based Atlantic herring dealer.

Administrative/General Provisions

Some administrative/general provisions are proposed to address fishing operations involving multiple vessels, as well as vessel monitoring system (VMS) and vessel trip report (VTR) requirements.

These include expanding possession restrictions to all vessels working cooperatively in the Atlantic herring fishery (including purse seine vessels and vessels that transfer herring at-sea); and/or eliminating the VMS "power down" provision for limited access herring vessels; and/or establishing a new at-sea herring dealer permit.

Carrier Vessels

Reporting provisions could be modified to clarify that herring carrier vessels are required to report a National Marine Fisheries Service (NMFS) specified trip identifier (for example, the VTR serial number) from the catcher vessel when the carrier offloads to a dealer.



Peter K. Prybot/CFH photo

Carrier vessels acting as dealers would be required to report the NMFS-specified trip identifier from the catcher vessels in their dealer reports. This measure is intended to improve the reporting of herring transferred at-sea. Amendment 5 would eliminate the VTR reporting requirement for herring carrier vessels when they are engaged in carrying activities.

Letters of Authorization (LOAs) issued by NMFS for the Atlantic herring fishery currently allow an unlimited amount of herring (or the amount allowed by a vessel's herring permit) to be transferred at-sea: a.) from herring catcher vessels to carriers; b.) between federally-permitted herring vessels; and c.) from herring catcher vessels to non-permitted vessels for personal use as bait. The status quo would remain in place under the no action alternative. Two other available options would require or provide for:

- At-sea herring dealer permits for carriers that sell fish at sea; require VMS use on carrier vessels for declaration purposes and eliminate the seven-day LOA enrollment period
- Dual option for carriers; VMS or current

LOA, to accommodate smaller carrier vessels that do not use a VMS.

Transfers at Sea

These measures are intended to minimize transfers at sea and/or standardize reporting requirements for vessels transferring/receiving herring. The two available options are not necessarily independent of each other.

- Allow only vessels participating in the limited access directed fishery for Atlantic herring (Category A or B permits) to transfer herring at sea
- Allow only vessels that possess a federal Atlantic herring permit to transfer herring at sea. Non-permitted vessels would be prohibited from receiving herring at-sea, even for personal use as bait.

Trip Notifications

The Council is proposing to incorporate all limited access vessels and all carrier vessels into the pre-trip notification system (PTNS) for observers. There will be a number of options available to notify the Northeast Fisheries Observer Program (NEFOP).

Reporting for Federally Permitted Dealers

Federally permitted dealers would be required to weigh all fish in all cases. This option could be selected in combination with any one or more of the three sub-options listed below.

- If not sorted by species, require dealers to annually document how the composition of mixed catch is estimated; and/or
- Require dealers to document how the composition of mixed catch is estimated for every landings submission; and/or
- Require dealers to obtain vessel representative confirmation of Standard Atlantic Fisheries Information System (SAFIS) transaction records at the first point of sale.

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NEFMC HERRING AMENDMENT 5 OVERVIEW



Open Access Permit Provisions for Limited Access Mackerel Vessels

These measures are intended to apply to mackerel vessels that possess an open access incidental catch permit for herring. The FMP currently allows these boats to retain up to three metric tons (6,600 pounds) of herring in all management areas.

The purpose of the new measures is to allow these boats to land their herring rather than discard what they catch beyond the current limit. Herring bycatch in this fishery has become an increasing concern as the mackerel fishery expands.

The new proposals would increase the open access possession limit to either 10,000 or 20,000 pounds in areas 2 and 3 for vessels that also have a limited access mackerel permit.

PLEASE NOTE – The Council may determine that mackerel limited access permit holders should be treated differently, depending on their level of activity in both the herring and mackerel fisheries and the type of limited access mackerel permit they may possess.

Catch Monitoring at Sea

Observer Allocations

The alternatives under consideration to allocate observer coverage on limited access herring vessels (Categories A/B/C) are described in the following table. In general, each management alternative includes the following:

- ✓ **Priorities and targets and for allocating coverage;**
- ✓ **A process for reviewing, allocating amounts and prioritizing coverage;**
- ✓ **Options for funding observer coverage; and**
- ✓ **Provisions for using service providers and authorizing waivers in specific circumstances that may prevent deployment of an observer.**

Under all of the alternatives that allocate observer coverage, limited access herring vessels will be required to comply with trip notification provisions and reporting requirements, as modified through the other proposed management measures detailed in Draft Amendment 5.

Improving and Maximizing Sampling at Sea

Q: How does the Council intend to improve sampling at sea?

A: The Council is considering six options to maximize the sampling of catch by NMFS-approved observers on board limited access Atlantic herring vessels (Categories A, B, and C). Besides taking no action, these include:

- **A Safe Sampling Station** Vessel operators would be required to provide at-sea observers

ALTERNATIVES TO ALLOCATE OBSERVER COVERAGE ON LIMITED ACCESS HERRING VESSELS.

Alternative	Priorities/targets for allocating coverage	Process for reviewing/allocating days	Funding	Observer service providers/waivers
Alt 1: No Action: Section 3.2.1.1	Cont. use of SBRM CAI rules and A5 areas and times	No Action	No Action (Federal only, subject to resource limitations and priorities)	N/A, status quo
Alt 2: 100% Observer Coverage Section 3.2.1.2	100% of declared herring trips for A/B/C vessels	No Action No change to the SBRM process, plus additional days required on A/B/C vessels	Option 1: No Action Option 2: Federal and industry funds	Consistent with scallop/groundfish regs; additional option to consider states as service providers; authorization of waivers at discretion of NMFS; Council may specify instances when waivers may/may not be granted
Alt 3: Require SBRM Coverage Levels as a minimum Section 3.2.1.3	SBRM- recommended coverage levels mandated as minimum levels, reprioritizing to shift away from herring fleets CAI rules and A5 areas and times	No Action (SBRM)	Same as Alt 2	Same as Alt 2
Alt 4: Allocate Coverage Based On Council Targets Section 3.2.1.4	30% CV* for haddock/herring and 20% CV on for RH catch estimates for A/B/C vessels CAI rules and A5 areas and times	Option 1: Supplemental NEFSC/SBRM analysis Option 2: Herring PDT supplemental analysis	Same as Alt 2	Same as Alt 2

with a safe sampling station adjacent to the fish deck – this could include a safety harness (if footing is compromised and grating systems are high above the deck), a safe method to obtain samples, and storage space for baskets and sampling gear.

- **Requirements for “Reasonable Assistance”**
Vessel operators would be required to provide at-sea observers with reasonable assistance to enable them to carry out their duties. This could include, but is not limited to obtaining samples and sorted discards. *“Reasonable assistance” may be defined as measuring decks, codends, and holding bins; collecting bycatch when requested by the observers; and/or collecting and carrying baskets of fish when requested by the observers.*
- **Providing Notice** Vessel operators may be required to provide notice to observers when pumping begins, when to allow catch sampling and when pumping is about to end.
- **Requirements for Trips with Multiple Vessels** Observers may be required on any vessel taking on fish wherever/whenever possible, including herring trips involving more than one vessel.
- **Communication on Pair Trawl Vessels**
Additional communication may be required between the boats if fish are being pumped to both vessels.
- **Visual Access to the Net/Codend** Vessel operators required to assist NMFS certified observers in obtaining visual access to the codend (or purse seine bunt) and any of its contents after pumping has ended, before the pump is removed. On trawl vessels, the codend and any remaining contents should be brought on board after pumping. If this is impossible, the vessel operator would be required to work with the observer so s/he can see the codend and its contents as clearly as possible.

Q. Could the Council adopt any or all of these options for enhanced sampling at sea?

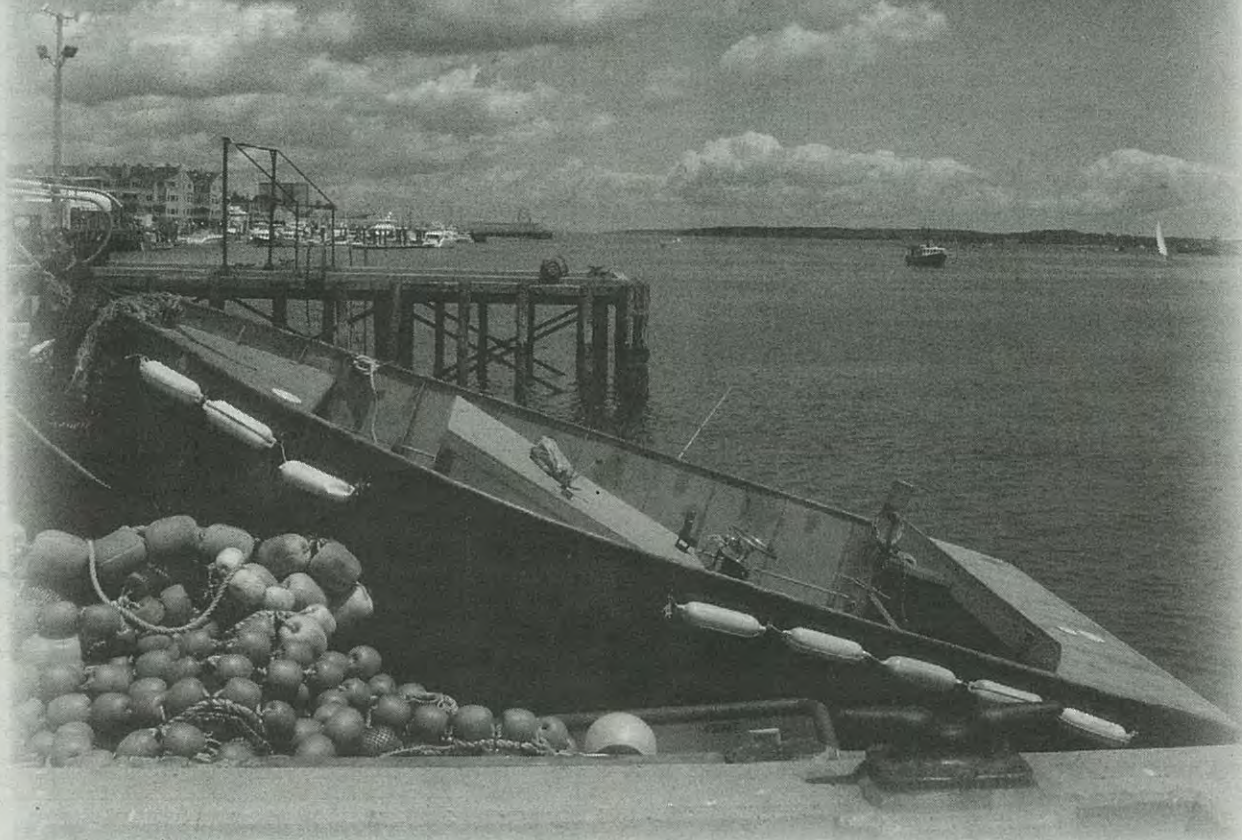
A. The Council could adopt any one or some combination of the six measures.

Net Slippage

Q. How does the Council define “net slippage”?

A. According to a new definition proposed in Draft Amendment 5, slippage is defined as “unobserved

Alan Lovewell, NEFMC photo



catch, or catch that is discarded prior to being observed, sorted, sampled, and/or brought on board the fishing vessel. Slippage can include the release of fish from a codend or seine prior to completion of pumping or the release of an entire catch or bag while the catch is still in the water.” Management measures that address this issue are intended to improve the observers’ ability to inspect nets after pumping to document operational discards.

Fish that cannot be pumped and that remain in the net at the end of pumping operations are considered to be operational discards and not slipped catch. Discards that occur at-sea after the catch is brought on board and sorted are also not considered slipped catch.

Observer protocols include documenting fish that remain in the net in a discard log before they are released. Existing regulations require vessel operators to assist the observer in this process.

Q. What are the alternatives to address net slippage?

A. While a Released Catch Affidavit is currently required in Closed Area I, one of the Amendment 5 proposals calls for an affidavit that applies to trawl and purse seine vessels with Category A, B, and C herring permits on all declared herring trips with a NMFS-approved observer on board. The Released Catch Affidavit must contain detailed information and the vessel operator must sign it under penalty of perjury.

Another option requires that all fish be pumped aboard for inspection and sampling by a NMFS observer. Short test tows may also be allowed without pumping the fish onboard if the test tow is retained in the net for sampling during the next pumpout.

Additional options would apply a deduction against the herring sub-annual catch limit in a management area, including Closed Area I, if a slippage event is observed and/or may require trip termination if multiple slippage events occur in one management area.

Maximized Retention

Q. What would maximized retention accomplish in the herring fishery?

A. In general, because a maximized retention (MR) program requires fishermen to land everything in the net, it has the potential to improve the calculation of catch statistics and the quantification of landed bycatch. The Council is considering a proposal that would allow NMFS to conduct an experimental fishery for four years to evaluate the appropriateness and need for a maximized retention program on all limited access herring vessels.

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River Herring Bycatch

Q. Why is it important to address river herring bycatch in Amendment 5?

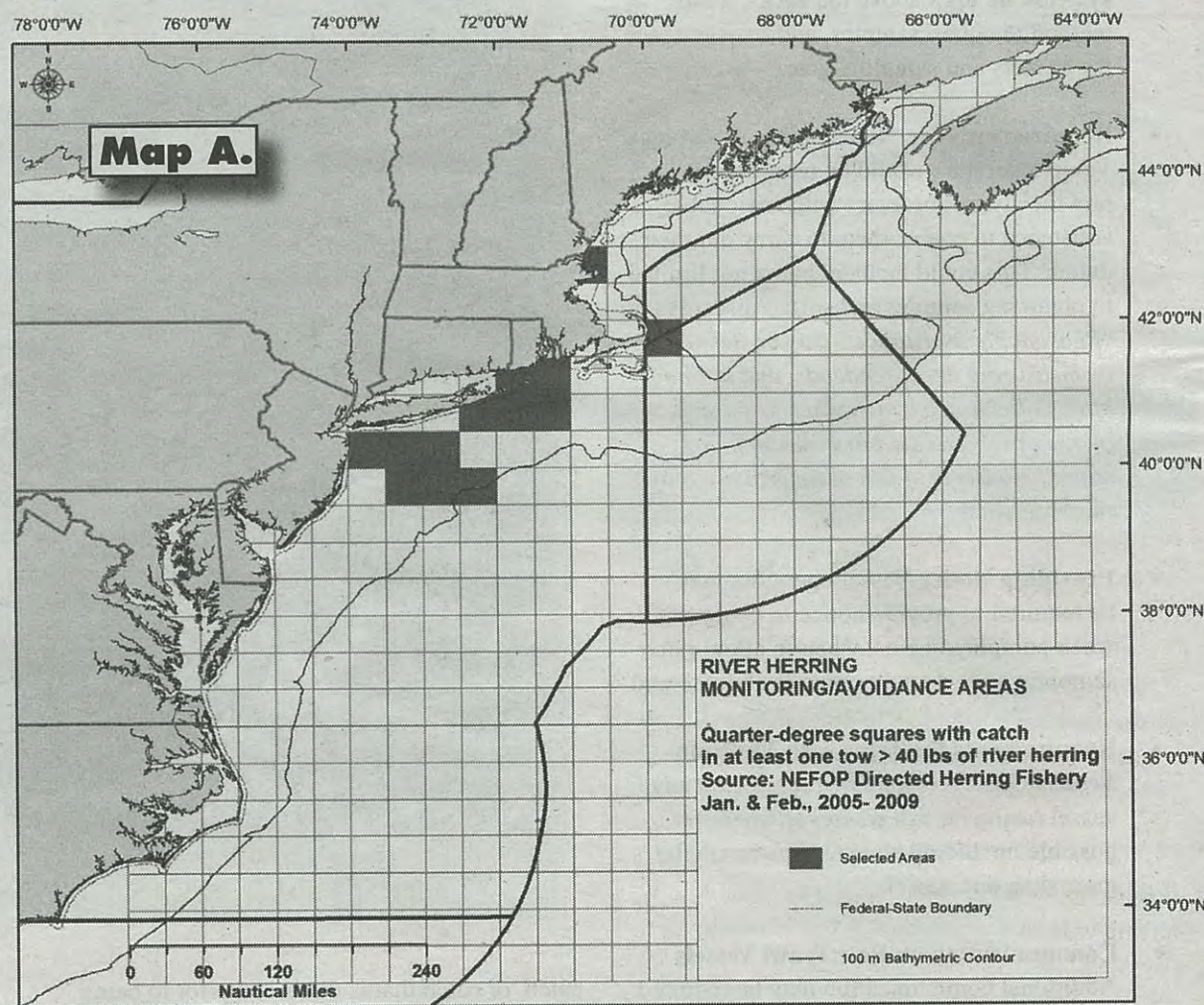
A. River herring, which is the collective term for alewife and blueback herring, are anadromous fish that spend the majority of their adult lives at sea, but return to freshwater areas to spawn in the spring along the Atlantic coast. Both species formerly supported significant commercial and recreational fisheries that were traditionally executed in rivers, estuaries, and coastal waters using weirs, traps, dip nets and gillnets.

Because of the steep declines in the population abundance and the bycatch of river herring in small mesh fisheries such as Atlantic herring and others, river herring continues to be a significant concern of fishery managers. As a result, Amendment 5 proposes a range of options to address the problem.

Q. How is the Council planning to address the problem?

A. It may be helpful to look at the alternatives to address river herring as two packages of measures, each with options. One of the packages would address the concerns by establishing monitoring/avoidance areas, while another includes areas that would be closed under defined circumstances.

The first package of river herring/monitoring and avoidance measures includes stepped up monitoring of river herring bycatch and encourages bycatch avoidance in defined areas on a bimonthly basis with increased observer coverage and sampling on declared herring trips. The additional monitoring would apply during certain times and in certain



areas where river herring encounters with the herring fishery were observed between 2005 and 2009.

Options call for 100% coverage of A, B and possibly C vessels or alternatively, A, B and C as well as Open Access Category D vessels. Other options include sampling protocols that are similar to the current requirements for Closed Area I and sub-options with or less than 100% observer coverage. The idea is to collect enough information to later develop strategies that target areas where interactions are observed or anticipated.

Map A. River Herring Monitoring/Avoidance Areas for January and February only. The amendment document provides charts showing the areas that may require additional monitoring during each bi-monthly period throughout the year.

A subset of the measures described above would require additional monitoring in the bimonthly River Herring Monitoring/Avoidance Areas when a specified river herring catch trigger is reached within any of three general areas.

As shown in Map B., the trigger areas include Statistical Area 521 (Cape Cod, CC), the Gulf of Maine (GOM), and southern New England (SNE). When the catch trigger in a specified trigger area(s) is reached, one of two additional monitoring options would apply to the smaller Monitoring/Avoidance Areas for the remainder of that fishing year.

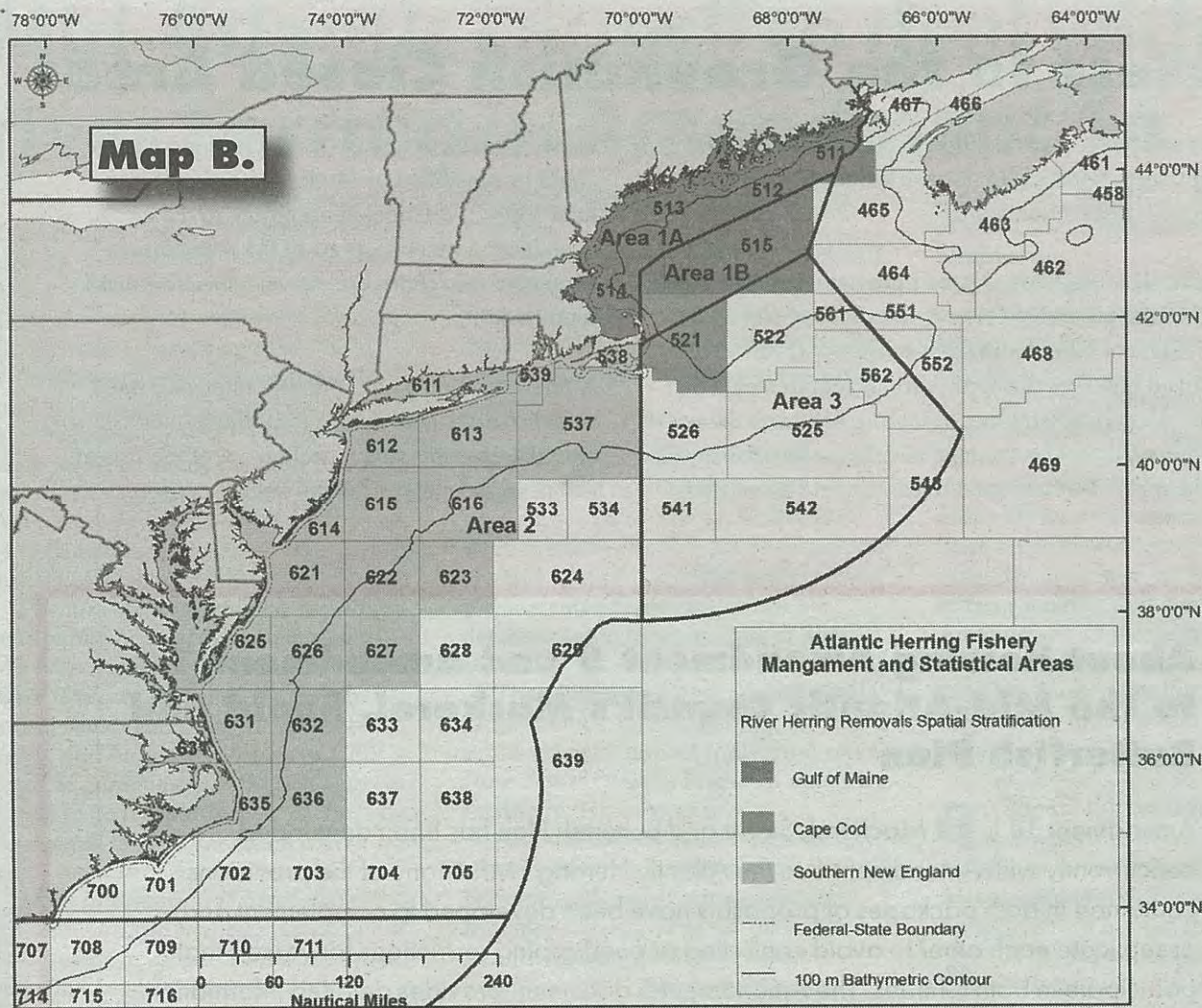
The Monitoring/Avoidance Areas associated with catch triggers mirror the areas discussed earlier and are depicted in Map A for January and February only. They will vary according to each bi-monthly map provided in the Amendment 5 document.

Map B. The three river herring catch trigger areas are shaded.

A third option uses an avoidance approach and is based on a pilot program developed in cooperation with the fishing industry, represented

Note on River Herring Catch Caps

The Council will consider establishing a river herring catch cap for the Atlantic herring fishery among the several potential measures to reduce bycatch. The catch cap would be considered by the Council through a framework adjustment to the Herring Plan or the Atlantic herring fishery specifications process once the Atlantic States Marine Fisheries Commission completes its stock assessment.



by the Sustainable Fisheries Coalition working in partnership with Massachusetts Division of Marine Fisheries and UMASS Dartmouth School of Marine Science and Technology.

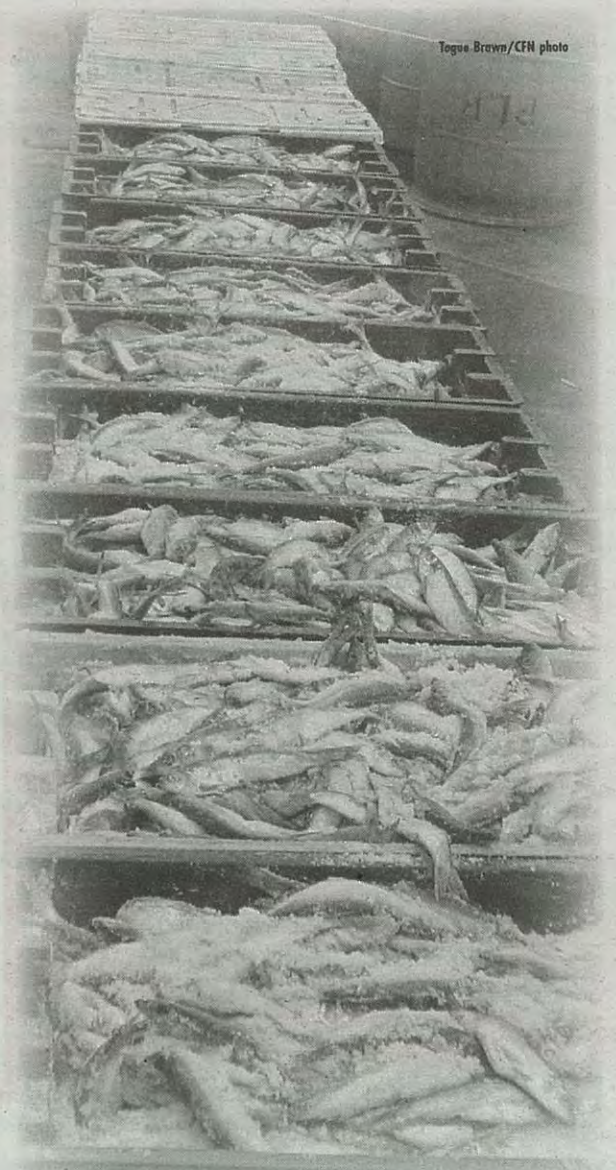
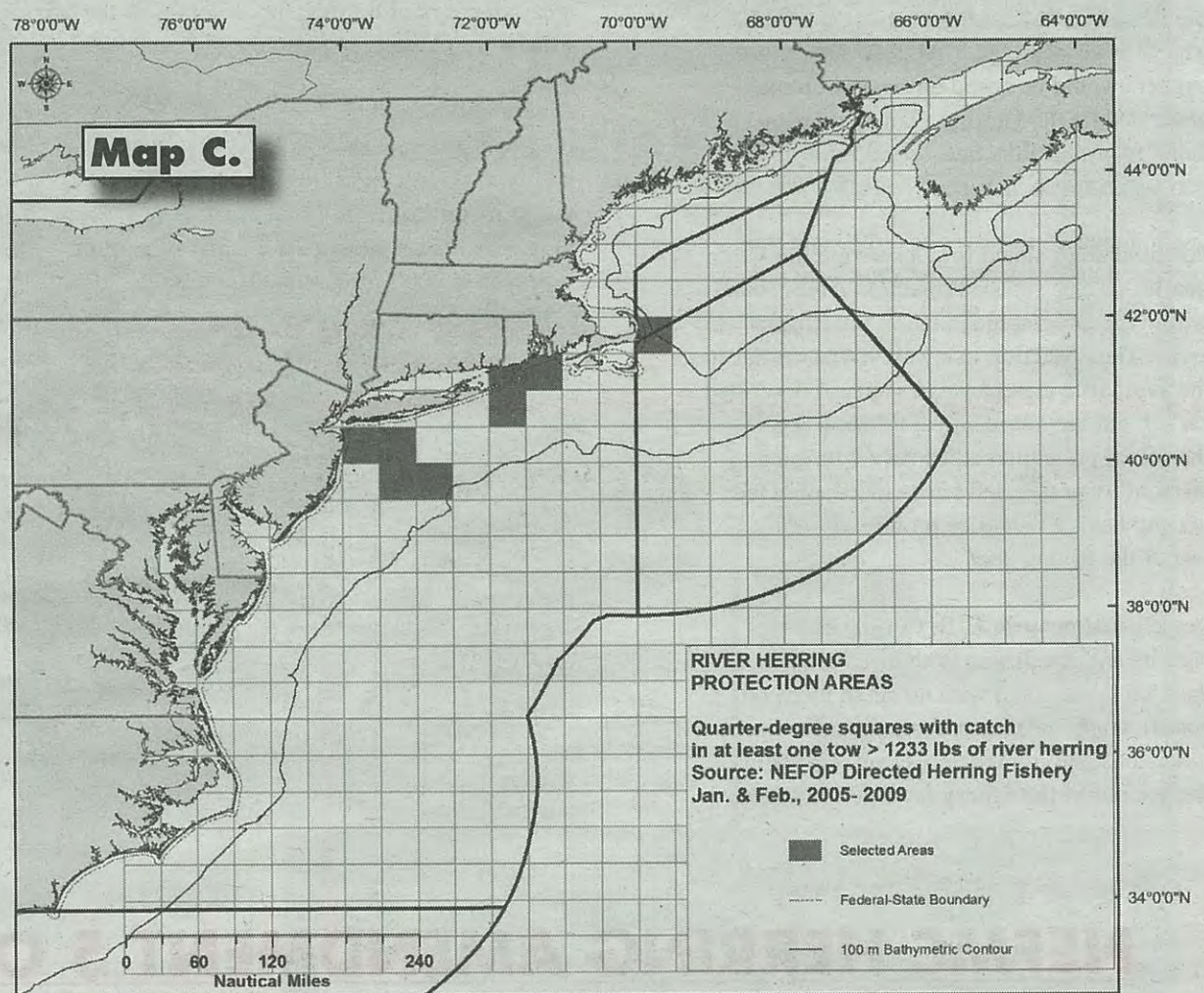
The pilot phase includes identification of bycatch avoidance areas, increased monitoring and sampling as necessary and the development of a mechanism for implementing long-term avoidance strategies. The Council has expressed support for these ongoing efforts until they are completed in late 2012. Further evaluation will take place at that time with the possibility of implementing the program through a framework adjustment to the Herring Plan.

Q. What about the proposed river herring protection areas? Do they involve actual area closures vs. increased monitoring, as described in the first package above?

A. Yes. This second package of proposals includes seasonal closures that are intended to minimize river herring bycatch in the Atlantic herring fishery. One option to accomplish this would be based on times and areas where significant river herring encounters with the fishery were observed between 2005 and 2009, according to NEFOP data. Once a threshold bycatch level is reached directed herring fishing would be prohibited in the quarter degree squares identified as River Herring Protection Areas in the Amendment 5 document. The closures would vary for each bi-monthly period during the year, and no closures would be scheduled from May through August.

Continued on next page

Map C. River Herring Protection Areas, January and February only. The amendment document provides additional charts showing the areas that could be closed to directed herring fishing during each bi-monthly period throughout the year.



Togue Brown/CFH photo

Midwater Trawler Access to the Groundfish Closed Areas

Four alternatives are under consideration concerning midwater trawl access to the five year-round groundfish closed areas detailed in the Northeast Multispecies (Groundfish) FMP, in addition to taking no action at all. The status quo would include the additional provisions for observer coverage and increased sampling now required in Closed Area I (based on the November 30, 2010 Rule for the Closed Area I provisions (CFR §648.80) as well as provisions implemented through Framework 46 to the Groundfish FMP.

The second alternative would allow the midwater trawl herring boats access to the groundfish closed areas based on provisions in effect prior to the implementation of the Closed Area I rule cited above. Herring midwater trawl vessels would be allowed to access all of the year-round groundfish closed areas without further limitations, except that the haddock catch cap and 100-pound multispecies possession limit would still apply.

The third alternative would require 100% observer coverage on single and paired trawl vessels on any trip in the year-round closed

areas and pre-trip notification to NEFOP. To ensure compliance, boats could not fish without an NMFS-approved observer onboard.

Fourth, all of the Closed Area I provisions would apply to all of the groundfish closed areas on any trip made by a single or paired midwater trawler with an NMFS-approved observer onboard. Various requirements that affect pump out, sampling, releasing fish from the net if an observer is not on the boat and discarding fish at sea would apply. Test tows and releases could occur under

some defined circumstances. Observer coverage could be mandated on all trips (100%), or less than 100% if distributed according to the measures contained in other sections of the Amendment 5 document (see chart on observer allocations in this supplement).

A final variation would prohibit midwater trawl vessels (single and paired) from the groundfish closed areas unless they declare out of the fishery and possess an experimental fishing permit.

About Herring Amendment 5 and Amendment 14 to the Mid-Atlantic Council's Mackerel, Squid and Butterfish Plan

Amendment 14 to the Mackerel, Squid and Butterfish Plan has been developed concurrently with Amendment 5 to the Atlantic Herring FMP. Many of the provisions contained in both packages of proposals have been developed to complement and/or replicate each other to avoid conflicting or overlapping restrictions for vessels that participate in both fisheries. The Amendment 5 document provides detailed information about this issue.

Continued from previous page

Another scenario for closing areas is predicated on catch triggers using the same trigger areas depicted in Map B. The actual triggers would be based on several options generated by the Herring Plan Development Team to produce the best estimates of river herring removals in recent years.

Potential areas slated for closure are the quarter-degree square Protection Areas found within the geographic range of the trigger areas. They function in a way that is similar to the avoidance area package scenario described earlier, but are not identical to them. Again, the actual protection areas vary with each bi-monthly period and once closed, directed herring fishing would be prohibited for the rest of the fishing year.

Vessels that possess A, B, C, or D herring permits and are fishing with mesh greater than 5.5 inches (and with no small mesh on board) would be exempt from the closed area provisions and limited access vessels could declare out of the fishery for a period of time.

Lori Steele, NEFMC photo



NEFMC HERRING AMENDMENT 5 OVERVIEW



**Anticipated Timeline for Amendment 14 to the Squid, Mackerel and Butterfish FMP
Mid-Atlantic Fisheries Management Council**

Early Feb 2012	Resubmit Am14 document back to NMFS
Mar/April 2012	Public hearings for Am 14 with DEIS
Early May 2012	Comment Period Closes
May 2012	Joint SMB Committee + Advisors Council to consider public comments, tweak alternatives if/as necessary
June 2012	Council takes final Action
July 2012	Document Perfection w/ NMFS
Sept 2012	Proposed Rule
Nov 2012	Proposed Rule Comment Period Closes
Feb 1, 2013	Final Rule Publishes
Mar 1, 2013	Rule Effective

Mid-Atlantic council to deal with river herring in Amendment 14

While the New England Fishery Management Council is getting ready to address river herring bycatch concerns through Amendment 5 to its Atlantic Herring Fishery Management Plan (see council insert for details), the Mid-Atlantic Fishery Management Council is considering steps to reduce the incidental catch of river herring – bluebacks and alewives – and American and hickory shad, primarily in the mackerel fishery, through Amendment 14 to its Atlantic Mackerel, Squid, and Butterfish Fishery Management Plan.

The Mid-Atlantic council intends to hold public hearings on Amendment 14's proposed measures later this winter. Jason Didden, the council's fishery management specialist for mackerel, squid, and butterfish, provided CFN with the following question-and-answer article to help explain some of the issues the council is considering as it gets ready to finalize Amendment 14.

More information is available on the Mid-Atlantic council's Amendment 14 webpage at <www.mafmc.org/fmp/msb_files/msbAm14current.htm>.

—Editor

Q: How much river herring and shad are caught in ocean-intercept fisheries?

A: While acknowledging substantial uncertainty, the figures used by the council to develop Amendment 14 are based on 2006-2010 data. The resulting estimates indicate that, on average, about 960,000 pounds of river herring and about 120,000 pounds of shad were caught in ocean intercept fisheries during each of those years.

Ocean-intercept fish often are juveniles, so, if you assume five fish per pound, these numbers translate into around 5 million river herring and

600,000 shad being caught each year on average.

The data suggest that the mackerel and *Loligo* fisheries account for a portion of this total catch and that the mackerel fishery may have substantial encounters with river herring in some years.

Q: Are those levels of river herring and shad catch a big deal?

A: Since there are no coast-wide stock assessments for river herring or shad, it is not possible to determine if these catch levels are or are not detrimental to river herring or shad stocks.

There also are concerns that single large catches of river herring and shad could severely impact individual river runs, but very little is known about the mixing of fish runs at sea.

Amendment 14 considers a variety of ways that catch information can be improved, including mandatory, industry-funded observer coverage in both the mackerel and *Loligo* squid fisheries. As assessments are conducted, better catch information could be compared to future assessment results to determine the significance of whatever catch is occurring.

Q: How might the catch of river herring and/or shad be reduced in the Atlantic mackerel and *Loligo* squid fisheries?

A: The council is considering bycatch caps and area-based closures to reduce river herring and shad catches.

Caps would close a directed fishery once a certain amount of river herring and/or shad was caught. While one would expect some benefits from such an action, it is not currently possible to link any given catch reduction to a

quantifiable benefit to river herring or shad due to the lack of assessment information.

As such, setting an annual specification cap would be difficult. But the council does deal with a similar situation in setting the butterfish cap, and the council likely would consider a variety of potential cap levels based on historical information.

Area-based closures would affect areas where river herring and shad have been caught historically. But given the wide and variable distribution of river herring and shad, analysis in Amendment 14 suggests that in order to ensure effort is not just redistributed, possibly doing more harm than good, large areas likely would have to be closed.

Q: Should the council directly manage river herring and/or shad as "stocks in the fishery" within the Atlantic Mackerel, Butterfish, and Squid Fishery Management Plan?

A: If the council added river herring and/or shad as "stocks in the fishery," then all of the relevant legal provisions that apply to any other managed stock would apply to these species, including essential fish habitat designation, federally

coordinated assessments, annual catch limits, accountability measures, status determinations, rebuilding if necessary, additional observer coverage considerations, and additional coordination between the Atlantic States Marine Fisheries Commission, National Marine Fisheries Service (NMFS), regional fishery management councils, the states, and other management partners.

Amendment 14 suggests that formal council management could help river herring and shad stocks to some degree but may not be sufficient to successfully conserve any particular river run given the varied challenges these species face throughout their range and life cycle. Also, the lack of an assessment and the importance of state catches would complicate management by the council.

Q: How are the New England council and Mid-Atlantic council actions related?

A: Except for the "stock in the fishery" issue, the New England council is considering similar management measures for the Atlantic herring fishery in Amendment 5 to the Atlantic Herring Fishery Management Plan, as well as others specific to Atlantic herring. It is currently anticipated that public hearings and comment periods for both amendments will occur in March, with both councils taking action in April to submit their respective amendments to NMFS for approval. ■

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