

Priorities
Discussion Documents

Wednesday, November 7

2007-2008 Priorities/Committee Tasking (rev. 10/23/07)

1

FMP Management Actions / # of Committee Meetings:

Multispecies	5 meetings	1. Develop new Groundfish Amendment 16 to develop rebuilding strategies	Ongoing
Sea Scallop	5 meetings	1. Continue General Category Scallop Amendment 11 2. Develop new Framework 19, DAS and TACs for 2008 and 2009 3. Develop new Amendment to address observer coverage 4. Develop framework to extend NMFS interim action ETA w/CE	Completed Completed Completed Completed
Whiting	5 meetings	1. Continue Whiting Amendment 15. Control date March 2003 (Limited Entry, hard TACS, dedicated access privileges)	Delayed due to data issues
Habitat	5 meetings	1. Continue Habitat Omnibus Amendment	Ongoing
Skates	5 meetings	1. Develop new Skate framework/amendment to address skate complex rebuilding	Ongoing
Sector Omnibus Amendment	4 meetings	1. Develop policy to standardize sectors in all FMPs	Completed
SBRM (Council Action only)		1. Continue the development of Omnibus Amendment 15 to implement new Standard Bycatch Reporting Methods for all FMPs (NMFS lead)	Completed
Monkfish	2 meetings	1. Unplanned Framework 5 to address July 2007 stock assessment	Ongoing

Other Management Actions:

Magnuson (2) 1. Continue to provide input to MSA reauthorization

Research Steering (6) 1. Continue w/program, which has been funded thru Apr 2007

TMGC (4) 1. Continue to support transboundary management w/CA

Trawl Survey (3) 1. Continue to support Multispecies and Sea Scallop Advisory Committees

VMS, Enforcement & Safety (5) 1. Develop new policy to maximize benefits of VMS, Enforcement & Safety (Funding provided by NMFS)

Herring 1. Conduct review of herring specs for 2008 and 2009 and develop new spec package with an EA if necessary

Multispecies 1. Develop new Amendment to develop Party & Charter Boat Fleet limited entry
2. Develop FW44 for issues cut from FW 42:

- Expanding the area for the CAI Hook Gear Haddock SAP
- Changes to the CAII YTF SAP (this SAP is not likely to open in FY 2006, so the changes were delayed)
- Extending the Eastern US/CA Haddock SAP to a year round SAP, or a ten-month SAP
- Allowing longline gear in the Eastern US/CA Haddock SAP (this gear may still be authorized by the RA if experimental results support using the gear)
- Establishing a longline SAP in the WGOM Closed Area
- Modifying seasonal closed areas in the GOM to address safety concerns
- Changes to permit eligibility for scallop vessels
- Removal of spawning blocks of time out of the groundfish fishery
- Allowing a permit conversion for limited access DAS vessels that used handgear

- | | |
|----------------|---|
| Red Crab | 1. Continue to develop new Amendment to establish Harvesting Cooperatives |
| Ecosystem Plan | 1. Develop new Ecosystem Plan |
| Hagfish | 1. Develop new Hagfish FMP (Control date August 2002) |
| Monkfish | 1. Some Committee and AP members interested in the development of a Framework to implement a monkfish DAS leasing program |

**DRAFT Management Action Plan (October 23, 2007)
Priorities for Management**

FMP/Species	2008	2009	2010	2011
Skates	Amendment 3 cont. including process for ACLs, AMs. Specs (ACLs) for 2009, 2010 and 2011			Skate SAFE Report to estab Specs for 2012, 2013, 2014
Multispecies	Amendment 16 cont. including process for ACLs, AMs. ACLs for 2009 and 2010	Amendment 17 including ACLs for 2011 and 2012	Amendment 17 cont.	
Scallops	Amendment 15 including process for ACLs, AMs, capacity reduction/DAS leasing, transfer programs, sectors for LA fleet, etc.	FW 21, specs for 2010 and 2011		Scallop SAFE Report to estab Specs for 2012 and 2013
Monkfish		Amendment 4 including ACLs, AMs. Specs for 2011, 2012 and 2013	Amendment 4 cont.	
Red Crab		Amendment 2 including ACLs, AMs. Specs for 2011, 2012, and 2013	Amendment 2 cont.	
Whiting	Amendment 15 cont. including process for ACLs, AMs. Specs for 2010, 2011, and 2012	Amendment 15 cont.		
Herring		Specs 2010, 2011 and 2012	Amendment 2 including ACLs, AMs. Specs for 2013, 2014, and 2015.	Amendment 2 cont.
Habitat	Omnibus Amendment cont.	New Ecosystem Plan	New Ecosystem Plan cont.	
Hagfish			New Hagfish FMP	

#2

#3

Monkfish Priorities Letters

* * * * *

Karen Roy

From: Maggie Raymond [maggieraymond@comcast.net]
Sent: Friday, October 12, 2007 11:11 AM
To: John Pappalardo; Terry Stockwell; David Pierce; Mike Leary; Jim Ruhle
Cc: Phil Haring; Karen Roy; Allison McHale; Pat Kurkul
Subject: monkfish FW5

Mr. John Pappalardo, Chair
 New England Fishery Management Council

Dear John:

It is with disbelief and dismay that we review the 10/3/07 monkfish committee meeting summary to learn that the summary does not reflect a committee discussion of the need to continue the existing fishing restrictions when the 2007 assessment shows that the monkfish resource is currently above the biomass target.

Associated Fisheries of Maine has been an active participant in the development of difficult restrictions on the monkfish fishery, despite the economic hardship this has caused our members, in order to realize the positive results now shown in the 2007 assessment. We have made the necessary sacrifices, without complaint, and we expect to reap the rewards of those sacrifices.

Monkfish comprises approximately one-third of the revenue on groundfish trips landed by our member vessels. Our gillnet vessel operators have only four species on which they fish; one is of consistent low economic value (pollock) and three have restrictive trip limits (cod, white hake, monkfish). Relief from the monkfish trip limits could provide significant economic relief for our members who struggle with the existing restrictions on groundfish along with the high cost of fuel.

As you know, wasteful discard can often result from trip limits, and therefore the Council should strive to lift or to raise trip limits whenever appropriate. We believe that time is now for the monkfish fishery.

I write, on behalf of our membership, to urge the monkfish committee and the Council to engage in an immediate review of the necessity of the existing regulations for the monkfish fishery.

As always, we appreciate your consideration of our views.

Sincerely,

Maggie Raymond
 Associated Fisheries of Maine

* **Monkfish biomass projections and targets from the 2007 monkfish assessment report:**

	B₂₀₀₆ (mt)	B_{target} (mt)	B_{threshold} (mt)
NFMA	118,700	92,200	65,200
SFMA	135,500	122,500	96,400
B_{target} = average of total biomass 1980 – 2006			
B_{threshold} = lowest value of total biomass 1980 – 2006			

10/12/2007

Karen Roy

From: jltturner [jltturner@suscom-maine.net]
Sent: Sunday, October 14, 2007 8:45 PM
To: Karen Roy
Subject: Spam:Monkfish Restrictions

John Pappalardo, Chair
New England Fishery Management Council
50 Water Street
Newburyport, MA 01950

Dear Mr. Pappalardo:

I am writing to urge the Council to immediately reduce the monkfish restrictions. The latest assessment shows that monkfish biomass is significantly over the target volume. This demonstrates that the current monkfish stock is rebuilt, therefore the present regulations are unnecessary. Monkfish are essential to the sustainability of the fishing industry in New England. I am Captain of the Capt'n Jake, and since monkfish are the highest priced fish, they are the most significant fish to help us offset the high cost of fuel.

Thank you,
Tom Turner

10/15/2007

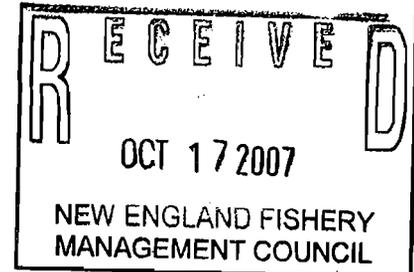
PO Box 44
Orrs Island, Me 04066
Bill Doughty - President



Tel. (207) 833-5183
Fax (207) 833-6708
Cell (207) 729-2038

October 12, 2007

John Pappalardo, Chair
New England Fishery Management Council
50 Water Street
Newburyport, Ma 01950



Dear Sir:

I am writing to request that you take immediate action to reduce the current monkfish restrictions. This is based on all of the sacrifices we have made, enduring huge closed areas and huge reduction in DAS. The reason the biomass is higher is because of our sacrifices.

Today's biomass estimate for monkfish is well above target in both fishery management areas. Due to this, the existing regulations are not necessary. Unnecessary trip limits are causing wasteful discards and loss of revenue to the fleet.

Sincerely,

A handwritten signature in cursive script that reads "Bill Doughty".

Bill Doughty
Multi-Gear, Inc

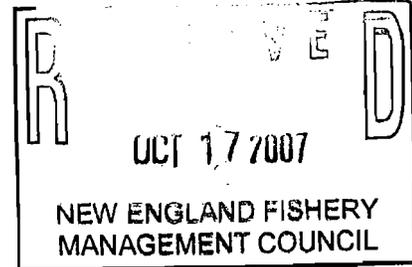


PORTLAND FISH EXCHANGE

6 Portland Fish Pier | Portland, ME 04101
Toll Free 1-866-633-4741 | Tel 207-773-0017 | www.pfex.org

October 17, 2007

John Pappalardo, Chair
New England Fisheries Management Council
50 Water Street
Newburyport, Massachusetts 01920



Dear Chairman Pappalardo,

I am writing to urge the Council to consider eliminating current restrictions immediately on the monkfish fishery at the October 24th meeting. The compelling reason(s) to restore fishing effort on monkfish are;

- The latest stock assessment, for both management areas, show that the monkfish biomass is 'over-re-built'
- Given the stock is 'over-re-built', current fishing restrictions must be eliminated to 'balance' the bio-mass in the multi-species stock management program.

To add; the monkfish resource has strong market and economic impact for both harvesters and processors. The resource comes to market with strong demand across all the various forms, including digestive organs that are generally discarded at sea. The Portland Fish Exchange landed a combined total of 1.3 M lbs of monkfish tails, whole-fish and livers with a value of over \$3.2 M dollars in 2006. For 2007, combined landings are at .55 M lbs with a value of \$1.7 M dollars. The average cost/lb in 2006 was \$2.46; to date for 2007 the value is \$3.09/lb. I cannot stress enough how economically important this resource is.

Given the strong domestic & overseas market demand; harvesters currently are seeing vessel returns averaging \$3.75 to \$4.00/lb for large monktails and \$3.40 to \$3.75 for small monktails. With this financial return on a resource, vessels can remain economically viable in the face of ever increasing fuel costs.

The monkfish resource is a 'win-win' situation; the resource has been re-built and the market is extremely strong. The Council should realize that management efforts have achieved the desired results and they should be encouraged that progress is being made rebuilding groundfish stocks.

Respectfully submitted,

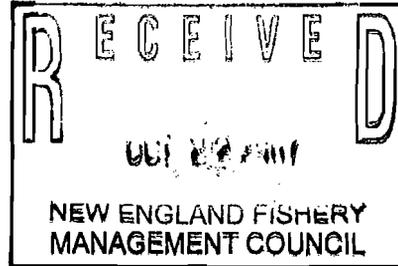
Bert Jongerden, General Manager
Portland Fish Exchange

K & K FISHING CORP.

84 Front Street
New Bedford, MA 02740
Phone (508) 548-8226
Fax (508) 548-2629
pkavanagh5@aol.com

10/22/2007

Mr. John Pappalardo, Chair
New England Fishery Management Council
50 Water Street
Newburyport, MA 01950



Dear Mr. Pappalardo,

I was disappointed to see that the council is not recommending reductions on monkfish restrictions despite the biomass being significantly over target. I feel that this is a mistake: in both management areas the biomass is well above the target. The rebuilding has been successful, the target has been more than met, and it is time to reduce the restrictions, as they are unnecessary regulation. It is well established that at this time the fleet is badly stressed and loss of essential revenue should only be incurred when necessary. Furthermore wasteful discards caused by unnecessary trip limits should be avoided whenever possible.

Sincerely,

Lawrence P. Kavanagh, Jr.

Karen Roy

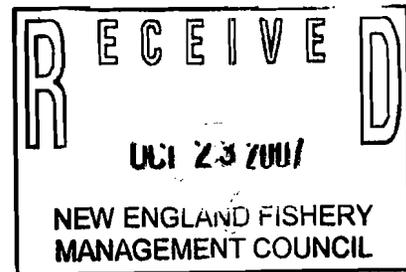
From: captnjake@skymate.com
Sent: Monday, October 22, 2007 4:04 AM
To: Karen Roy
Subject: Spam:monkfish regulations

NEFMC,

I am writing to urge the Council to reduce the current monkfish restrictions immediately. The latest assessment suggest the biomass is significantly over the biomass target. My question is, when do we get a break? All these years of more and more restrictions with the promise of better days ahead if we can suffer a little longer. Now your own assessment gives us some hope that maybe all that sacrifice was worthwhile. Unnecessary trip limits will only cause wasteful discards and the loss of even more revenue. Revenue which is all the more essential due to skyrocketing fuel costs.

Thank You,
Tom Turner III
F/V Capt'n Jake

Monkfish Defense Fund
c/o Agger Fish Corp.
Brooklyn Navy Yard, Bldg 280
Brooklyn, New York 11205



John Pappalardo, Chairman
N.E. Fisheries Management Council/Monkfish Oversight Committee
50 Water Street, Mill 2
Newburyport, MA 01950

Dear John,

Based on our observations at the recent Monkfish Stock Assessment Workshop, our intimate knowledge of the monkfish fishery, and our participation in the monkfish management process and the monkfish cooperative research program since its inception, the Monkfish Defense Fund would like to provide the following input as the Monkfish Committee begins discussions on Framework 5 to the Monkfish FMP:

- **Current state of the monkfish stocks** – as has been demonstrated by the cooperative surveys, and as borne out by the recent assessment (in which the range of the indicators of the stock status was significantly broadened), the monkfish stocks are in better shape than previous assessments had indicated. In spite of the caveats in the assessment report, in neither the Southern nor the Northern Fishery Management Areas are monkfish overfished, nor is overfishing occurring in either area. This is unambiguous, and in spite of any uncertainties associated with this assessment (which seem to be on a par with the uncertainties of other stock assessments) shows that the fishery is robust and that there are more monkfish available than was previously believed.
- **Increased TAC** – In view of the above (and the attached analysis), but still keeping in mind the uncertainty in the assessment, we suggest a conservative 20% increase in the TACs in the Northern and Southern Fishery Management Areas. An increase is surely in order, considering the positive results of the assessment, and one of only 20% can be easily absorbed by the fishery, avoiding the “gold rush” mentality that a larger increase might engender.
- **Backup Provision** – Regardless of what the TAC will be, the backup provision requiring the closure of the fishery in either Management Area in the event of a 30% or more overage in that area is far too stiff a penalty, considering the robustness of the fishery. However, to maintain as much accountability as possible in the fishery, we are suggesting that, in the event of an overage of 20% or more in either area, that an equivalent “payback” be deducted from the TAC over the next three fishing years (1/3 of the overage deducted each year). This will maintain the necessary level of control over the landings yet will not impose penalties that are totally out of line for what is an inherently healthy fishery.
- **Landings monitoring** – The fishery needs a system of near real-time landings monitoring. We have already begun to discuss this issue with NMFS personnel and are committed to providing as much support as we are able to.
- **Monkfish Management Priorities** – The Council’s 2008 draft priorities document defers work on Amendment 4 to the Monkfish FMP until 2009-10 for implementation starting in 2011. Considering the radical change in the status of the monkfish stocks that was reflected in the recent SAW as well as the value of the fishery, we strongly urge the Council(s) to place more of a priority on Amendment 4, and to begin work on it at the earliest possible time.

Thank you very much for your attention. We look forward to working with the Councils and NMFS on both Framework 5 and Amendment 4.

Sincerely,

Marc Agger

Resource Analysts International

October 21, 2007

Maggie Raymond
Nils Stolpe

A Review of Potential Monkfish Harvest in the Northeastern U.S. EEZ

Until very recently Monkfish (*Lophius* spp) were not a target species and most catch was incidental in other fisheries. Most catch went unreported until the mid-1970s commercial landings increased to 6,000 mt in 1978, remained stable at 8,000-10,000 mt during the 1980s, and then increased rapidly in the 1990s, peaking at 28,300 mt in 1997 (Figure 1). Landings in 2004 were 21,100 mt, and averaged 22,800 mt during 2000-2004. (Richards, 2007)

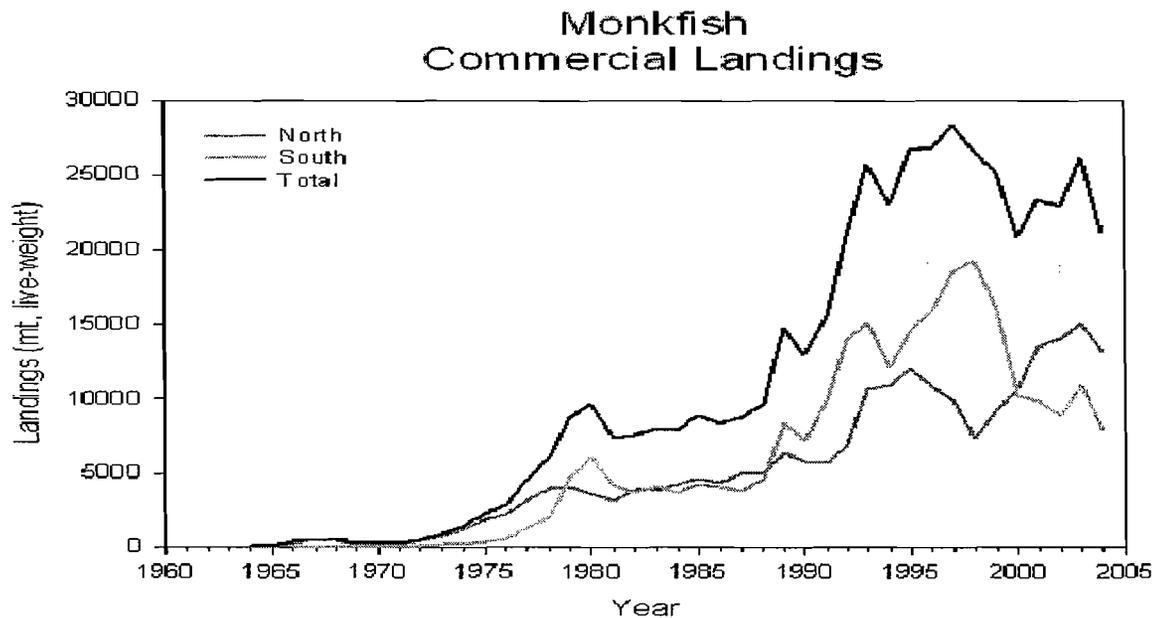


Figure 1. Landings of Monkfish in the Eastern United States, 1960-2005. (From Richards 2007).

The fishery landings data has several sources of error, but the data-poor workshop suggested several areas to examine for improvements. However, the workshop noted that the commercial landing series may be the best information for estimating trends and abundance in the monkfish population.

A new model was used to develop estimates of fishing mortality and biomass. This model - Statistical catch-at-length estimates (SCALE) utilized the available data and allowed various analytical testing of the data to formulate the best fit to the data and a prognosis of current and projected biomass.

The model was run for both management areas and the results were:

Northern management area

$$2006 F = 0.09$$

$$F_{\max} = 0.41 \text{ and } \text{overfishing is not occurring.}$$

$$2006 \text{ SSB} = 99,000 \text{ mt}$$

$$\text{SSB}_{\max} = 79,000 \text{ mt}$$

Southern management area:

$$2006 F = 0.12$$

$$F_{\max} = 0.51 \text{ and } \text{overfishing is not occurring.}$$

$$2006 \text{ SSB} = 110,000 \text{ mt}$$

$$\text{SSB}_{\max} = 119,000 \text{ mt}$$

The model results indicate the stock (both management areas) spawning biomass in 2006 was 206,000 mt above the SSB_{max} estimate of 198,000 mt.

The monkfish Plan Development Team felt there was a need to rebuild the Stock by 2009 and recommended a total harvest of 10,100 mt. This is valid if the northern and southern management areas are separate stocks. All of the available biological data strongly indicates that this is a biological unit stock and the management areas are designed to manage fisheries and not reflect biologically or genetically distinct stocks. If this is true then there is only a single SSB_{max} and the current biomass exceeds it and rebuilding is not required.

The question then becomes what is the appropriate level of exploitation for monkfish. At a current biomass of 206 thousand mt, the PDT recommendation comes out to an exploitation rate of about 5%. This is a very conservative exploitation rate for a species with a life history similar to monkfish. Similar species with similar life history parameters have MSY exploitation rates of about 25-30%.

Monkfish in European waters are exploited at a higher level, approximately 30,000 mt of harvest. In the most recent ICES monkfish assessment documents for European monkfish stocks the estimated fishing mortality was approximately $F=0.25$. In this case with the parameters employed the exploitation rate is about 20%, within the range of exploitation expected for a species as monkfish.

There are several questions that need to be answered with the current assessment, but all indications are that the assessment was precautionary and harvest recommendations are low because of stated need to rebuild. However, under a unit stock hypothesis the stock is rebuilt and a higher level of exploitation is reasonable. An increase of 20-25% would still be conservative

Vidar G. Wespestad, Ph.D.

President

Resource Analysts International

Appendix 1

Review of Monkfish Assessment trends from the 2007 Monkfish Assessment Doc.

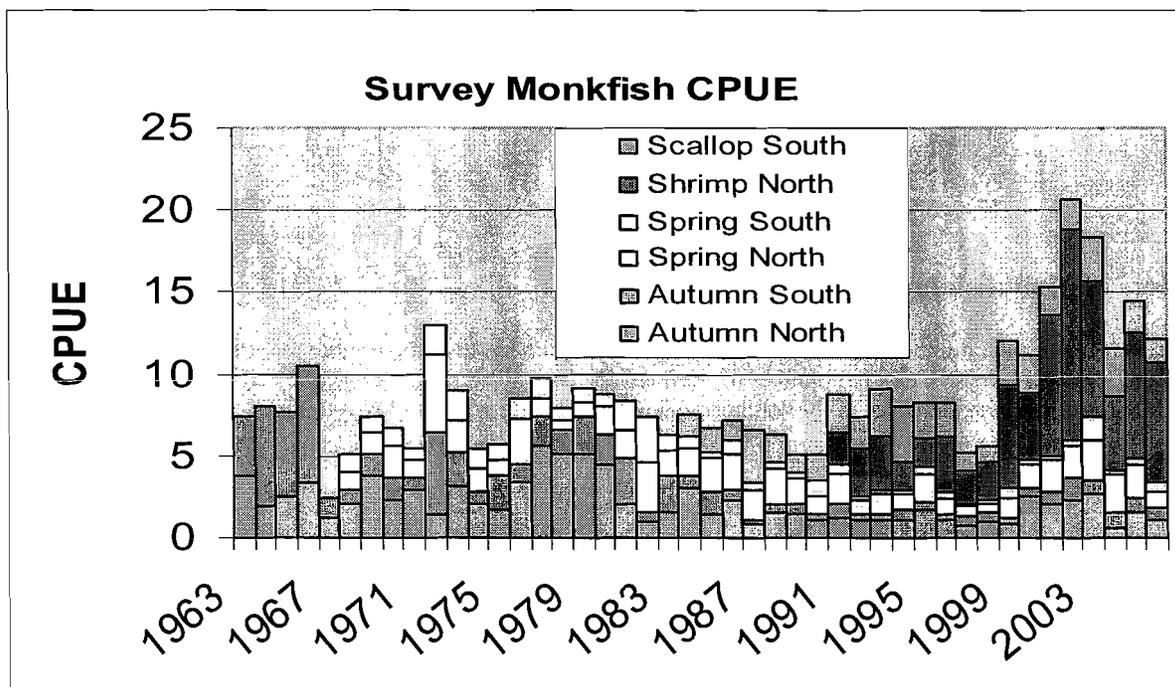
Information provided to the Monkfish Defense Fund
From presentations and discussions in the "Data Poor Workshop"
Woods Hole, MA July 9-12, 2007

Prepared by Vidar G. Weststad,
Resource Analysts International, Lynnwood, WA 98036

Survey CPUEs

Several surveys are used to assess monkfish off the east coast of the US. The NEFSC autumn and spring surveys have the longest time series and are believed to be the best representation of monkfish abundance and the assessment relies heavily on them. In the recent SAW held at the NEFSC, 7/9-12/07, it was argued that monkfish were more abundant and larger at the start of the time series than in recent years. However, examination of the times series data do not support these arguments. The autumn south survey shows the highest catches occurred in the first 4 years of the survey and then decreased sharply; on the other hand the autumn north survey shows that the highest CPUE occurred later, in the late 1970s to early 1990s and then declined. The spring surveys started a few years later and do not show any trends.

The most interesting series are the Northern shrimp survey and the southern scallop surveys, these are shorter time series, but they have the highest CPUE. This is discussed further on.



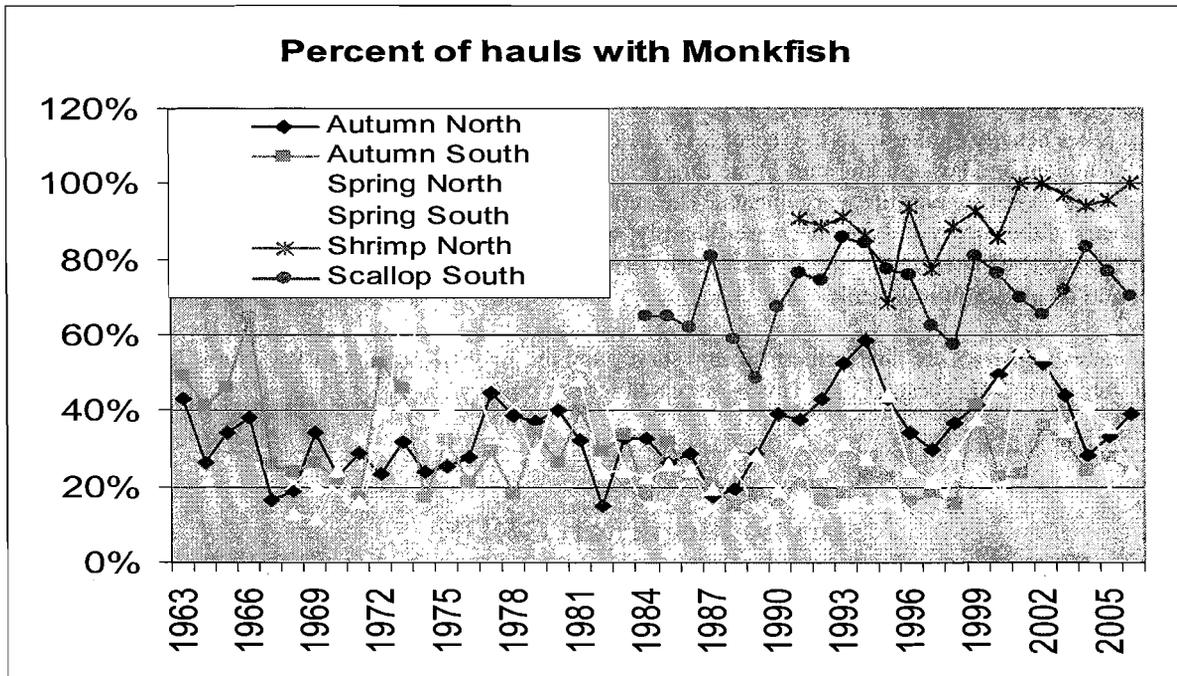
** Graph should not be interpreted to indicate CPUE increase – bar graph used to distinguish different surveys.

Percentage of hauls with Monkfish

The percentages of hauls with monkfish are notably lower in the groundfish surveys and much higher in the scallop and shrimp surveys. Monkfish generally occur in less than 40 percent of the stations in the groundfish surveys and above 40 percent in the shrimp and scallop south surveys.

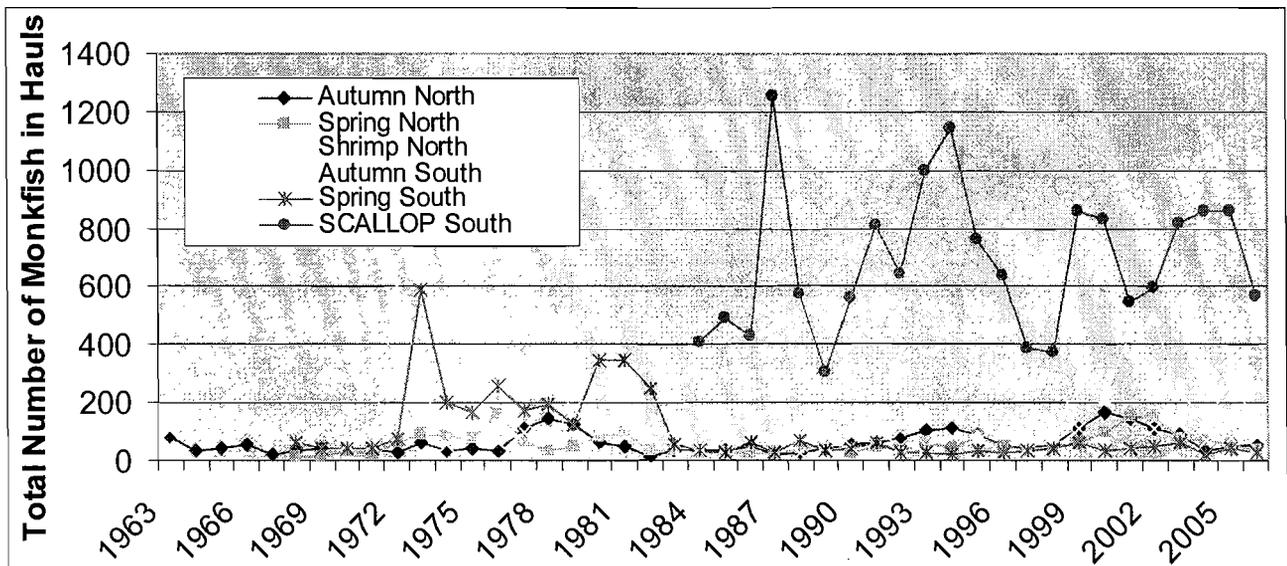
This is likely a reflection of the gear employed in the surveys. The groundfish survey utilizes trawls with roller gear, while the shrimp survey uses more bottom tending gear and the scallop dredge digs into the substrate. Thus, it is likely that the groundfish survey may be going over monkfish that are hard on bottom.

Partial analysis of haul data in recent years (not shown here) indicate that no to very few monkfish are taken in shallow water yet gillnets capture significant numbers of monkfish in the same areas. This suggests some sort of trawl avoidance in shallow water.



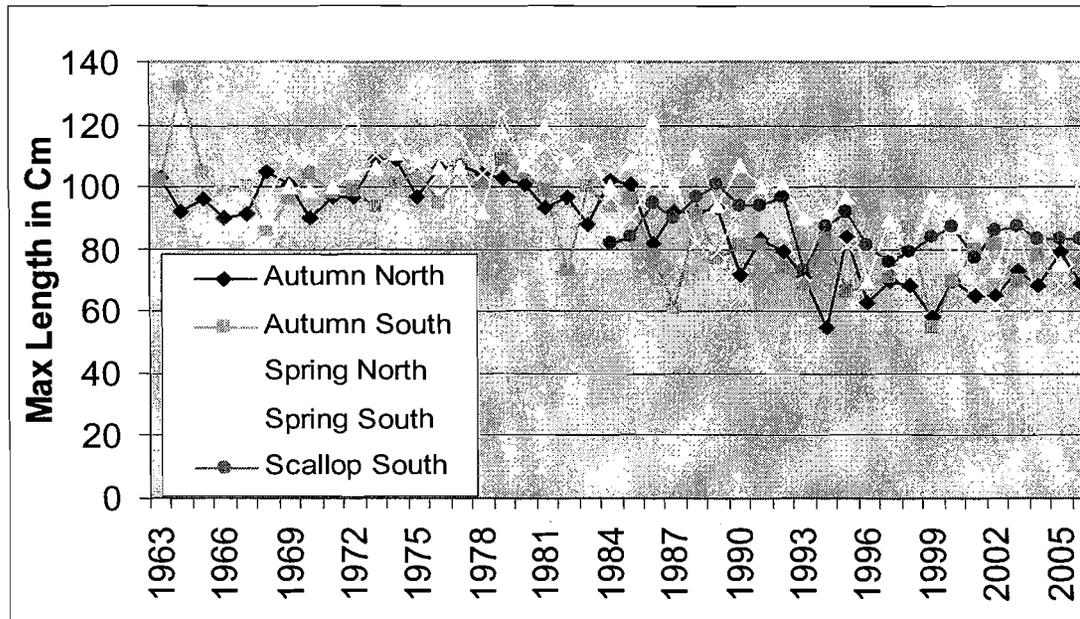
Numbers of Monkfish in Surveys

Comparisons of the total number of monkfish captured between surveys also show more monkfish are taken in the shrimp and scallop surveys. The total number of captures does not indicate any long-term reduction in numbers although there were some increases in the southern management area in the 1970s and 80s.



Maximum Length observed in surveys

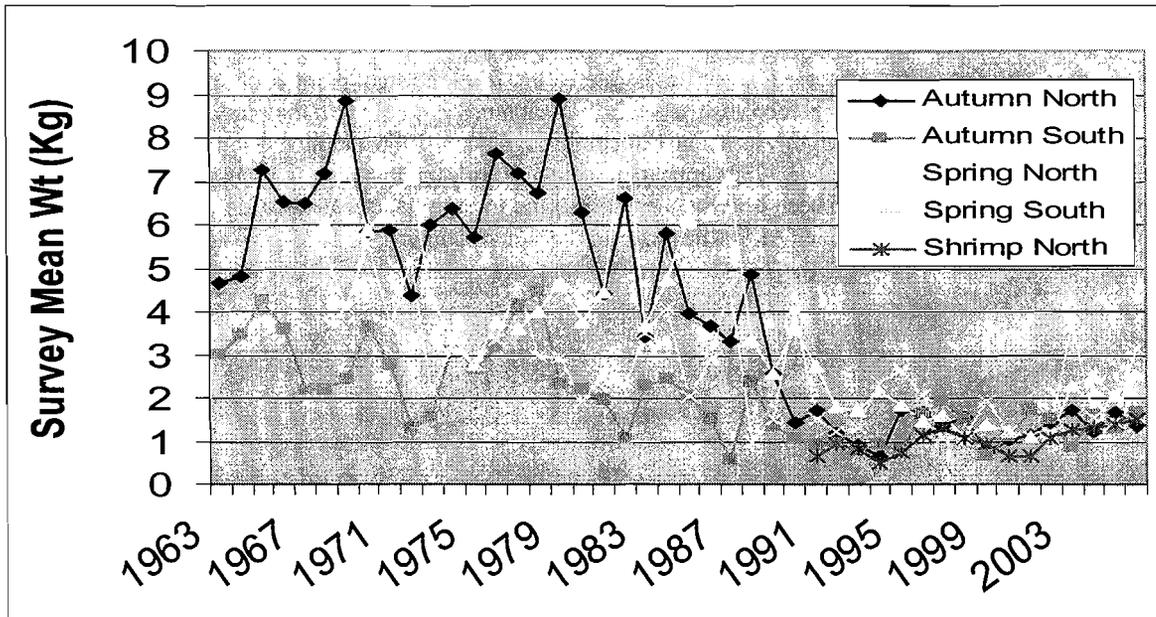
The maximum length of monkfish observed in surveys is interesting from the standpoint of observed changes in maximum length. The length analysis of monkfish sets L infinity at much larger length than indicated by the survey. The surveys indicate that maximum length was about 120 cm through about 1986 and then declined to under 100 cm in following years. The decline in the late 1980s appears to coincide with the increase of monkfish in the US target fishery for monkfish. If monkfish had been heavily harvested in the foreign fishery or discard had been high in US fisheries one would have expected a much earlier decrease in maximum length.



Age and growth appears to be a major unknown in monkfish and data is highly contradictory. The current analyses indicate linear growth that is problematic. Monkfish are aged by vertebra and otoliths are difficult to read. It could be that at older ages annuli are not formed. This is an important area of research. In Bering Sea Pollock maximum age of Pollock was estimated to be around age 10-12, but with improvements in aging methods average maximum age was extended to age 15+. A similar result in monkfish would make the grow curve tend to be asymptotic rather than linear.

Survey Mean weights

Survey mean weight data was high early in the times series and declined to lower mean weight in the mid 1990s similar to length. The mean weight appears to have been higher in the north than in the south, but exhibited high within area interannual variability. Again, this may relate more to low occurrence in surveys, but the decrease in mean weight appears to be a result of a combination of removals by the fishery and reinforced by recent improved recruitment.



Stock Assessment Model

The Data-Poor workshop and the preceding Monkfish Working Group (June 12-17) recognized that the Statistical catch-at-length analysis (SCALE) model was an improvement over prior models since it allowed greater flexibility in model formulation and diagnostic tools. Both groups commented that the model needs further development and test before fully acceptable, but since model parameters could be weighted a range of plausible outcomes could be obtained from the model, all of which indicated improvements in stock status.

Summary

Coming in on the assessment process as a biologist unfamiliar with monkfish, I thought the Stock assessment review panel addressed the key points of the assessment and recognized the major data shortcomings in the assessment. Most all agreed that there were problems with the existing multi-species surveys and additional uncertainties in biological data. The review tried to resolve problems with catch data, but could not support the view expressed by some NMFS staff present that fishing has greatly impacted the population.

The development of an ADMB based model that incorporates all of the assessment information allows a rigorous analysis of the data is an analytical improvement, but since the model is still in development it is difficult to fully accept results. The stock information available for the review does not support the view that there are two stocks. It was stated the reason was because of different fisheries and recruitment trends; however, in the case of different fisheries this can be handled via selectivity, and analysis of recruitment trends may be better followed in a single stock model. A single stock model will also improve the statistical performance of the model.

Overall, my understanding from attending the monkfish assessment is that:

- Results are highly influenced by age and growth information;
- Survey time series may not accurately reflect the population dynamics of monkfish;
- Recent high recruitment and the growth rate of monkfish support the fact that the biomass will continue to increase.
- The model estimates of monkfish abundance indicate an improved stock situation.

Email received 10/31/07:

-----Original Message-----

From: Maggie Raymond [<mailto:maggieraymond@comcast.net>]

Sent: Wednesday, October 31, 2007 9:34 AM

To: John Pappalardo

Cc: Marc Agger; Phil Haring; Allison McHale

Subject: monkfish framework 6

October 31, 2007

Mr. John Pappalardo, Chair
New England Fishery Management Council

Dear John:

We are writing to seek your assistance regarding the management of monkfish.

As you know, the most recent monkfish assessment shows that the resource is neither overfished, nor is overfishing occurring. In fact, the resource, in both management areas, is well above the biomass target.

Recently, the joint NE/Mid-Atlantic monkfish committee met and agreed to recommend that the NE Council initiate framework adjustment 6 for two purposes: 1) to eliminate or modify the backstop provision implemented with framework adjustment 4, and 2) to evaluate potential increases in the TACs and modifications to the DAS and trip limits.

The backstop provision, implemented with caution prior to the latest assessment results, will unnecessarily close the fishery in 2009, if not eliminated or modified. The existing TAC and management restrictions warrant a review, given the healthy status of the resource.

We are writing today to urge the NE Council to identify monkfish as a priority for 2008 and to initiate framework adjustment 6 to deal with the committee recommendations for the 2009 fishing year.

As always, we appreciate your consideration of our views.

Marc Agger
Monkfish Defense Fund

Maggie Raymond
Associated Fisheries of Maine

#4

Scallop Priorities Letters

* * * * *



New England Fishery Management Council

50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116

John Pappalardo, *Chairman* | Paul J. Howard, *Executive Director*

August 6, 2007

Mr. Jeffrey R. Pike
Sher & Blackwell
1850 M Street, Suite 900
Washington, DC 20036

Dear Mr. Pike:

This is in response to your letter dated August 1, 2007 concerning limited access scallop rationalization. You are correct that any new allocation scheme including sectors, or DAS transfer or leasing could only be considered in an amendment to the Scallop Fishery Management Plan (FMP). The Council is considering priorities for 2008 at the November 2007 Council meeting in Newport, RI. The Council already has on the list of potential priorities initiation of a Scallop amendment to address several other issues. It is possible that the Council could include consideration of additional measures in that amendment, and I have included your letter in the package that will be sent to all Council members prior to the November meeting. I encourage you to attend that meeting to describe your request in more detail.

Sincerely,

Paul J. Howard
Executive Director

Sher &
Blackwell

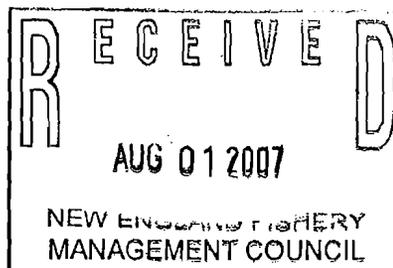
Suite 900 • 1850 M Street, N.W. • Washington, D.C. 20036
Telephone: 202.463.2500 • Facsimile: 202.463.4950 • www.sherblackwell.com

ATTORNEYS AT LAW

A LIMITED LIABILITY PARTNERSHIP

August 1, 2007

Mr. John Pappalardo
Chairman
New England Fishery Management Council
60 Water Street
Newburyport, MA 01950



RE: Limited Access Scallop Rationalization

Dear Chairman Pappalardo:

Our firm has been contacted by several full-time limited access sea scallop permit holders regarding future opportunities to rationalize the fishery and I am writing to seek your guidance and assistance.

The Council is scheduled to complete action on Framework Action 19 at the upcoming September meeting. This Framework Action will establish the fishery specifications for fishing years 2008 and 2009. By all accounts, the number of Days-At-Sea (DAS) available to full-time permits holders will be reduced. This further reduction in fishing opportunities has reignited a desire among full-time permit holders to consolidate DAS and rationalize the fishery. As the Council has discussed in the past, this could be done through the allocation of the resource, the authorization of sectors or even a DAS leasing or transfer program similar to that authorized for the groundfish fishery.

After reviewing the Atlantic Sea Scallop Fishery Management Plan (Plan) it is my understanding that any new allocation scheme including sectors or a DAS transfer or leasing program could only be instituted through an amendment to the Plan. If this is the case then I would ask that the Council include a scallop Plan amendment on its work agenda for the coming year. The fishermen with whom we talked are open to different approaches so long as they can consolidate DAS and Opportunity trips on fewer vessels. As you can appreciate, the current system is extremely inefficient and prolongs overcapitalization in a fishery that sorely needs to be rationalized. One of the simplest approaches would be to expand the leasing and transfer programs the Council authorized for consolidation within the groundfish fishery to the scallop fishery.

Please let me know what we need to do in order to place a scallop amendment on the Council's agenda. The industry is ready and I believe the Council is ready to rationalize this very important fishery.

Sincerely,

A handwritten signature in dark ink, appearing to read "Jeffrey R. Pike".

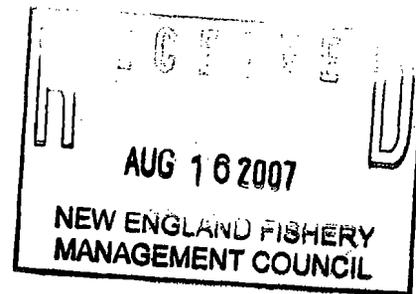
Jeffrey R. Pike

W. DB (8/2)



CAPE COD
COMMERCIAL HOOK FISHERMEN'S ASSOCIATION, Inc.
210 Orleans Road
North Chatham, MA 02650 • 508-945-2432 Fax: 508-945-0981
E-mail: contact@ccchfa.org
Web: www.ccchfa.org

David Simpson
Chairman
Atlantic Sea Scallop Oversight Committee



David,

As you know, the CCCHFA has advocated for and implemented community based fishery management in the Multispecies Fishery Management Plan through the GB Hook Sector and the Fixed Gear Sector. We write to you today to indicate our continued support of fishermen within our community who seek help and guidance on the establishment and management of Sectors.

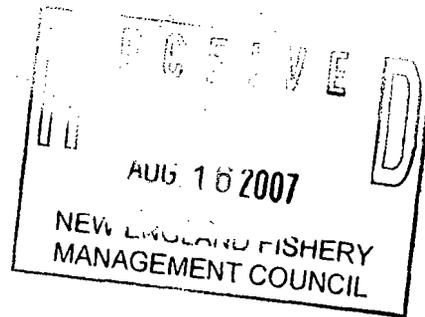
Cape Cod has a long history with the commercial Sea Scallop fishery, namely through the General Category permit. With the recent affirmative vote of Amendment 11 of the Sea Scallop plan, Sector Allocations are permitted. Local scallop fishermen from Cape Cod and the Islands have recently approached the CCCHFA seeking to explore the formation of a Sector and we are actively supporting them.

In your upcoming meeting and development of future actions, we will be assisting in the design and submission of a General Category Sector Allocation, in accordance with the regulations ultimately adopted under Amendment 11.

Thank you,

Peter Taylor
President
CCCHFA

David Simpson
Chairman
Atlantic Sea Scallop Oversight Committee
NEFMC



David,

I am writing today to inform you that myself and several other scallop fishermen from Cape Cod ~~who~~ are exploring a community based solution to overcome the recent Amendment 11 decision to create ITQ's for the General Category segment of the fishery.

Several fishermen in my community are going to lose access to the fishery simply because they were not active during the five year period the council chose to determine the future of the fishery. Several of us were very active right after the control date yet to stay in the fishery we will need to re-invest this time in permits. I guess today, access has its costs.

In an effort to distribute the costs of reinvestment, we are taking a critical look at Sector Allocations as an opportunity to distribute the costs and share the benefits. If we decide a Sector is a viable option for our group of fishermen we will be submitting a Sector Allocation request to the NEFMC immediately following the approval of amendment 11.

Regards,

Bob Keese

F/V Beggars Banquet

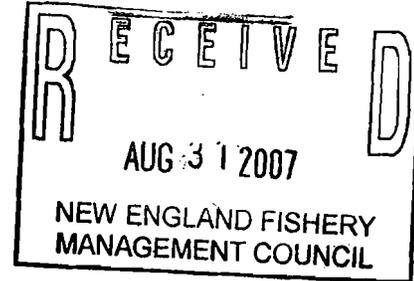
ASSOCIATED FISHERIES OF MAINE

PO Box 287, South Berwick, ME 03908

207-384-4854

August 30, 2007

Mr. John Pappalardo, Chair
New England Fishery Management Council
50 Water Street
Newburyport, MA 01950



Dear John:

I write with respect to the General Category Scallop IFQ program, and a request by our members for Council action to create what is known in other IFQ programs as a "rollover allowance". Rollover allowances permit IFQ holders to carry forward unused quota for use in the following year or to payback from the next year's allocation an overharvest of the current quota. In IFQ programs, rollover allowances of 10-20% are common while multi-year accumulations are generally not permitted. (Research has shown that carry forward allowances are used with greater frequency in existing IFQ programs than are payback allowances.)

The ability to carry forward unused quota is of particular importance to our members for the following reasons (in order of priority):

- 1) Safety – The General Category Scallop fishing year will now begin in March and end in February. Our members are concerned with the possibility that unused quota at the end of the fishing year could entice IFQ holders to race to fish during the bad weather month of February. This type of allowance is, we believe, comparable to the DAS carry-over policy for the Scallop and Multispecies fisheries developed by the Council for safety considerations.
- 2) Availability of resource – Our members are concerned that premature closure of the scallop access areas due to early harvest of the yellowtail quota might prevent full utilization of the scallop IFQ.

We hope the Council will consider developing, at the earliest opportunity, a rollover allowance for the General Category Scallop IFQ program.

Sincerely,

M. Raymond

Maggie Raymond

Associated Fisheries of Maine is a trade association of fishing and fishing dependent businesses. Membership includes harvesters, processors, fuel/gear/ice dealers, marine insurers and lenders, and other public and private individuals and businesses with an interest in commercial fishing.

#5

Herring Priorities Letters

* * * * *

Joan O'Leary

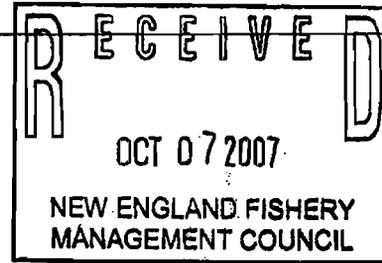
From:

Sent: Sunday, October 07, 2007 9:38 PM

To: Paul Howard

Cc: Joan O'Leary

Subject: Spam:herring



Dear Captain Howard,

My name is Kent Garland, I am a commercial fisherman from Swampscott Massachusetts and am writing to you today to encourage the New England Fishery Management Council to make herring a priority in 2008. As a fisherman, my livelihood depends on healthy herring stocks. Herring is the backbone of the ecosystem and so we all rely on the managers to properly manage the herring fishery.

Currently, this fishery is not being managed properly. The landings system is clearly ineffective: landings are estimated and often untimely. Compounding that problem is the fact that midwater trawlers can dump bags of fish (whether it be herring or other regulated species) without even reporting it. There is also a lack of monitoring, including a meager percentage of observer coverage. Making matters worse, midwater trawlers are still allowed to fish only miles from the coast, disrupting the inshore ecosystem and creating massive gear conflicts.

To correct these glaring problems, I strongly encourage you and the Council to make herring a priority in 2008 and to initiate a herring action as soon as possible. The action should include:

- A mandatory weighmaster system whenever midwater trawlers unload that reports catch and bycatch on a real-time basis.
- In addition to the seasonal Area 1A buffer, an inshore buffer zone that keeps midwater trawlers at least 50 miles from shore year-round
- Mandatory industry-funded observer coverage for midwater trawlers and USAPs
- Requirements to bring all fish aboard for sampling (no dumping of bags at sea)

We have allowed the midwater trawl fleet to cause a lot of damage and its time that the managers address the problem. As the body in charge of herring management, it is of utmost importance that you act now before it is too late.

Thanks for your time,

Kent Garland

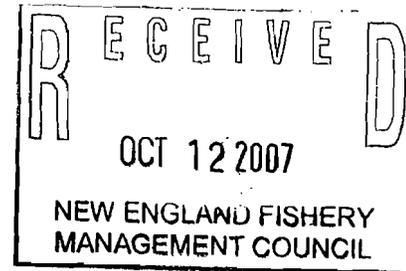
EXAMPLE OF 5834 DUPLICATE LETTERS
RECEIVED TO DATE

10/9/2007

Example of letters received to date
33 received before the October 16th GF mtg. and
forwarded to committee as requested.
45 Received after the committee meeting.

October 1, 2007

Rip Cunningham, Chair
Multispecies Committee
50 Water Street, Mill 2
Newburyport, MA 01950



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

Re: Atlantic Herring Fishery

Dear Mr. Cunningham and Captain Howard:

It is my understanding that the Multispecies Committee will review requests to eliminate the herring midwater trawl fishery from groundfish closed areas at its meeting on October 16, 2007. As a commercial fisherman, I am writing to urge the Committee and Council to not add any alternatives to any actions that would further limit fishing opportunities for this fleet.

The Atlantic herring trawl fishery is not impacting rebuilding of groundfish stocks in the region. While there are some people who are critical of the fishery, these criticisms are not supported by the facts. The Council has regularly reviewed bycatch information and the data continue to be consistent in showing overall that there is very low multispecies bycatch in the herring fishery. Midwater trawls are used effectively in many parts of the world and in fact are often chosen for their ability to minimize bycatch in some fisheries (i.e. North Pacific Pollock fishery).

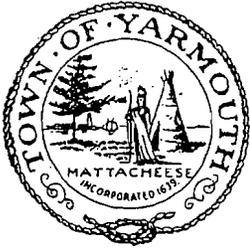
Additionally, I have read comments to the Council that express concerns of anecdotal reports of haddock bycatch from Georges Bank this summer in the herring fishery that are not backed up by observed instances. Anecdotal information is very difficult to quantify. But, as there were NO landings of herring this summer from Georges Bank, these reports appear to be sheer fabrication.

The Council is undertaking a tremendous task in Amendment 16 to the Multispecies plan and should be considering ways to reduce, not increase, the number of alternatives being analyzed under this action. Consideration of repetitive requests from stakeholders who are not happy with the outcome of actions recently considered by the Council is not good process or in the best interests of all fishermen in the region.

The right thing to do is to continue with the development of Amendment 16, including the review of all exempted fisheries.

Sincerely,

FV Freedom
no address



TOWN OF YARMOUTH

1146 ROUTE 28 SOUTH YARMOUTH MASSACHUSETTS 02664-4492

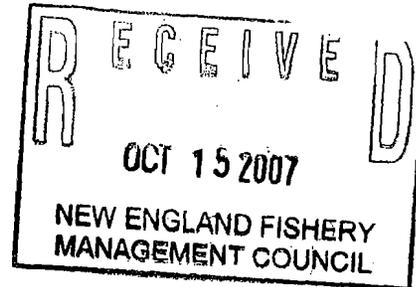
Telephone (508) 398-2231, Ext. 271, 270 — Fax (508) 398-2365

BOARD OF
SELECTMEN

TOWN
ADMINISTRATOR
Robert C. Lawton, Jr.

October 2, 2007

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



Dear Captain Howard,

I am writing to you today on behalf of the Yarmouth Board of Selectmen to request that the New England Fishery Management Council (NEFMC) make herring a priority in 2008. Management of Atlantic herring has a major impact on local river herring runs and the viability of our traditional fishing fleet.

The Atlantic herring fishery has serious problems that can only be addressed with changes to the Herring Fishery Management Plan (FMP). Currently, midwater trawlers operate without proper monitoring and insufficient observer coverage levels. There is a growing body of evidence and concern that the decline of our local river herring runs has a direct correlation to the increase of midwater trawling in the sea herring fishery. In addition, midwater trawlers are allowed to operate in Groundfish Closed Areas even though they have a proven bycatch of groundfish, including substantial bycatch of juvenile haddock. Midwater trawlers also operate near shore, creating substantial gear conflicts and posing a threat to important near shore species such as river herring and striped bass.

The monitoring system in the herring fishery is inadequate. Recent events illustrate this and serve to reinforce the longstanding concerns many people have with the way the herring fishery is monitored. These events include the area Total Allowable Catch (TAC) overage in Area 1B off the back side of Cape Cod in 2006, the Area 1A pre-June TAC overage in May 2007, and the monitoring mishap that resulted in NMFS closing- then reopening- the fishery in August 2007. There is also great concern that landings data are highly inaccurate to begin with since they are based solely on vessel and dealer good-faith hail weights and because herring vessels are allowed to dump bags at sea without reporting that catch.

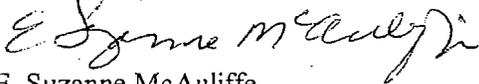


It's time for the NEFMC to initiate an action that will fix these glaring deficiencies in the herring FMP. The action should include:

- A mandatory weighmaster system whenever midwater trawlers unload that reports catch and bycatch on a real-time basis.
- In addition to the seasonal Area 1A buffer, an inshore buffer zone that keeps midwater trawlers at least 50 miles from shore year-round off of Cape Cod and the Islands
- Mandatory industry-funded observer coverage for midwater trawlers that accounts for river herring bycatch
- Requirements to bring all fish aboard for sampling (no dumping of bags at sea)

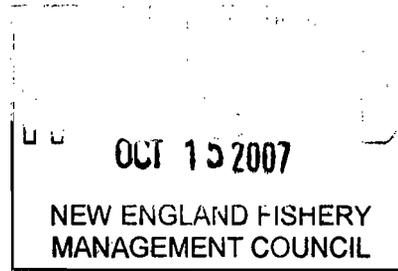
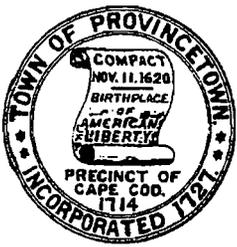
The fleet of large midwater trawlers currently operating in New England poses a grave threat to the future of New England's healthy fisheries, our coastal communities, and the rebuilding of critical groundfish and river herring stocks. Without changes to the way Atlantic herring are managed, our traditional fishing fleet and our river herring runs stand to see continued declines. We encourage you to take action immediately to protect the sea and river herring resources, our coastal communities, and our traditional fisheries.

Respectfully,



E. Suzanne McAuliffe
Chairman, Yarmouth Board of Selectmen

CC: Pat Kurkul, NMFS; Bill Hogarth, NMFS; John Pappalardo, NEFMC; David Pierce, NEFMC/MA DMF



Board of Selectmen

Town Hall, 260 Commercial Street
Provincetown, Massachusetts 02657
Telephone (508) 487-7003
Facsimile (508) 487-9560

October 10, 2007

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

Dear Captain Howard,

I am writing to you today on behalf of the Provincetown Board of Selectmen to request that the New England Fishery Management Council (NEFMC) make herring a priority in 2008. Management of Atlantic herring has a major impact on local river herring runs and the viability of our traditional fishing fleet.

The Atlantic herring fishery has serious problems that can only be addressed with changes to the Herring Fishery Management Plan (FMP). Currently, midwater trawlers operate without proper monitoring and insufficient observer coverage levels. There is a growing body of evidence and concern that the decline of our local river herring runs has a direct correlation to the increase of midwater trawling in the sea herring fishery. In addition, midwater trawlers are allowed to operate in Groundfish Closed Areas even though they have a proven bycatch of groundfish, including substantial bycatch of juvenile haddock. Midwater trawlers also operate near shore, creating substantial gear conflicts and posing a threat to important near shore species such as river herring and striped bass.

The monitoring system in the herring fishery is inadequate. Recent events illustrate this and serve to reinforce the longstanding concerns many people have with the way the herring fishery is monitored. These events include the area Total Allowable Catch (TAC) overage in Area 1B off the back side of Cape Cod in 2006, the Area 1A pre-June TAC overage in May 2007, and the monitoring mishap that resulted in NMFS closing- then reopening- the fishery in August 2007. There is also great concern that landings data are highly inaccurate to begin with since they are based solely on vessel and dealer good-faith hail weights and because herring vessels are allowed to dump bags at sea without reporting that catch

It's time for the NEFMC to initiate an action that will fix these glaring deficiencies in the herring FMP. The action should include:

- A mandatory weighmaster system whenever midwater trawlers unload that reports catch and bycatch on a real-time basis.
- In addition to the seasonal Area 1A buffer, an inshore buffer zone that keeps midwater trawlers at least 50 miles from shore year-round off of Cape Cod and the Islands

- Mandatory industry-funded observer coverage for midwater trawlers that accounts for river herring bycatch
- Requirements to bring all fish aboard for sampling (no dumping of bags at sea)

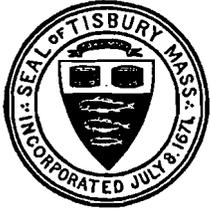
The fleet of large midwater trawlers currently operating in New England poses a grave threat to the future of New England's healthy fisheries, our coastal communities, and the rebuilding of critical groundfish and river herring stocks. Without changes to the way Atlantic herring are managed, our traditional fishing fleet and our river herring runs stand to see continued declines. We encourage you to take action immediately to protect the sea and river herring resources, our coastal communities, and our traditional fisheries.

Sincerely,

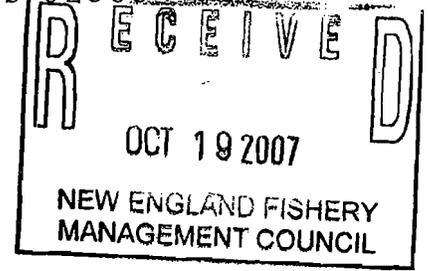


Mary-Jo Avellar, Chairman

CC: Board of Selectmen
Town Manager Sharon Lynn
Provincetown Public Pier Corporation
Provincetown Center for Coastal Studies
Pat Kurkul, NMFS; Bill Hogarth, NMFS; John Pappalardo, NEFMC; David Pierce, NEFMC/MA DMF



TOWN OF TISBURY
 OFFICE OF THE SELECTMEN
 BOX 1239 - 51 SPRING STREET
 VINEYARD HAVEN, MASSACHUSETTS 02568
 TEL: (508) 696-4200
 FAX: (508) 693-5876



October 16, 2007

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

Dear Captain Howard,

We are writing to you today on behalf of the Town of Tisbury to request that the New England Fishery Management Council (NEFMC) listen to Cape Cod and Islands fishermen and develop a better management plan for Atlantic herring in 2008. Atlantic herring are the basis of the food chain in the waters surrounding Cape Cod, Islands and throughout New England. By taking action in 2008 to institute more rigorous monitoring and other accountability measures, the NEFMC will protect the viability of our traditional fishing, charter, and whalewatch fleets, along with our marine ecosystem.

We have learned that most herring are caught using 100+ foot vessels that tow a very large midwater trawl net, usually in teams of two boats (pair trawling). These are the largest, most efficient vessels in the world, in direct contrast to the traditional purse-seine and fixed gear herring fleets which worked in New England for hundreds of years. It is well known that inadequate observation, a flawed set of rules permitting the vessels to dump catch at sea before observers have sampled it, and lack of shoreside monitoring have made it impossible to ascertain the total catch and bycatch of this fleet.

In addition, the river herring populations on Cape Cod and Islands have drastically declined in recent years, and herring runs have all but dried up in certain areas. This directly correlates with the increased presence of these corporate vessels fishing near shore, as river herring are inadvertently caught at sea while these vessels attempt to catch sea herring. The aforementioned flaws in the monitoring program mean that the river herring bycatch which should be observed cannot be reliably measured across the whole fishery, and as such we really cannot know the impact of this fleet on our river herring resource.

The Tisbury Board of Selectmen feels it is time for the NEFMC to create a more accurate and reliable monitoring plan for this herring fleet and forward it to NMFS for implementation. We, the Town of Tisbury, recommend that the NEFMC make Atlantic Herring a management priority in 2008 to address these issues immediately. We encourage you to take this action to protect sea herring and river herring, Cape Cod's coastal communities, and our traditional fisheries that depend on this resource.

Yours very truly,

Thomas W. Pachico
 Chairman

Denys Wortman

Tristan R. Israel

CC: Pat Kurkul, NMFS; Bill Hogarth, NMFS; John Pappalardo, NEFMC; David Pierce, NEFMC/MA DMF; Daniel Furlong, MAFMC; W. Peter Jensen, MAFMC; Gov. Deval Patrick; John V. O'Shea, ASMFC

BOS LETTERS/98.doc



TOWN OF CHATHAM

OFFICE OF THE SELECTMEN

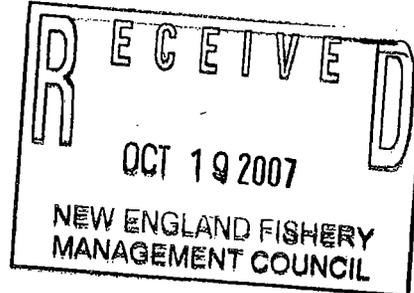
TOWN MANAGER

549 Main Street, Chatham, Massachusetts 02633

(508) 945-5100



October 12, 2007



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

Dear Captain Howard,

We are writing to you today to request the New England Fishery Management Council (NEFMC) make herring a priority in 2008. Management of Atlantic herring has a major impact on local river herring runs and the viability of our traditional fishing fleet.

The Atlantic herring fishery has serious problems that can only be addressed with changes to the Herring Fishery Management Plan (FMP). Currently, midwater trawlers operate without proper monitoring and insufficient observer coverage levels. There is a growing body of evidence and concern that the decline of our local river herring runs has a direct correlation to the increase of midwater trawling in the sea herring fishery. In addition, midwater trawlers are allowed to operate in Groundfish Closed Areas even though they have a proven bycatch of groundfish, including substantial bycatch of juvenile haddock. Midwater trawlers also operate near shore, creating substantial gear conflicts and posing a threat to important near shore species such as river herring and striped bass.

The monitoring system in the herring fishery is inadequate. Recent events illustrate this and serve to reinforce the longstanding concerns many people have with the way the herring fishery is monitored. These events include the area Total Allowable Catch (TAC) overage in Area 1B off the back side of Cape Cod in 2006, the Area 1A pre-June TAC overage in May 2007, and the monitoring mishap that resulted in NMFS closing- then reopening- the fishery in August 2007. There is also great concern that landings data are highly inaccurate to begin with since they are based solely on vessel and dealer good-faith hail weights and because herring vessels are allowed to dump bags at sea without reporting that catch

It's time for the NEFMC to initiate an action that will fix these glaring deficiencies in the herring FMP. The action should include:

- A mandatory weighmaster system whenever midwater trawlers unload that reports catch and bycatch on a real-time basis.

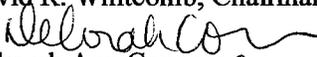
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- Mandatory industry-funded observer coverage for midwater trawlers that accounts for river herring bycatch
- Requirements to bring all fish aboard for sampling (no dumping of bags at sea)

The fleet of large midwater trawlers currently operating in New England poses a grave threat to the future of New England's healthy fisheries, our coastal communities, and the rebuilding of critical groundfish and river herring stocks. Without changes to the way Atlantic herring are managed, our traditional fishing fleet and our river herring runs stand to see continued declines. We encourage you to take action immediately to protect the sea and river herring resources, our coastal communities, and our traditional fisheries.

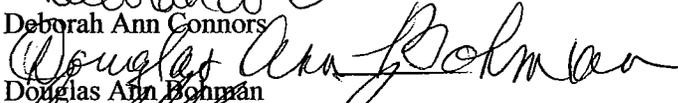
Signed,



David R. Whitcomb, Chairman



Deborah Ann Connors



Douglas Ann Bohman



Ronald L. Bergstrom



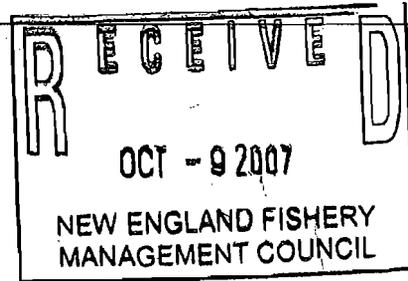
Sean Summers

Chatham Board of Selectmen

CC: Pat Kurkul, NMFS; Bill Hogarth, NMFS; John Pappalardo, NEFMC; David Pierce, NEFMC/MA DMF

Joan O'Leary

From: Jotham Lane [jlane@gdatp.com]
Sent: Monday, October 08, 2007 9:30 AM
To: Paul Howard
Cc: Joan O'Leary
Subject: Herring



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

Dear Captain Howard,

My name is Joe Lane, I am a recreational fisherman from Vermont. I am writing you to show my support for the New England Fishery Management Council making herring a priority in 2008. Action must be taken now to fix the numerous problems with the management system in the herring fishery. The herring stocks are far too important to be managed in such an ineffective system.

The stocks that the recreational sector relies on are all affected by the midwater herring trawlers. Whether it be striped bass, bluefin tuna, groundfish, mackerel, or any recreationally-valuable stock, all rely on herring. Furthermore, all of these speices are taken as bycatch in the midwater trawl fishery. Needless to say, herring management affects the large recreational fishing sector.

Right now, herring management is not working. We do not have a good handle on how many fish are landed, in no small part because of the lack of observers and the fact that midwater trawlers can dump fish having to report it. And we believe that as long as midwater trawling is allowed inshore, that thing will continue to spiral downwards off our coasts.

Th Council should make herring a priority in 2008 and begin an action that included the following:

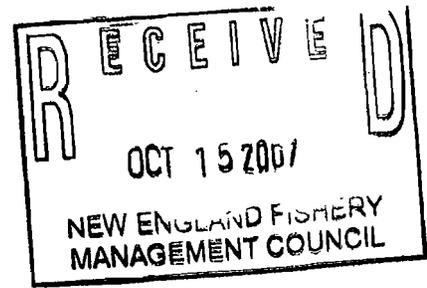
- A mandatory weighmaster system whenever midwater trawlers unload that reports catch and bycatch on a real-time basis.
- In addition to the seasonal Area 1A buffer, an inshore buffer zone that keeps midwater trawlers at least 50 miles from shore year-round
- Mandatory industry-funded observer coverage for midwater trawlers and USAPs
- Requirements to bring all fish aboard for sampling (no dumping of bags at sea)

All recreational fishermen rely on the proper management of herring and it is time for you as managers to do more to ensure that herring are here for us here now and in the future. We cannot afford to continue to mismanage this resource.

Thanks for your time,
 Joe Lane

cc: 15 - 10/9/07

Todd J. Griset
16 Marshall Street
Bath, ME 04530
griset@gmail.com



October 11, 2007

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

Dear Captain Howard,

I am a recreational fisherman and marine mammal watcher from Bath, Maine. I am writing you to show my support for the New England Fishery Management Council making herring a priority in 2008. Action must be taken now to fix the numerous problems with the management system in the herring fishery. The herring stocks are far too important to be managed in such an ineffective system.

First, a personal observation: as midwater herring trawlers have moved in to the Casco Bay and greater Gulf of Maine in the past 5 years, whales have greatly diminished. I have been on a whale watch out of Portland each July, and in the past 3 years we have returned empty-handed: that's right, no whales spotted. In the past 2 years, we haven't even seen any dolphins or porpoises. What we have seen in those years are herring trawlers coming and going from Portland Harbor. Anecdotally, the whale watch operators have told us that there really aren't the numbers of herring available in the ecosystem due to these draggers, so the whales – like the stripers and tuna – have kept on trucking and bypassed our area. Fortunately for us, we go out with a fleet that gives us a free ticket if we get skunked, but this is killing their business. Given the deserted waters off Maine and the successful whale watching we've done off the Gaspé Peninsula and the Cote-Nord of Quebec, I have a hard time recommending the Maine-based whale watches anymore.

The midwater herring trawlers affect all the stocks that the recreational sector relies on. Whether it be striped bass, bluefin tuna, groundfish, mackerel, or any recreationally-valuable stock, all rely on herring. Furthermore, all of these species are taken as bycatch in the midwater trawl fishery. Needless to say, herring management affects the large recreational fishing sector.

Right now, herring management is not working. We do not have a good handle on how many fish are landed, in no small part because of the lack of observers and the fact that midwater trawlers can dump fish without having to report it. And we believe that as long as midwater trawling is allowed inshore, that things will continue to spiral downwards off our coasts.

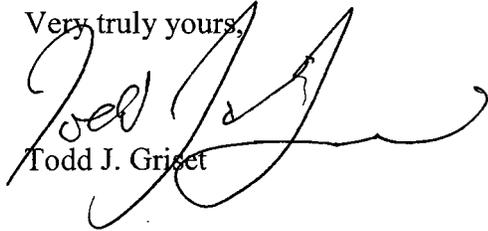
The Council should make herring a priority in 2008 and begin an action that included the following:

- A mandatory weighmaster system whenever midwater trawlers unload that reports catch and bycatch on a real-time basis.
- In addition to the seasonal Area 1A buffer, an inshore buffer zone that keeps midwater trawlers at least 50 miles from shore year-round.
- Mandatory industry-funded observer coverage for midwater trawlers and USAPs.
- Requirements to bring all fish aboard for sampling (no dumping of bags at sea)

All of us recreational fishermen and whale watchers rely on the proper management of herring. It is time for you as managers to do more to ensure that herring are here for us here now and in the future. We cannot afford to continue to mismanage this resource.

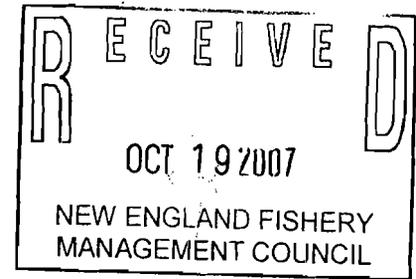
Thanks for your consideration.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Todd J. Griest', written over the typed name.

Todd J. Griest

John Pappalardo, Chairman
New England Fishery Management Council
c/o Captain Paul Howard, Executive Director
50 Water Street, Mill 2
Newburyport, MA 01950



Patricia Kurkul
Regional Administrator NOAA/NMFS
One Blackburn Drive
Gloucester, MA 01930

Dear Chairman Pappalardo and Regional Administrator Kurkul,

I write to encourage the New England Fishery Management Council (NEFMC) to make Atlantic herring a management priority in 2008. *As a marine biologist who has worked offshore studying whales, seals and sea turtles since 1980, I firmly believe that herring are a keystone species that are key to a healthy marine ecosystem in New England. Many species of marine mammals, sea birds, and fish depend on abundant populations of herring for their health and survival. And many local businesses like whale watching and other forms of wildlife viewing rely on the presence of these mega-fauna feeding each season in our inshore or coastal waters.*

Currently, herring management and monitoring is inadequate to:

- (1) assess bycatch in the industrial midwater trawl fishery
- (2) account for the needs of predators that feed on herring
- (3) determine the catch and discards of herring

Industrial mid-water trawlers, towing nets longer than a football field, are currently allowed to operate with almost no observer coverage. Even when they do have observers they are allowed to dump entire nets at sea without the observers ever seeing the fish and other marine life that dies and sinks to the bottom. What the observers are allowed to see has been mechanically presorted with grids and grates, sifting out anything large. This lack of accounting for bycatch is unacceptable and completely against the spirit of the Sustainable Fisheries Act.

In addition, to maintain a healthy ecosystem, catch levels need to take into account the needs of all the predators of herring and the catch and discards of herring need to be quantified. To accomplish this, accurate discard rates need to be determined through a more robust observer program and landings need to be weighed at the dock.

To fix the herring fishery, NEFMC should initiate action in 2008 that includes:

- Requirements to bring all fish aboard for sampling (no dumping of bags at sea)
- A system of setting annual catch limits that accounts for the growing needs of predators
- A mandatory weighmaster system that reports catch and bycatch on a real-time basis

Herring are the backbone of the ocean ecosystem. It is unacceptable to allow such an important stock to be managed in such an improper fashion. I urge you and the NEFMC to put herring on the priority list for 2008 so that management of this vital resource can be addressed in the coming year.

Sincerely,
Carol "Krill" Carson
President, New England Coastal Wildlife Alliance (NECWA) at www.necwa.org

CC: Bill Hogarth, Herring Alliance

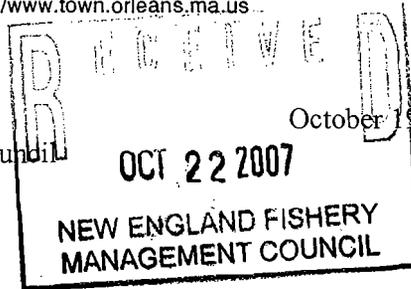


TOWN OF ORLEANS

19 SCHOOL ROAD ORLEANS MASSACHUSETTS 02653-3699
Telephone (508) 240-3700 — Fax (508) 240-3703
<http://www.town.orleans.ma.us>

BOARD OF
SELECTMEN
TOWN
ADMINISTRATOR

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



October 19, 2007

Dear Captain Howard,

I am writing to you today on behalf of the Town of Orleans Board of Selectmen to request that the New England Fishery Management Council (NEFMC) make herring a priority in 2008. Management of Atlantic herring has a major impact on local river herring runs and the viability of our traditional fishing fleet.

The Atlantic herring fishery has serious problems that can only be addressed with changes to the Herring Fishery Management Plan (FMP). Currently, midwater trawlers operate without proper monitoring and insufficient observer coverage levels. There is a growing body of evidence and concern that the decline of our local river herring runs has a direct correlation to the increase of midwater trawling in the sea herring fishery. In addition, midwater trawlers are allowed to operate in Groundfish Closed Areas even though they have a proven bycatch of groundfish, including substantial bycatch of juvenile haddock. Midwater trawlers also operate near shore, creating substantial gear conflicts and posing a threat to important near shore species such as river herring and striped bass.

The monitoring system in the herring fishery is inadequate. Recent events illustrate this and serve to reinforce the longstanding concerns many people have with the way the herring fishery is monitored. These events include the area Total Allowable Catch (TAC) overage in Area 1B off the back side of Cape Cod in 2006, the Area 1A pre-June TAC overage in May 2007, and the monitoring mishap that resulted in NMFS closing- then reopening- the fishery in August 2007. There is also great concern that landings data are highly inaccurate to begin with since they are based solely on vessel and dealer good-faith hail weights and because herring vessels are allowed to dump bags at sea without reporting that catch.

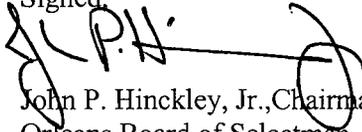
It's time for the NEFMC to initiate an action that will fix these glaring deficiencies in the herring FMP. The action should include:

- A mandatory weighmaster system whenever midwater trawlers unload that reports catch and bycatch on a real-time basis.
- In addition to the seasonal Area 1A buffer, an inshore buffer zone that keeps midwater trawlers at least 50 miles from shore year-round off of Cape Cod and the Islands
- Mandatory industry-funded observer coverage for midwater trawlers that accounts for river herring bycatch
- Requirements to bring all fish aboard for sampling (no dumping of bags at sea)

The fleet of large midwater trawlers currently operating in New England poses a grave threat to the future of New England's healthy fisheries, our coastal communities, and the rebuilding of

critical groundfish and river herring stocks. Without changes to the way Atlantic herring are managed, our traditional fishing fleet and our river herring runs stand to see continued declines. We encourage you to take action immediately to protect the sea and river herring resources, our coastal communities, and our traditional fisheries.

Signed,

A handwritten signature in black ink, appearing to read "J.P.H.", with a large, stylized flourish extending to the right.

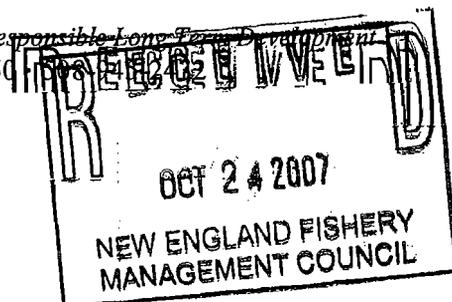
John P. Hinckley, Jr., Chairman
Orleans Board of Selectmen

cc: Pat Kurkul, NMFS; Bill Hogarth, NMFS; John Pappalardo, NEFMC; David Pierce, NEFMC/MA DMF; Daniel Furlong, MAFMC; W. Peter Jensen, MAFMC

CHOIR COALITION



Coalition for the Atlantic Herring Fishery's Orderly, Informed and Responsible Long-Term Development
210-E Orleans Road • North Chatham, MA 02650



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

Dear Captain Howard,

I am writing to you today on behalf of the CHOIR Coalition to request that the New England Fishery Management Council (NEFMC) make herring a priority in 2008.

CHOIR is an industry coalition made up of commercial and recreational fishing organizations, fishing and shore side businesses, and eco-tourism companies. CHOIR is recognized as a stakeholder in the herring fishery and is a leading voice for the responsible management of herring.

The Atlantic herring fishery has serious problems that can only be addressed with changes to the Herring Fishery Management Plan (FMP). Currently, midwater trawlers operate without proper monitoring and insufficient observer coverage levels. In addition, midwater trawlers are allowed to operate in Groundfish Closed Areas even though they have a proven bycatch of groundfish, including substantial bycatch of juvenile haddock. Midwater trawlers also operate near shore, creating substantial gear conflicts and posing a threat to important near shore species such as river herring and striped bass.

The monitoring system in the herring fishery is inadequate. Recent events illustrate this and serve to reinforce the longstanding concerns many people have with the way the herring fishery is monitored. These events include the area Total Allowable Catch (TAC) overage in Area 1B in 2006, the Area 1A pre-June TAC overage in May 2007, and the monitoring mishap that resulted in NMFS closing- then reopening- the fishery in August 2007. There is also great concern that landings data are highly inaccurate to begin with since they are based solely on vessel and dealer good-faith hail weights and because herring vessels are allowed to dump bags at sea without reporting that catch.

It's time for the NEFMC to initiate an action that will fix these glaring deficiencies in the herring FMP. The action should include:

- A mandatory weighmaster system whenever midwater trawlers unload that reports catch and bycatch on a real-time basis.
- In addition to the seasonal Area 1A buffer, an inshore buffer zone that keeps midwater trawlers at least 50 miles from shore year-round
- Mandatory industry-funded observer coverage for midwater trawlers and USAPs
- Requirements to bring all fish aboard for sampling (no dumping of bags at sea)

The fleet of large midwater trawlers currently operating in New England poses a grave threat to the future of New England's healthy fisheries and the rebuilding of groundfish and whiting stocks. We encourage you to take action immediately to protect the herring resource, our marine ecosystem and our traditional fisheries.

Signed,

Steve Weiner
Chairman
CHOIR Coalition

On behalf of the undersigned businesses and groups:

Rodney J. Ratchoffe
Rods Delight Charters
2 Reservoir St.
Methuen, MA 01844



**NW Atlantic Small Pelagic Resource Oversight Group
4 Fish Island**

New Bedford, MA 02740

Contacts: Brady Schofield/NORPEL, New Bedford, MA (508) 979 1171

Jeff Reichle/Lund's Fisheries, Cape May, NJ (609) 884 7600

October 23, 2007

Processors:

Lund's Fisheries
Atlantic Capes Fisheries
Cape May, NJ
NORPEL
New Bedford, MA
P/V Atlantic Frost
Fall River, MA
Cape Seafoods, Inc.
Gloucester, MA
Atlantic Pelagic
Seafoods, LLC
Portland, ME

Vessels:

Cape May, NJ:
F/V Enterprise
F/V Gulf Stream
F/V Flicka
F/V Dyrsten
F/V Retriever
F/V White Dove

New Bedford, MA
F/V Atlantic
F/V Moragh K
F/V Mary K
F/V Nordic Explorer
F/V Dona Martita
F/V Eastern Hunter
F/V Western Hunter
F/V Crystal Sea
F/V Luke and Sarah
F/V Nobska
F/V Morue

Gloucester, MA
F/V Endeavor
F/V Challenger
F/V Voyager
F/V Osprey
F/V Western Venture

Newington, NH
F/V Isabelle Taylor
F/V Jean Macausland

Portland, ME
F/V Harmony
F/V Providian
F/V AJ

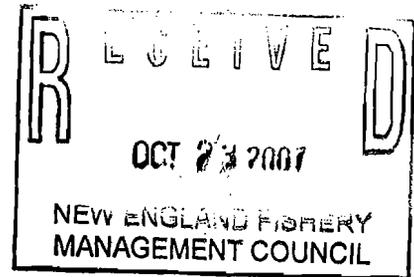
Associations:

American Pelagic
Association

Garden State Seafood
Association

Patricia A. Kurkul, Regional Administrator
NMFS, Northeast Regional Office
One Blackburn Drive
Gloucester, MA 01930

Via fax (978) -281-9135 and e-mail



**RE: Petition by EarthJustice to Secretary Guterrez for emergency relief in
the Atlantic Herring fishery**

Dear Ms Kurkul,

Our industry is very concerned about ongoing allegations made in the press, and most recently in the Petition by EarthJustice to the Secretary of Commerce, that the Atlantic herring fishery is unmanaged and poorly regulated and that an Emergency exists that requires immediate elimination of mid-water trawl gear from the groundfish closed areas.

We request a meeting with you, Dr. Nancy Thompson, and Mr. Andrew Cohen as soon as possible to discuss the status of the fishery and the pending Petition in order to open a dialogue that may be useful to the Agency and the industry in responding to the Petition. Perhaps we could meet during the upcoming NEFMC meeting Nov 6-7, if not sooner.

For the record, we support federal observer coverage for all fisheries consistent with levels that are determined to yield statistically valid results useful in managing all fisheries in a sustainable fashion.

In addition, as part of the Amendment 16, the NEFMC Multispecies PDT will be reviewing bycatch data for all exempted fisheries including midwater trawls. We believe this Petition is unwarranted given this review is in progress.

Please contact us at your earliest convenience with available meeting dates/times so we can have an opportunity to work with your Agency on this important issue.

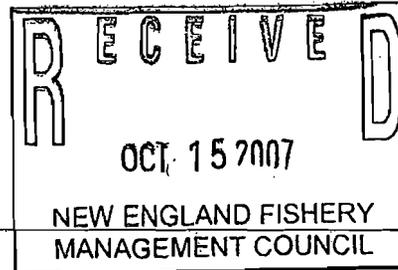
Sincerely,

Peter Moore/American Pelagic Association (207) 233 4353
Jeff Kaelin/ F/V Providian and Ocean Spray Partnership
Mary Beth Tooley / Small Pelagic Group
Dave Ellenton / Cape Seafoods and Western Sea Fishing Company
Greg DiDominico / Garden State Seafood Association

Cc: Dr. Nancy Thompson
Mr Andrew Cohen, Special Agent in Charge, NMFS Enforcement
Mr. Paul Howard, NEFMC
Dr. David Pierce, MA DMF, NEFMC Pelagic Committee Chair

Joan O'Leary

From: Paul Howard
Sent: Monday, October 15, 2007 9:03 AM
To: Joan O'Leary
Subject: FW: Herring Buffer Zone



From: JJ Shields [mailto:jshields52@gmail.com]
Sent: Friday, October 12, 2007 11:21 AM
To: Paul Howard
Subject: Herring Buffer Zone

Dear Captain Howard,

My name is Jay Shields, I am a charter captain from Beverly, MA and am writing to you today to encourage the New England Fishery Management Council to make herring a priority in 2008. As a fisherman, my livelihood depends on healthy herring stocks. It is common knowledge that herring is the backbone of the ecosystem. Furthermore, we all rely on the managers to properly manage the herring fishery.

Currently, the management of the species is simply atrocious. The landings system is clearly ineffective: landings are estimated and often untimely. Compounding that problem is the fact that midwater trawlers can dump bags of fish (whether it be herring or other regulated species) without even reporting it. There is also a lack of monitoring, including a meager percentage of observer coverage. Making matters worse, midwater trawlers are still allowed to fish only miles from the coast, disrupting the inshore ecosystem and creating massive gear conflicts.

Furthermore, while I understand the economic importance of the fishery, the current management is very narrow in scope. One must also consider the economic detriment the wanton slaughter of herring causes. Groundfish, striped bass, bluefin tuna and many other commercially valuable species are highly dependent upon these fish. I feel that further economic assesment is necessary to determine the true value of herring. To correct these glaring problems, I strongly encourage you and the Council to make herring a priority in 2008 and to initiate a herring action as soon as possible. The action should include:

- A mandatory weighmaster system whenever midwater trawlers unload that reports catch and bycatch on a real-time basis.
- In addition to the seasonal Area 1A buffer, an inshore buffer zone that keeps midwater trawlers at least 50 miles from shore year-round
- Mandatory industry-funded observer coverage for midwater trawlers and USAPs
- Requirements to bring all fish aboard for sampling (no dumping of bags at sea)

We have allowed the midwater trawl fleet to cause a lot of damage and its time that the managers address the problem. As the body in charge of herring management, it is of utmost importance that you act now before it is too late.

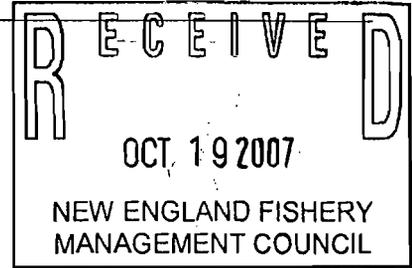
Thanks for your time

Capt. Jay Shields

10/15/2007

Joan O'Leary

From: Lori Steele
Sent: Friday, October 19, 2007 9:16 AM
To: Joan O'Leary
Subject: FW: Herring Closure



From: Cathy Beck [mailto:cathybeck@epix.net]
Sent: Thursday, October 18, 2007 11:43 AM
To: Paul Howard
Subject: Herring Closure

Dear Mr. Howard,

My husband and I fish the Cape every year and urgently request that you work to keep the herring trawlers out. We don't want the herring wiped out by these trawlers. Please allow them to come into the bay to support the sport fishing that has the potential to be so spectacular there. We come to Cape Cod every year and, along with many others, will continue to do so as long as the fishing is good. We stay in local hotels, eat in local restaurants, shop at local retailers. We hope to do so for many years to come. Cathy & Barry Beck.

Barry & Cathy Beck
309 Upper Raven Creek Rd.
Benton, PA 17814
www.barryandcathybeck.com
info@barryandcathybeck.com

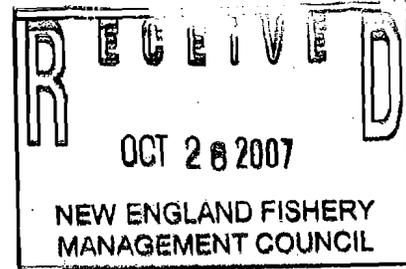


TOWN OF EASTHAM

2500 State Highway, Eastham, MA 02642-2544
All departments 508 240-5900 Fax 508 240-1291
www.eastham-ma.gov

October 17, 2007

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



Dear Captain Howard:

The Board of Selectmen from the Town of Eastham are requesting, by virtue of this letter, that the new England Fishery Management Council (NEFMC) make the management of the Sea Herring Fishery a priority in 2008. The management of Atlantic herring has a major impact on local river herring runs and the viability of our traditional fishing fleet.

The Atlantic herring fishery has serious problems that can only be addressed with changes to the Herring Fishery Management Plan (FMP). Currently, mid-water trawlers operate without proper monitoring and insufficient observer coverage levels. There is a growing body of evidence and concern that the decline of our local river herring runs has a direct correlation to the increase of mid-water trawling in the sea herring fishery. In addition, mid-water trawlers are allowed to operate in Groundfish Closed Areas even though they have a proven by-catch of groundfish, including substantial by-catch of juvenile haddock. Mid-water trawlers also operate near shore, creating substantial gear conflicts and posing a threat to important near-shore species such as river herring and striped bass.

The monitoring system in the herring fishery is inadequate. Recent events illustrate this and serve to reinforce the longstanding concerns many people have with the way the herring fishery is monitored. These events include the Area 1 A pre-June TAC overage in May 2007, and the monitoring mishap that resulted in NMFS closing - then reopening - the fishery in August 2007. There is also great concern that landings data are highly inaccurate to begin with, since they are based solely on vessel and dealer good-faith hail weights and because herring vessels are allowed to dump bags at sea without reporting that catch.

It is time for the NEFMC to initiate an action that will fix these glaring deficiencies in the herring FMP. Actions should include:

- A Mandatory weigh-master system whenever mid-water trawlers unload that reports catch and by-catch on a real-time basis;
- In addition to the seasonal Area 1A buffer, an inshore buffer zone that keeps mid-water trawlers at least fifty (50) miles from shore year-round off of Cape Cod



Town of Brewster

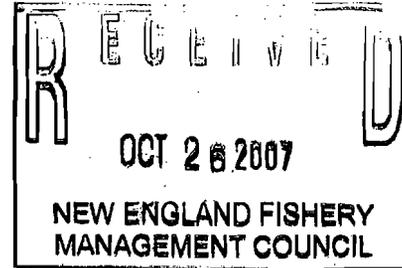
BREWSTER, MASSACHUSETTS 02631-1898

(508) 896-3701
FAX (508) 896-8089

OFFICE OF:
BOARD OF SELECTMEN
TOWN ADMINISTRATOR

October 15, 2007

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



Dear Captain Howard,

I am writing to you today on behalf of the Brewster Board of Selectmen to request that the New England Fishery Management Council (NEFMC) make herring a priority in 2008. Management of Atlantic herring has a major impact on local river herring runs and the viability of our traditional fishing fleet.

The Atlantic herring fishery has serious problems that can only be addressed with changes to the Herring Fishery Management Plan (FMP). Currently, midwater trawlers operate without proper monitoring and insufficient observer coverage levels. There is a growing body of evidence and concern that the decline of our local river herring runs has a direct correlation to the increase of midwater trawling in the sea herring fishery. In addition, midwater trawlers are allowed to operate in Groundfish Closed Areas even though they have a proven bycatch of groundfish, including substantial bycatch of juvenile haddock. Midwater trawlers also operate near shore, creating substantial gear conflicts and posing a threat to important near shore species such as river herring and striped bass.

The monitoring system in the herring fishery is inadequate. Recent events illustrate this and serve to reinforce the longstanding concerns many people have with the way the herring fishery is monitored. These events include the area Total Allowable Catch (TAC) overage in Area 1B off the back side of Cape Cod in 2006, the Area 1A pre-June TAC overage in May 2007, and the monitoring mishap that resulted in NMFS closing- then reopening- the fishery in August 2007. There is also great concern that landings data are highly inaccurate to begin with since they are based solely on vessel and dealer good-faith hail weights and because herring vessels are allowed to dump bags at sea without reporting that catch

It's time for the NEFMC to initiate an action that will fix these glaring deficiencies in the herring FMP. The action should include:

- A mandatory weighmaster system whenever midwater trawlers unload that reports catch and bycatch on a real-time basis.
- In addition to the seasonal Area 1A buffer, an inshore buffer zone that keeps midwater trawlers at least 50 miles from shore year-round off of Cape Cod and the Islands
- Mandatory industry-funded observer coverage for midwater trawlers that accounts for river herring bycatch

- Requirements to bring all fish aboard for sampling (no dumping of bags at sea)

The fleet of large midwater trawlers currently operating in New England poses a grave threat to the future of New England's healthy fisheries, our coastal communities, and the rebuilding of critical groundfish and river herring stocks. Without changes to the way Atlantic herring are managed, our traditional fishing fleet and our river herring runs stand to see continued declines. We encourage you to take action immediately to protect the sea and river herring resources, our coastal communities, and our traditional fisheries.

Signed,

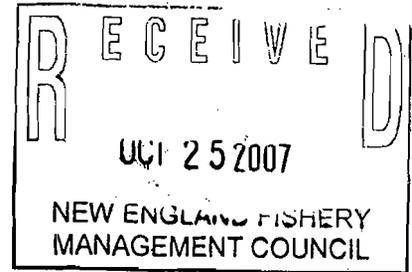
A handwritten signature in black ink, appearing to read 'Edward S. Lewis', written over a horizontal line.

Edward S. Lewis, Chairman
Brewster Board of Selectmen

CC: Pat Kurkul, NMFS;
Bill Hogarth, NMFS;
John Pappalardo, NEFMC;
David Pierce, NEFMC/MA DMF

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

Patricia Kurkul, Regional Administrator
Northeast Region, NOAA Fisheries
One Blackburn Drive
Gloucester, MA 01930-2298



October 10, 2007

Dear Captain Howard and Regional Administrator Kurkul,

I'm writing today because I am a Massachusetts River Herring advocate and I am extremely concerned about the health of the Gulf of Maine ecosystem and the traditional fisheries and communities it supports. My concern arises from the inadequate management of New England's industrial herring fleet.

The Atlantic Herring fishery has problems that need to be addressed and action must be taken in 2008. Currently, midwater trawlers are operating without proper monitoring and insufficient observer coverage levels. We lack the most basic information on this fishery, taking educated guesses at best about what is caught. Midwater trawl ships also operate near shore, creating substantial gear conflicts and potentially posing a threat to important near shore species such as River Herring and Striped Bass. It's time for management to do something about this problem and act accordingly.

The fleet of 150+ foot midwater trawl ships currently operating in New England poses a grave threat to the future of New England's healthy fisheries and the rebuilding of Herring runs, groundfish and Whiting stocks. By taking immediate action altering the Sea Herring Fishery Management Plan in 2008 to instituting more rigorous monitoring and other accountability measures, the NEFMC will protect the viability of our traditional fishing, charter, and whalewatch fleets, along with our marine ecosystem.

Signed,

Pamela Herrick
Box 1894 Orleans, MA 02653

Cc: The Honorable Deval Patrick, Bill Hogarth, NMFS; John Pappalardo, NEFMC; David Pierce, NEFMC/MA DMF; Daniel Furlong, MAFMC; W. Peter Jensen, MAFMC;

*I have lived next to a Herring Run for 70 years
and am shocked in the fact of such depletion of
Herring and the stripers who follow them —*

Town and County of Nantucket
Board of Selectmen • County Commissioners

Whitey Willauer, Chairman
Brian J. Chadwick
Michael Kopko
Allen B. Reinhard
Patricia Roggeveen



16 Broad Street
Nantucket, Massachusetts 02554

Telephone (508) 228-7255
Facsimile (508) 228-7272
www.nantucket-ma.gov

C. Elizabeth Gibson
Town & County Administrator

NEW ENGLAND FISHERY
MANAGEMENT COUNCIL

October 25, 2007

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

Dear Captain Howard,

I am writing to you today on behalf of the Town of Nantucket to request that the New England Fishery Management Council (NEFMC) listen to our concerned Cape Cod fishermen and develop a proactive framework adjustment to the management plan for Atlantic herring in 2008. Atlantic herring are the basis of the food chain in the waters surrounding Cape Cod and throughout New England. By taking immediate action in 2008 to institute more rigorous monitoring and other accountability measures, the NEFMC will protect the viability of our traditional fishing, charter, and whalewatch fleets, along with our marine ecosystem.

We have learned that most herring are caught using 100+ foot vessels that tow a very large midwater trawl net, usually in teams of two boats (pair trawling). These are the largest, most efficient vessels in the world, in direct contrast to the traditional purse-seine and fixed gear herring fleets which worked in New England for hundreds of years. There is widespread acknowledgement that insufficient observer coverage rates, a flawed protocol which permits the vessels to dump catch at sea before observers have sampled it, and lack of shoreside monitoring have created a situation in which the total catch and bycatch of this fleet are not known.

Furthermore, the river herring populations on Cape Cod have drastically declined in recent years, and herring runs have all but dried up in certain areas. This directly correlates with the increased presence of these corporate vessels fishing near shore, as river herring are inadvertently caught at sea while these vessels attempt to catch sea herring. The aforementioned flaws in the monitoring program mean that the significant river herring bycatch which is regularly observed cannot be reliably extrapolated across the whole fishery, and as such we really do not know the impacts of this fleet on our river herring resource.

It's time for the NEFMC to create a more accurate and reliable monitoring plan for this herring fleet and forward it to NMFS for implementation. We, the Town of Nantucket, recommend that the NEFMC make Atlantic Herring a management priority in 2008 to address these issues immediately. We encourage you to take this action to protect sea herring and river herring, Cape Cod's coastal communities, and our traditional fisheries that depend on this resource.

Sincerely,

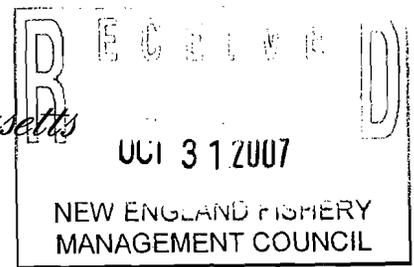
Whiting Willauer,
Chairman, Board of Selectmen

CC: Pat Kurkul, NMFS; Bill Hogarth, NMFS; John Pappalardo, NEFMC; David Pierce, NEFMC/MA DMF; Daniel Furlong, MAFMC; W. Peter Jensen, MAFMC; Gov. Deval Patrick



The Commonwealth of Massachusetts

HOUSE OF REPRESENTATIVES
STATE HOUSE, BOSTON 02133-1054



**STATE REPRESENTATIVE
DOUGLAS W. PETERSEN**
EIGHTH ESSEX DISTRICT
MARBLEHEAD - SWAMPSCOTT
LYNN (WARD 3, PCT. 4 & WARD 4, PCT 4)
TEL. (781) 631-4680

Committees on:
Education
Environment, Natural Resources & Agriculture
Municipalities & Regional Government

ROOM 544, STATE HOUSE
TEL. (617) 722-2637
FAX (617) 722-2922
Rep.DouglasPetersen@hou.state.ma.us

October 29, 2007

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

Dear Mr. Howard,

I would like to urge the New England Fishery Management Council (NEFMC) to please consider the Atlantic herring as a priority issue as you move forward with your 2008 management outline. As State Representative of three communities situated on the sea, it is my great concern that the herring resources remain plentiful and healthy. Both commercial and recreational fisheries have expressed their concern as well to me that the NEFMC address this issue in a proactive manner.

A vigorous marine ecosystem is vitally important to the environmental and economic sustainability of New England and to this end I would advocate that the Atlantic herring be acknowledged as a key component. As expressed to me by constituents, good herring management must include: assessing bycatch in the industrial midwater trawl fishery, accounting for the needs of predators that feed on herring, and determining the catch and discards of herring.

I thank you for your consideration of this matter and hope that through sustained good marine management practices, we will be successful in meeting the challenges of protecting our treasured resources.

Sincerely,

DOUGLAS W. PETERSEN
State Representative
Eighth Essex District

THOMAS H. ALLEN
1ST DISTRICT OF MAINE

1127 LONGWORTH HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-6116

57 EXCHANGE STREET, SUITE 302
PORTLAND, ME 04101
(207) 774-5019

209 MAIN STREET, SUITE 103
SACO, ME 04072
(207) 283-8054

www.tomallen.house.gov



Congress of the United States
House of Representatives
Washington, DC 20515-1901

COMMITTEE ON THE BUDGET
COMMITTEE ON
ENERGY AND COMMERCE

SUBCOMMITTEES:
HEALTH

ENERGY AND AIR QUALITY

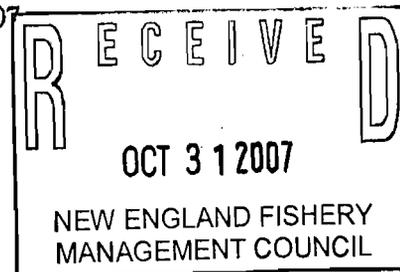
ENVIRONMENT AND HAZARDOUS MATERIALS

HOUSE OCEANS CAUCUS
CO-CHAIR

AFFORDABLE MEDICINES TASK FORCE
CO-CHAIR

October 30, 2007

Mr. John W. Pappalardo
Chairman
New England Fishery Management Council
210 Orleans Rd
North Chatham, Massachusetts 02650



Dear Mr. Pappalardo:

As the New England Fishery Management Council (NEFMC) meets this fall to consider priorities for the coming year, I would like to respectfully request your attention to two fisheries important to me and to my constituents: groundfish and herring.

Groundfish stocks in New England crashed in 1994, and since that time groundfishermen in New England have been suffering under increasingly strict limits on fishing effort. Maine's groundfish fleet has decreased by half in the years since 1994. Although some stocks are showing slow recovery, this has not been reflected in fishing regulations. In fact, it seems likely that New England's groundfish fleet will face further restrictions in the coming years. Small, owner-operated vessels are the most vulnerable to the economic hardships that result from these restrictions, and I believe that if current trends continue, many or most of these independent fishermen will be forced out of the industry, changing the face of fishing in Maine and elsewhere in New England forever.

NEFMC has a responsibility to manage the groundfish fishery sustainably. I believe that this responsibility extends beyond the fish to the fishermen, and I call on NEFMC to articulate a vision for the future of the New England groundfishery that retains the diversity that is so much a part of the character and history of coastal New England. Specifically, I ask that NEFMC develop and implement a regionally equitable management strategy that promotes the continued participation of small owner-operators in the fishery and allows for the re-entry of these fishermen into the fishery as stocks rebuild. I encourage the development of sectors as an important step toward these goals, but I also encourage NEFMC to look beyond sectors to other creative and comprehensive management alternatives.

Atlantic sea herring is a keystone species and a critical component to healthy marine ecosystems in the Gulf of Maine. Numerous species of marine mammals, sea birds, and fish depend on abundant herring populations for their health and survival. In recent years, New England's herring industry has been the subject of controversy over bycatch and reporting issues. Members of other fishing sectors and the environmental community have expressed serious concern over the potential for large amounts of bycatch by midwater herring trawlers,

particularly in areas closed to other types of fishing. The herring industry has struggled to disprove these accusations because vessel monitoring and observer coverage are inadequate, and also in some cases because of the technological challenges associated with high throughput fisheries. Most herring fishermen comply with reporting requirements, but a recent highly publicized case in which a bad actor failed to report substantial catches has further tarnished the reputation of the industry. Finally, the herring industry is currently struggling to adapt to the major changes approved to the herring management plan approved by NEFMC last year.

I believe that a healthy herring fishery is consistent with responsible management of the Gulf of Maine ecosystem, and I am concerned that law-abiding herring fishermen in my district are being unfairly targeted. However, I am also concerned about potential bycatch issues in the herring fishery, particularly in areas where herring overlap with other commercially important species. I believe that the only way to resolve these controversies is through better information. To that end, I ask that NEFMC take targeted action this year to improve monitoring, observer coverage, and reporting in the herring industry.

I would like to thank you for all of your hard work at NEFMC, and I wish you all the best in the upcoming year. I appreciate the opportunity to share my concerns.

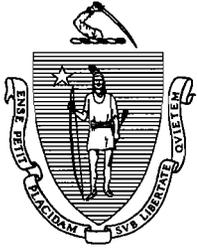
Sincerely,



Tom Allen
Member of Congress

cc: Paul Howard
cc: Patricia Kurkul
cc: George Lapointe
cc: Jim Odlin
cc: James Salisbury

THA:mj



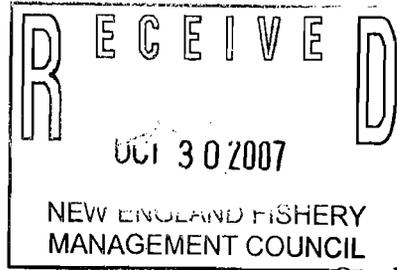
The Commonwealth of Massachusetts

HOUSE OF REPRESENTATIVES
STATE HOUSE, BOSTON 02133-1054

DEMETRIUS J. ATSALIS
REPRESENTATIVE
2ND BARNSTABLE DISTRICT

ROOM 26, STATE HOUSE
TEL. (617) 722-2080
FAX (617) 722-2339
E-Mail:

Rep.DemetriusAtsalis@hou.state.ma.us



October 29, 2007

Committees:

Vice Chairman, Election Laws
Labor and Workforce Development
Bonding, Capital Expenditures and State Assets

DISTRICT OFFICE
TEL. (508) 771-5422

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

Dear Captain Howard:

I am writing to voice my encouragement that the New England Fishery Management Council (NEFMC) will decide to include Atlantic Herring fisheries management as one of its top priorities at its November meeting. According to many of my concerned constituents, the state's Atlantic Herring fishery is at a crossroads and in need of reform if it wants to continue as an important part of the state's future fishing industry.

The major complaints that I have heard from commercial and recreational fishermen are the inadequacies in the overall management and monitoring of Herring catches in this state, and the emergence of industrial mid water trawling ships in state waters that pose a destructive force on the Atlantic Herring stocks. A prudent management plan will not only sustain both the fish stocks and our fishing communities, but also strengthen key conservation provisions and protect our fishing communities from excessive ocean net dragging by certain segments of the fishing industry.

Massachusetts has a fishing industry that is hundreds of years old and is part of a heritage that defines our State and makes it a special place. Massachusetts fishermen want policies that not only allow them to catch fish today but will also ensure a long-term sustainable fishery. That is why these fishermen need policies in place that ensure a level playing field that give them economic certainty and protection of their the fish stocks.

Having a healthy Atlantic Herring resource is critical to New England's commercial fisheries because of its importance to the aquatic ecosystem. The Council must make it their priority to develop an Atlantic Herring fisheries management plan that addresses the over fishing of Atlantic Herring fish stocks and the threat of mid water trawling on this fish specie before it is too late by requiring an at sea system to account for all catches in a vessel's net and by requiring a shore-side based system to account for all landings by Category 1 herring vessels.

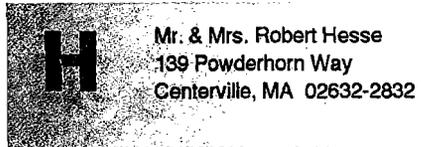
Thank you for your attention to this matter. If you have any further questions about this letter please feel free to contact me at (617) 722-2080.

Sincerely,

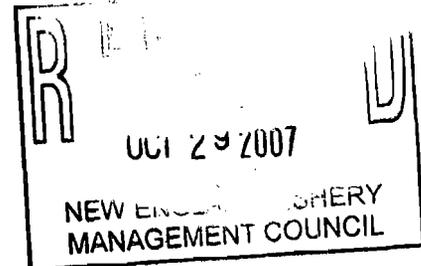
A handwritten signature in black ink that reads "Demetrius J. Atsalis". The signature is written in a cursive style with a large, prominent "D" at the beginning.

Demetrius J. Atsalis
STATE REPRESENTATIVE
2nd Barnstable District

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



Patricia Kurkul, Regional Administrator
Northeast Region, NOAA Fisheries
One Blackburn Drive
Gloucester, MA 01930-2298



October 10, 2007

Dear Captain Howard and Regional Administrator Kurkul,

I'm writing today because I am a Massachusetts citizen and a River Herring advocate. I am extremely concerned about the health of the Gulf of Maine ecosystem and the traditional fisheries and communities it supports. My concern arises from the inadequate management of New England's industrial herring fleet.

The Atlantic Herring fishery has problems that need to be addressed. Currently, midwater trawlers are operating without proper monitoring and insufficient observer coverage levels. We lack the most basic information on this fishery, taking educated guesses at best about what is caught. Midwater trawl ships also operate near shore, creating substantial gear conflicts and potentially posing a threat to important near shore species such as River Herring, Scup and Striped Bass. It's time for management to do something about this problem and act accordingly.

The fleet of 150+ foot midwater trawl ships currently operating in New England poses a grave threat to the future of New England's healthy fisheries and the rebuilding of Herring runs, groundfish and Whiting stocks. I encourage you to take action immediately to protect our marine ecosystem and our traditional fisheries by developing a proactive framework that will adjust the current Fishery Management Plan for Atlantic Herring in 2008. The action should include:

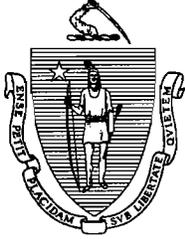
A mandatory weighmaster system whenever midwater trawlers unload that reports catch and bycatch on a real-time basis.

In addition to the seasonal Area 1A buffer, an inshore buffer zone that keeps midwater trawlers at least 50 miles from shore year-round off of Cape Cod and the Islands
Mandatory industry-funded observer coverage for midwater trawlers that accounts for river herring bycatch

Requirements to bring all fish aboard for sampling (no dumping of bags at sea)

Signed,

Robert Hesse
Gail H. Hesse



The Commonwealth of Massachusetts

HOUSE OF REPRESENTATIVES
STATE HOUSE, BOSTON 02133-1054

SARAH K. PEAKE
STATE REPRESENTATIVE
4TH BARNSTABLE DISTRICT

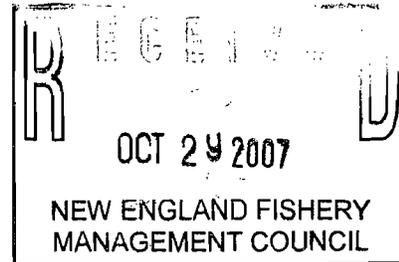
October 25, 2007

Committees:
Environment, Natural Resources & Agriculture
Financial Services
Municipalities and Regional Government

ROOM 540, STATE HOUSE
TEL. (617) 722-2090

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

Patricia Kurkul, Regional Administrator
NOAA/NMFS
One Blackburn Drive
Gloucester, MA 01930



Dear Captain Howard and Ms. Kurkul,

I am writing to respectfully request the New England Fishery Management Council (NEFMC) to make the Atlantic herring one of the six management priorities in 2008. The management of our herring resource is of critical importance to the future of our fishing communities. Herring are a critical part of the food web. Many species of marine mammals, sea birds, and fish depend on abundant populations of herring for their health and survival. The survival of species as diverse as lobsters and the North Atlantic Right Whale are affected by the health and robustness of the Atlantic Herring stock. I have heard from my constituents who are involved in fisheries management issues, all have been clear and vocal about the need for NEFMC to act in the swiftest possible manner on this issue.

Currently, herring management and monitoring is inadequate to:

- (1) assess bycatch in the industrial midwater trawl fishery
(2) account for the needs of predators that feed on herring
(3) determine the catch and discards of herring

To fix the herring fishery, NEFMC must initiate action in 2008. Herring are the backbone of the ocean ecosystem. I urge you and the NEFMC to put herring on the priority list for 2008 so that management of this vital resource can be addressed in the coming year.

Sincerely,

Handwritten signature of Sarah K. Peake

Sarah K. Peake
State Representative
4th Barnstable District

cc: Governor Patrick

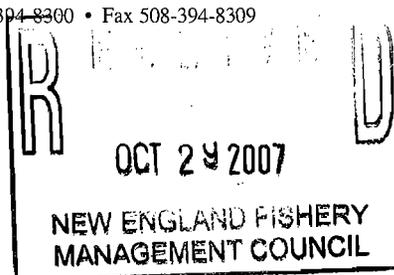


October 23, 2007

Town of Dennis

P.O. BOX 2060, SOUTH DENNIS, MA 02660-1614 / Telephone: 508-394-8300 • Fax 508-394-8309

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



Dear Captain Howard;

I am writing to you today on behalf of the Town of Dennis to request that the New England Fishery Management Council (NEFMC) listen to our concerned Cape Cod fishermen and develop a proactive framework adjustment to the management plan for Atlantic herring in 2008. Atlantic herring are the basis of the food chain in the waters surrounding Cape Cod and throughout New England. By taking immediate action in 2008 to institute more rigorous monitoring and other accountability measures, the NEFMC will protect the viability of our traditional fishing, charter, and whalewatch fleets, along with our marine ecosystem.

We have learned that most herring are caught using 100+ foot vessels that tow a very large midwater trawl net, usually in teams of two boats (pair trawling). These are the largest, most efficient vessels in the world, in direct contrast to the traditional purse-seine and fixed gear herring fleets which worked in New England for hundreds of years. There is widespread acknowledgement that insufficient observer coverage rates, a flawed protocol which permits the vessels to dump catch at sea before observers have sampled it, and lack of shoreside monitoring have created a situation in which the total catch and bycatch of this fleet are not known.

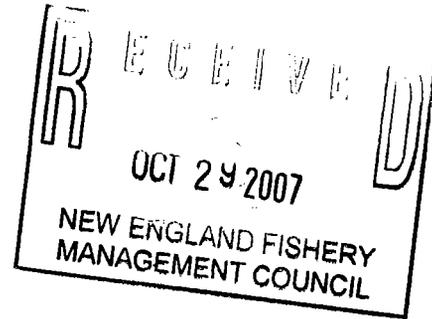
Furthermore, the river herring populations on Cape Cod have drastically declined in recent years, and herring runs have all but dried up in certain areas. This directly correlates with the increased presence of these corporate vessels fishing near shore, as river herring are inadvertently caught at sea while these vessels attempt to catch sea herring. The aforementioned flaws in the monitoring program mean that the significant river herring bycatch which is regularly observed cannot be reliably extrapolated across the whole fishery, and as such we really do not know the impacts of this fleet on our river herring resource.

It's time for the NEFMC to create a more accurate and reliable monitoring plan for this herring fleet and forward it to NMFS for implementation. We, the Town of Dennis, recommend that the NEFMC make Atlantic Herring a management priority in 2008 to address these issues immediately. We encourage you to take this action to protect sea herring and river herring, Cape Cod's coastal communities, and our traditional fisheries that depend on this resource.

Sincerely,

Jane Ous, Chairman
Dennis Board of Selectmen

**DAVE CARLEY
100 LINDSAY ROAD
YORK, ME 03909-1069
(207) 363-8866**



Friday October 26, 2007

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

Dear Captain Howard,

My name is Dave Carley, I am a recreational fisherman from York, Maine. I am writing you to show my support for the New England Fishery Management Council making herring a priority in 2008. Action must be taken now to fix the numerous problems with the management system in the herring fishery. The herring stocks are far too important to be managed in such an ineffective system.

The stocks that the recreational sector relies on are all affected by the mid-water herring trawlers. Whether it be striped bass, bluefin tuna, ground-fish, mackerel, or any recreationally-valuable stock, all rely on herring. Furthermore, all of these species are taken as by-catch in the mid-water trawl fishery. Needless to say, herring management affects the large recreational fishing sector.

Right now, herring management is not working. We do not have a good handle on how many fish are landed, in no small part because of the lack of observers and the fact that mid-water trawlers can dump fish without having to report it. And we believe that as long as mid-water trawling is allowed inshore, that things will continue to spiral downwards off our coasts.

Th Council should make herring a priority in 2008 and begin an action that included the following:

- A mandatory weigh-master system whenever mid-water trawlers unload that reports catch and by-catch on a real-time basis.
- In addition to the seasonal Area 1A buffer, an inshore buffer zone that keeps mid-water trawlers at least 50 miles from shore year-round
- Mandatory industry-funded observer coverage for mid-water trawlers and USAPs
- Requirements to bring all fish aboard for sampling (no dumping of bags at sea)

All recreational fishermen rely on the proper management of herring and it is time for you as managers to do more to ensure that herring are here for us here now and in the future. We cannot afford to continue to mismanage this resource.

Thanks for your time,

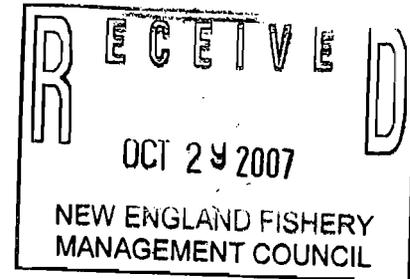
Dave Carley



Town of West Tisbury
Board of Selectmen
West Tisbury, MA 02575

October 24, 2007

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



Dear Captain Howard,

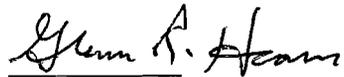
I am writing to you today on behalf of the Town of West Tisbury to request that the New England Fishery Management Council (NEFMC) listen to our concerned Cape Cod fishermen and develop a proactive framework adjustment to the management plan for Atlantic herring in 2008. Atlantic herring are the basis of the food chain in the waters surrounding Cape Cod and throughout New England. By taking immediate action in 2008 to institute more rigorous monitoring and other accountability measures, the NEFMC will protect the viability of our traditional fishing, charter, and whalewatch fleets, along with our marine ecosystem.

We have learned that most herring are caught using 100+ foot vessels that tow a very large midwater trawl net, usually in teams of two boats (pair trawling). These are the largest, most efficient vessels in the world, in direct contrast to the traditional purse-seine and fixed gear herring fleets which worked in New England for hundreds of years. There is widespread acknowledgement that insufficient observer coverage rates, a flawed protocol which permits the vessels to dump catch at sea before observers have sampled it, and lack of shoreside monitoring have created a situation in which the total catch and bycatch of this fleet are not known.

Furthermore, the river herring populations on Cape Cod have drastically declined in recent years, and herring runs have all but dried up in certain areas. This directly correlates with the increased presence of these corporate vessels fishing near shore, as river herring are inadvertently caught at sea while these vessels attempt to catch sea herring. The aforementioned flaws in the monitoring program mean that the significant river herring bycatch which is regularly observed cannot be reliably extrapolated across the whole fishery, and as such we really do not know the impacts of this fleet on our river herring resource.

It's time for the NEFMC to create a more accurate and reliable monitoring plan for this herring fleet and forward it to NMFS for implementation. We, the Town of West Tisbury recommend that the NEFMC make Atlantic Herring a management priority in 2008 to address these issues immediately. We encourage you to take this action to protect sea herring and river herring, Cape Cod's coastal communities, and our traditional fisheries that depend on this resource.

Signed,



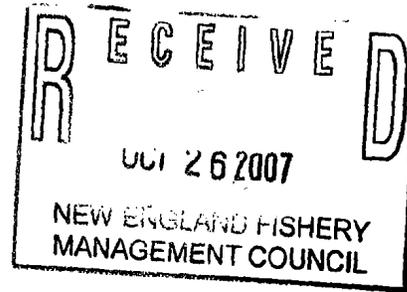
Glenn R. Hearn
Chairman

CC: Pat Kurkul, NMFS; Bill Hogarth, NMFS; John Pappalardo, NEFMC; David Pierce, NEFMC/MA DMF; Daniel Furlong, MAFMC; W. Peter Jensen, MAFMC; Gov. Deval Patrick; John V. O'Shea, ASMFC



October 23, 2007

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



Dear Captain Howard,

I am writing to you today on behalf of the Town of Harwich requesting that the New England Fishery Management Council (NEFMC) make Atlantic Herring a priority in 2008 and develop a proactive framework adjustment to the management plan in 2008. Management of Atlantic Herring has a major impact on local river herring runs and the viability of our traditional fishing fleet.

The Atlantic herring fishery has serious problems that can only be addressed with changes to the Herring Fishery Management Plan (FMP). Currently, midwater trawlers operate without proper monitoring and insufficient observer coverage levels. There is a growing body of evidence and concern that the decline of our local river herring runs has a direct correlation to the increase of midwater trawling in the sea herring fishery. In addition, midwater trawlers are allowed to operate in Groundfish Closed Areas even though they have a proven bycatch of groundfish, including substantial bycatch of juvenile haddock. Midwater trawlers also operate near shore, creating substantial gear conflicts and posing a threat to important near shore species such as river herring and striped bass.

The monitoring system in the herring fishery is inadequate. Recent events illustrate this and serve to reinforce the longstanding concerns many people have with the way the herring fishery is monitored. These events include the area Total Allowable Catch (TAC) overage in Area 1B off the back side of Cape Cod in 2006, the Area 1A pre-June TAC overage in May 2007, and the monitoring mishap that resulted in NMFS closing- then reopening- the fishery in August 2007. There is also great concern that landings data are highly inaccurate to begin with since they are based solely on vessel and dealer good-faith hail weights and because herring vessels are allowed to dump bags at sea without reporting that catch

It's time for the NEFMC to initiate an action that will fix these glaring deficiencies in the herring FMP. The action should include:

- A mandatory weighmaster system whenever midwater trawlers unload that reports catch and bycatch on a real-time basis.
- In addition to the seasonal Area 1A buffer, an inshore buffer zone that keeps midwater trawlers from shore year-round off of Cape Cod and the Islands
- Mandatory industry-funded observer coverage for midwater trawlers that accounts for river herring bycatch
- Requirements to bring all fish aboard for sampling (no dumping of bags at sea)

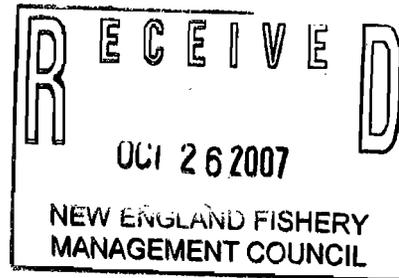


TOWN OF BOURNE
Department of Natural Resources
24 Perry Avenue - Room 102
Buzzards Bay, MA 02532-3496
www.townofbourne.com



Shellfish Constable, Marinas, Herring Agent, Harbor Master, Fish & Game Enforcement, Conservation Enforcement & More

TIM MULLEN
DIRECTOR



OFFICE: (508) 759-0621
POLICE: (508) 759-4451
MARINAS: (508) 759-3105
FAX: (508) 759-8026

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

Dear Captain Howard,

I am writing to you today on behalf of the Town of Bourne to request that the New England Fishery Management Council (NEFMC) listen to our concerned Cape Cod fishermen and develop a proactive framework adjustment to the management plan for Atlantic herring in 2008. Atlantic herring are the basis of the food chain in the waters surrounding Cape Cod and throughout New England. By taking immediate action in 2008 to institute more rigorous monitoring and other accountability measures, the NEFMC will protect the viability of our traditional fishing, charter, and whalewatch fleets, along with our marine ecosystem.

We have learned that most herring are caught using 100+ foot vessels that tow a very large midwater trawl net, usually in teams of two boats (pair trawling). These are the largest, most efficient vessels in the world, in direct contrast to the traditional purse-seine and fixed gear herring fleets which worked in New England for hundreds of years. There is widespread acknowledgement that insufficient observer coverage rates, a flawed protocol which permits the vessels to dump catch at sea before observers have sampled it, and lack of shoreside monitoring have created a situation in which the total catch and bycatch of this fleet are not known.

Furthermore, the river herring populations on Cape Cod have drastically declined in recent years, and herring runs have all but dried up in certain areas. This directly correlates with the increased presence of these corporate vessels fishing near shore, as river herring are inadvertently caught at sea while these vessels attempt to catch sea herring. The aforementioned flaws in the monitoring program mean that the significant river herring bycatch which is regularly observed cannot be reliably extrapolated across the whole fishery, and as such we really do not know the impacts of this fleet on our river herring resource.

It's time for the NEFMC to create a more accurate and reliable monitoring plan for this herring fleet and forward it to NMFS for implementation. We, the Town of Bourne, recommend that the NEFMC make Atlantic Herring a management priority in 2008 to address these issues immediately. We encourage you to take this action to protect sea herring and river herring, Cape Cod's coastal communities, and our traditional fisheries that depend on this resource.

Sincerely,

Tim Mullen, Director of Natural Resources



October 31, 2007

Via Electronic Mail

Patricia A. Kurkul, Regional Administrator
National Marine Fishery Service, NERO
One Blackburn Drive
Gloucester, MA 01930

RE: October 23 Letter From SPROG Regarding Groundfish Closed Area Petition

Dear Ms. Kurkul,

I am writing to you on behalf of the Northwest Atlantic Marine Alliance (“NAMA”) and the Midcoast Fishermen’s Association (“MFA”) in response to a recent letter sent to you by the NW Atlantic Small Pelagic Resource Oversight Group (“SPROG”), dated October 23, 2007. That letter has been posted on the NEFMC website as one of the discussion documents under the “Council Work Priorities” agenda item for the Council’s November 7 meeting.

The letter discusses the Petition for Immediate and Permanent Rulemaking to Protect Groundfish From Midwater Trawl fishing in Northeastern Groundfish Closed Areas (“Petition”) filed with Secretary Gutierrez on October 12, 2007. There are a number of factual errors in SPROG’s letter that NAMA and the MFA wish to correct for the benefit of your office, the NEFMC, and the public.

First, the Petition was filed by NAMA and the MFA. The SPROG letter incorrectly attributes the Petition to Earthjustice. I represent NAMA and the MFA as their attorney in this matter, however, Earthjustice is not a Petitioner. Second, the SPROG letter incorrectly states that the Petition seeks emergency relief in the Atlantic herring fishery. The relief sought is under the Northeast multispecies (Groundfish) management plan.

The SPROG letter also incorrectly indicates that the Petition is due to the Atlantic herring fishery being “unmanaged and poorly regulated.” The Petition seeks emergency and permanent rules excluding herring trawlers from the groundfish closed areas because several stocks of groundfish remain overfished and overfishing is occurring. The Petition presents evidence showing that, contrary to the rationale underlying the original grant of access to the closed areas, herring trawlers catch juvenile and adult groundfish, at times in significant amounts. In support of the requested action, the Petition also presents recent scientific information indicating that closed areas hold promise for recovery of some groundfish stocks, and scientific information demonstrating that the current monitoring of herring trawl vessels is insufficient to reliably estimate the full extent of the groundfish bycatch occurring in the herring trawl fishery.

Finally, SPROG states its belief that the Petition is unwarranted because “the NEFMC Multispecies PDT will be reviewing bycatch data for all exempted fisheries including midwater trawls.” As was explained at the last Groundfish Committee meeting attended by SPROG representatives, the regulations that allow midwater trawl vessels into groundfish closed areas are distinct from the regulations establishing the exemption that permits the use of small mesh midwater trawl gear in the regulated mesh areas. *Compare,*



e.g., 50 C.F.R. 648.81(a)(2)(iii) with 50 C.F.R. 648.80(d).¹ NAMA and the MFA do not object, however, to the review of exempted fisheries consistent with either the existing regulatory standards or any potentially revised standards for this fishery that may be under consideration by the Council.²

The SPROG letter requests a meeting with you and others in order to “open a dialogue” between the Agency and the industry in responding to the Petition. As the Petition indicates, this matter is of utmost importance to NAMA and MFA groundfishermen and, as such, NAMA and the MFA request that they be notified of and provided an opportunity to participate in any discussions between herring midwater trawl representatives and your Agency related to the Petition. In addition, NAMA and the MFA emphasize that they continue to seek a prompt response to the Petition from the Secretary consistent with the request for emergency action.

Please contact me at 978.846.0612 with your communications related to this matter. Thank you for your time and consideration.

Sincerely,

/S/

Roger Fleming, Attorney
Earthjustice

CC: Mr. Gene Martin, Regional Counsel, NMFS
Dr. Nancy Thompson, NOAA Southeast Fisheries Science Center and Miami Laboratory
Mr. Andrew Cohen, NMFS Enforcement
Mr. John Pappalardo, Chairman, NEFMC
Mr. Rip Conningham, Chairman, NEFMC Groundfish Committee
Dr. David Pierce, Chairman, NEFMC Pelagic Committee
Mr. Paul Howard, Executive Director, NEFMC

¹ The closed area regulations are also distinct from the recently established regulations related to the haddock bycatch cap and the incidental catch allowance for haddock and other multispecies. *See* 50 C.F.R. 648.85-86.

² *See*, 50 C.F.R. 648.80(a)(8), which provides for establishment of an exempted fishery where there is “sufficient data or information to ascertain the amount of incidental catch of regulated species” to establish that there is less than 5 percent bycatch of regulated species and that such exemption will not jeopardize fishing mortality objectives. This section also provides for the deletion of exemptions.

**Petition for Immediate and Permanent Rulemaking to Protect Groundfish
From Midwater Trawl Fishing In Northeastern Groundfish Closed Areas**

Submitted to Secretary of Commerce Carlos M. Gutierrez
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Submitted by:
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I. INTRODUCTION

The Northwest Atlantic Marine Alliance (NAMA) and the Midcoast Fishermen's Association (MFA) ("the Petitioners") hereby petition the Secretary of Commerce ("Secretary") to take emergency action to address continued overfishing in the Northeastern multispecies fisheries by excluding midwater trawl vessels from groundfish closed areas.

The June 2007 National Marine Fisheries Service (NMFS) report on the status of U.S. fisheries shows that the changes to the groundfish management plan over the past several years have not ended overfishing on 8 of 19 groundfish stocks, and that 13 stocks remain overfished. Meanwhile, mounting evidence shows that-- contrary to the assumptions made when midwater trawlers were allowed into groundfish closed areas-- such vessels catch juvenile and adult groundfish, at times in significant amounts. The concern over the amount of groundfish bycatch actually occurring as a result of the midwater trawlers' access to groundfish closed areas is amplified by NMFS' own bycatch monitoring analysis released this summer and by an independent peer review of that analysis. These analyses both conclude that higher observer coverage levels are needed and that the monitoring program is likely underestimating the amount of bycatch.

For these reasons, the Secretary must issue emergency regulations and initiate permanent rulemaking necessary to exclude midwater trawlers from groundfish closed areas not later than January 1, 2008. Specifically, the petitioners request that the Secretary take the following related actions:

- (1) exercise his authority under 16 U.S.C. § 1855(c) to promulgate emergency regulations and interim measures necessary to exclude midwater trawl vessels from all year round and seasonal groundfish closed areas implemented beginning in 1994 to reduce groundfish mortality and protect juvenile and spawning groundfish; and

(2) exercise his authority under 16 U.S.C. § 1855(d) to initiate rulemaking designed to make such protections permanent.

The Magnuson-Stevens Fishery Conservation and Management Act (“the Magnuson-Stevens Act” or “Act”) requires the Secretary to prevent overfishing and rebuild overfished stocks. 16 U.S.C. §§ 1801 *et seq.* The Act’s National Standards also require that any fishery management plan, and any regulation promulgated to implement any plan, must be based “upon the best scientific information available,” and must, “to the extent practicable . . . minimize bycatch and . . . to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.” *Id.* § 1851(a)(2), (9). The Secretary is responsible for carrying out any fishery management plan approved by him in accordance with the Act. *Id.* § 1855(d). If he finds that an emergency or overfishing exists or if interim measures are needed to reduce overfishing within a given fishery, the Secretary is authorized to promulgate emergency regulations or interim measures to address the emergency or end the overfishing. *Id.* § 1855(c)(1).

In the Northeast Multispecies (“Groundfish”) fishery, permanent and seasonal closed areas have been established beginning in 1994 in order to end overfishing and to rebuild stocks. Through these closures, groundfish fishing vessels are excluded from fishing in the closed areas in order to reduce groundfish mortality and to protect juvenile and spawning fish. *See, e.g.*, 59 Fed. Reg. 63,926, 63,928 (Dec. 12, 1994); 63 Fed. Reg. 15,326, 15,327 (Mar. 31, 1998); 64 Fed. Reg. 2601, 2601 (Jan. 15, 1999). However, rules promulgated by the Secretary allowed pelagic midwater trawl fishing vessels into the closed areas based on the assumption that midwater trawl vessels either do not catch groundfish, or catch only “negligible” amounts of groundfish. 63 Fed. Reg. 7727, 7728-29 (Feb. 17, 1998); *see also infra* Section III.¹

¹ For purposes of this petition, when Petitioners refer to midwater trawl gear the intent is to refer to both single and pair trawls, with the assumption that the regulations apply equally to both fishing practices. It is not clear that

The recent NMFS Status of the U.S. Fisheries Report concludes that despite the most recent management actions predicted to end overfishing of groundfish stocks in New England, the best scientific information available shows that overfishing is currently occurring on numerous New England groundfish stocks, and that an even larger number of groundfish stocks remain overfished. National Marine Fisheries Service, *Report on the Status of the U.S. Fisheries for 2006*, 7, 19 (June 22, 2007); *See, also infra* Section III.A. A number of recently reported bycatch events, together with recent data from NMFS' Northeast Fishery Science Center's observer program and the recently enacted "bycatch cap" for haddock caught by midwater trawl vessels, clearly demonstrate that midwater trawl vessels catch groundfish, including significant amounts of juvenile groundfish. *See infra* Section III. B. Moreover, new scientific data and analysis from NMFS presented in a proposed standardized bycatch reporting methodology, together with an independent peer review of that NMFS analysis, demonstrate that the estimated amounts of bycatch in the midwater trawl fishery are likely low because there are insufficient measures in place to reliably monitor and account for the catch of groundfish by midwater trawl vessels. *See infra* Section III.C.

The new sources of scientific information about the condition of groundfish stocks and the potential, and likely underestimated, impacts of the midwater trawl vessels on the groundfish resource demonstrate that emergency action by the Secretary to prohibit midwater trawl vessels from the groundfish closed areas is warranted. This emergency action will reduce overfishing and promote the rebuilding of these overexploited fish stocks.

This information also demonstrates that the Secretary should make such regulatory action permanent in order to protect groundfish and to carry out his responsibilities under the

NMFS was contemplating pair trawling as the regulations at issue here were developed. Therefore, this Petition is not intended to set forth a position on the legality of midwater pair trawling under some or all of these regulations.

Magnuson-Stevens Act to prevent overfishing, rebuild stocks, and otherwise implement the Northeast Multispecies fishery management plan (FMP). 16 U.S.C. § 1855(d).

II. STATUTORY AND REGULATORY AUTHORITY FOR THIS PETITION

The petitioners submit this petition to the Secretary of Commerce pursuant to the Administrative Procedure Act (APA), and the Magnuson-Stevens Act.

A. ADMINISTRATIVE PROCEDURE ACT

The APA states “[e]ach agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule.” 5 U.S.C. § 553(e). If such petitions are denied the agency must provide “a brief statement of the grounds for denial.” *Id.* § 555(e). This right “entitles the petitioning party to a response on the merits of the petition.” *Fund for Animals v. Babbitt* 903 F. Supp. 96, 115-116 (D.D.C. 1995). Agencies must respond to petitions within a reasonable time, to “proceed to conclude a matter presented to it.” 5 U.S.C. § 555(b). Accordingly, the Secretary must “fully and promptly consider” all petitions presented to him. *WWHT, Inc. v. F.C.C.* 656 F.2d 807, 813 (D.C. Cir. 1981).

B. MAGNUSON-STEVENS ACT

The Secretary of Commerce has a responsibility to carry out any fishery management plan or amendment approved or prepared by him in accordance with the Magnuson-Stevens Act. 16 U.S.C. § 1855(d). The Secretary may promulgate such regulations, pursuant to APA rulemaking procedures, that may be necessary to carry out this responsibility or to carry out any other provisions of the Magnuson-Stevens Act. *Id.*

Additionally, the Secretary is authorized to promulgate emergency regulations or interim measures if “an emergency situation exists” or if “interim measures are needed to reduce overfishing” within a given fishery. *Id.* § 1855(c)(1). An emergency rule or an interim measure

is treated as an amendment to a fishery plan for the period it is in effect. *Id.* § 1855(c)(3).

NMFS guidelines explain that an emergency situation in a given fishery:

- (1) Results from recent, unforeseen events or recently discovered circumstances; and
- (2) Presents serious conservation or management problems in the fishery; and
- (3) Can be addressed through emergency regulations for which the immediate benefits outweigh the value of advance notice, public comment, and deliberative consideration of the impacts on participants. 62 Fed. Reg. 44,421-44,422 (Aug. 21, 1997).

Emergency rulemaking may be initiated if notice and comment rulemaking “would result in substantial damage or loss to a living marine resource” and immediate action is necessary to “prevent overfishing” or “other serious damage to the fishery resource or habitat.” *Id.* As set forth more completely below, the Secretary has a duty to grant this petition to protect groundfish from midwater trawl fishing under the Magnuson-Stevens Act.

III. THE SECRETARY HAS A DUTY TO PROTECT ADULT, JUVENILE AND SPAWNING GROUND FISH FROM BEING CAUGHT BY MIDWATER TRAWL VESSELS IN THE GROUND FISH CLOSED AREAS

The Magnuson-Stevens Act was enacted to prevent overfishing, rebuild overfished stocks, and establish a comprehensive fishery conservation and management scheme. 16 U.S.C. § 1801(a)-(b). Congress intended that fishery management programs “utilize[] . . . the best scientific information available,” and “consider[] the effects of fishing on immature fish and encourage[] development of practical measures that minimize bycatch and avoid unnecessary waste of fish.” *Id.* § 1801(c)(3). To that end, Congress established ten National Standards to ensure that fishery conservation and management measures meet these goals. *Id.* § 1851(a). For example, such measures must be based “upon the best scientific information available,” and must, “to the extent practicable . . . minimize bycatch and . . . to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.” *Id.* § 1851(a)(2), (9).

The National Marine Fisheries Service through its Northeast Multispecies FMP seeks to manage nineteen different groundfish stocks. Due to persistent overfishing and the continually

depleted status of the groundfish stocks, the New England Fishery Management Council (NEFMC) and NMFS have designed and implemented an increasingly complex suite of conservation and management measures over the years. These measures are designed to limit groundfish mortality and protect juvenile and spawning fish by reducing the fishing effort of groundfish fishermen in the multispecies fishery. The New England Groundfish FMP, and in particular the 2004 amendment and 2006 framework adjustment, is intended to end overfishing, rebuild overfished stocks, and minimize bycatch and minimize bycatch mortality where it cannot be avoided. *See* Amendment 13 to the Northeast Multispecies FMP, I-6, (December 18, 2003); Framework Adjustment 42 to the Northeast Multispecies FMP, 41 (April 21, 2006); *see also* NMFS Final Rule Northeast Multispecies Framework Adjustment 42, 71 Fed Reg 62156 (Oct. 23, 2006).

The various measures enacted through the Groundfish FMP have resulted in negative economic impacts on many participants in the industry. Since 1994, a number of year-round and seasonal closures that prevent groundfish vessels from fishing within their boundaries have become an important management tool in the multispecies fishery. *See* 50 C.F.R. § 648.81; *see also*, Year Round and Rolling Closure Charts, (Exhibit A). These closures were implemented to reduce groundfish mortality, and protect juvenile and spawning groundfish.²

² In 1994 Closed Area I, II and the Nantucket Lightship Closed Area were implemented through emergency rulemaking to address the stock depletion “crisis” in the multispecies fishery. 59 Fed. Reg. 63,926, 63,928 (Dec. 12, 1994). These areas were selected because they had “historically high concentrations of various multispecies,” and NMFS determined that their closure would “help slow the decline of the stocks through a reduction in fishing mortality.” *Id.* These areas remain year-round closures today. 50 C.F.R. § 648.81. Since 1994 additional year round and seasonal closures have been implemented to further reduce mortality and to protect spawning and juvenile groundfish. For example, Framework 25 to the Multispecies FMP established various area closures in several near-coast and Gulf of Maine areas in response to reports of “record low levels” of recruitment and “declining” spawning stock biomass of GOM cod. 63 Fed. Reg. 15,326, 15327 (Mar. 31, 1998). In 1999 more seasonal closures were implemented through Framework 26 to address the continually “critical” GOM cod situation as evidenced by further declining spawning stock biomass. 64 Fed. Reg. 2601, 2601 (Jan. 15, 1999). Note that additional closures to protect habitat have been implemented that largely overlap with the already existing mortality and spawning closures. 69 Fed. Reg. 22,906, 22,907 (Apr. 27, 2004).

The use of closed areas to reduce groundfish mortality and to protect spawning and juvenile groundfish has shown promise as a method for reducing overfishing of groundfish and rebuilding overfished stocks. A recent scientific review found an increase in biomass of several species of groundfish within closed areas and in surrounding areas when they are implemented. Fogarty, Mike, *Efficacy of Fishery Closures in the Gulf of Maine, in Western Gulf of Maine Closure Area Symposium, 23-25 (2007)*(Exhibit B). However, as discussed below, while the groundfish closures have resulted in significant limitations on the groundfish fishery, other fishermen not directly targeting groundfish -- such as herring midwater trawlers -- are allowed to fish in the closed areas where they catch regulated groundfish as bycatch. *See, e.g.*, 50 C.F.R. § 648(a)(2)(iii). This circumstance inevitably reduces the full potential of improvements in the groundfish populations that would otherwise result from the closed areas.

A. OVERFISHING IS OCCURRING IN THE NEW ENGLAND GROUND FISH FISHERY AND SEVERAL STOCKS ARE SEVERELY DEPLETED

In June, NMFS released its report on the status of U.S. fisheries and concluded that based on the best available scientific information the New England Groundfish FMP has not reduced groundfish mortality to levels sufficient to end overfishing and keep overfished stocks on the rebuilding trajectory established under that FMP. *Report on the Status of the U.S. Fisheries for 2006* at 7, 19. Many of the same groundfish stocks that suffer from overfishing struggle on the brink of collapse. *Id.* at 19; *see generally* 2005 Groundfish Assessment Review Meeting, (“2005 GARM”).

While some groundfish stocks are more abundant in relative terms, none are estimated to be at the scientifically determined target biomass level necessary to produce maximum sustainable yield on a continuing basis. *Id.* at viii. Currently, of the nineteen regulated groundfish species, eight are subject to overfishing and thirteen are classified as overfished.

Report on the Status of the U.S. Fisheries for 2006 at 19. The situation is dire for stocks like Georges Bank cod and Gulf of Maine cod, which are estimated to be at only 10 and 23 percent, respectively, of target biomass levels. 2005 GARM at 2-4, 2-156. Biomass estimates for white hake show that it is at less than 50 percent of its target biomass level, while the three stocks of yellowtail flounder, along with Georges Bank winter flounder, are dismally low. *Id.* at viii; 2-83, 2-104, 2-129, 2-327, 2-342. Remarkably, all of these stocks continue to suffer from overfishing. *Report on the Status of the U.S. Fisheries for 2006* at 19. Gulf of Maine and Georges Bank haddock continue to be considered overfished, as are American plaice, Southern New England windowpane flounder, ocean pout, and Atlantic halibut. *Id.*

In light of these data, NMFS must take action that will reduce overfishing and protect spawning and juvenile fish in order to improve recruitment into New England's severely depleted groundfish populations.

B. MIDWATER TRAWL VESSELS CATCH GROUND FISH, INCLUDING JUVENILE GROUND FISH, AS BYCATCH AND ARE CONTRIBUTING TO THE OVERFISHING AND REBUILDING PROBLEMS

While groundfish fishermen have been excluded from closed areas in order to reduce the mortality of adult, juvenile and spawning groundfish, midwater single and pair-trawlers that are now known to catch groundfish are allowed to fish in the closed areas. There they catch groundfish and contribute to overfishing and the failure of the current groundfish FMP to accomplish its rebuilding goals.

The rules allowing midwater trawl vessels into the closed areas were promulgated by the Secretary based on the assumption that midwater trawl vessels either did not catch groundfish, or caught only "negligible" amounts of groundfish. 63 Fed. Reg. 7727, 7728 (Feb. 17, 1998).³ To

³ At the time, NMFS justified opening the closed areas to herring midwater trawlers because of the assumption that midwater trawlers caught negligible amounts of groundfish and because the "increased reliance on closed areas for

Petitioners knowledge, however, scientifically reliable data and analysis have never been made public showing that the catch of groundfish by midwater trawlers was insignificant. A review of Framework 18 indicates that the assumption that midwater trawl gear caught only negligible amounts of groundfish was based on review of an extremely small sample size of only six tows. *See* Framework Adjustment 18 to the Groundfish FMP, 15 (1997). This raises serious questions about the validity of the original basis for the grant of access to closed areas.

In fact, contrary to the assumption contained in Framework 18, recent data show that midwater trawl vessels catch juvenile and adult groundfish, often in significant amounts. For example, observer data from 46 observed midwater trawl trips in 2006 showed bycatch of haddock totaling over 18,000 pounds, redfish totaling nearly 7,000 pounds, and Pollock, cod, plaice, and flounder totaling 70 pounds. *See* Memorandum from Lori Steele, Herring Plan Development Team Chairman, Atlantic Herring Stock/Fishery Update 15-16 (September 7, 2007)(summarizing NMFS observer program data). Only 14 midwater trawl trips have been observed in 2007, with total observed bycatch of about 400 pounds. *Id.* at 17-18.⁴ The analysis does not indicate whether the observed groundfish bycatch was of juvenile or adult fish.

In 2004, NMFS took enforcement action against herring midwater trawl vessels that were found illegally attempting to land thousands of pounds of juvenile haddock and hake bycatch in Maine and Massachusetts. NOAA Fisheries Office for Law Enforcement, *Press Release: Three Fishing Vessels Penalized \$85,000 for Illegal Catch* (Oct. 26, 2004) available at http://www.nmfs.noaa.gov/ole/news/news_NED_102604.htm (last visited 10/5/2007)(Exhibit C). One of these vessels alone was estimated to have as much as 48,000 pounds of juvenile

multispecies mortality reduction” impeded midwater trawl fishing operations and made fishing for herring “economically less feasible.” *Id.*

⁴ Also reported in 2007 is the bycatch of 200 pounds of metal debris, perhaps providing some insight into why “midwater” trawl gear interacts so often with groundfish, which also primarily inhabit the bottom.

haddock on board, which can reasonably be estimated to be the equivalent of three to five times that amount of haddock had it been allowed to grow to maturity. *See* David Hensch, Fishing industry sounds alarm over incidental catches; Two large bycatches of young haddock could be a threat to the recovering groundfish, some say, *Portland Press Herald*, p. B1 (2004, August 21); John Richardson, Officials back off estimating amount of dead haddock *Portland Press Herald*, p. B3 (2004, September 21). (Exhibit C).

After these well publicized enforcement actions, the midwater trawl industry acknowledged the fact it was catching significant amounts of groundfish as bycatch, and stated that if, and when, groundfish populations rebuild, midwater trawls vessels will not be able to avoid catching increasing amounts of groundfish as bycatch. *See e.g.*, Letter from Peter Moore, American Pelagic Association to Lori Steele, New England Fishery Management Council, August 12, 2004 (Proposal, fn 1); see also Final Rule Implementing Framework Adjustment 43 to the Northeastern Multispecies FMP, 71 Fed. Reg. 46871, 46874 (April 16, 2006).

NMFS acted to address the now-public bycatch problem by promulgating an emergency rule on June 13, 2005, 70 Fed. Reg. 34,055, which was later replaced by a permanent rule on August 15, 2006. 71 Fed. Reg. 46,871. The NMFS action was taken at the request of the midwater trawl industry who feared additional enforcement actions because it could no longer operate its gear without catching haddock, in particular, as the stock began to rebuild to healthier levels. 70 Fed. Reg. at 34,055 (Midwater trawl vessels “ceased fishing for herring on [Georges Bank] due to concern about haddock bycatch.” *Id.*)

The 2005 and 2006 rulemakings implemented measures allowing midwater trawlers to catch a specified amount of haddock as bycatch in the fishery. 71 Fed. Reg. at 46,872. These measures implemented a haddock bycatch cap for the midwater trawl fishery set at 0.2% of the

combined total allowable catch of Gulf of Maine and Georges Bank haddock. *Id.* It also established a new midwater trawl exempted fishery, allowing these vessels to continue to fish in the “open” groundfish areas – an action that was necessary because those vessels no longer qualified as an “exempted gear” because they were obviously capable of catching groundfish. *Id.* The new rule also established a 100 pound incidental catch allowance for all regulated multispecies other than haddock to protect the midwater trawlers when caught in possession of small amounts of other groundfish. *Id.* (Groundfish regulations in place prior to this action had prohibited the possession of haddock and other groundfish by midwater trawl vessels.) *Id.*

Significantly, these rule changes did not address the herring midwater trawl vessels’ access to groundfish closed areas. The regulatory scheme established under Framework 18 had explicitly allowed midwater trawl gear access to the groundfish closed areas, and that scheme remained in place.⁵

Groundfish closed areas have been established to protect adult aggregations of groundfish as well as spawning and juvenile groundfish. New scientific analysis supports the use of this tool as a means of reducing mortality and rebuilding stocks, suggesting that when areas are closed to fishing they amass a higher population of groundfish relative to other areas. *See* Fogarty at 23-25. As discussed more thoroughly *infra* in Section IV.C., many of the groundfish spawning seasons sought to be protected by closed areas coincide with peaks in the herring fishing season. The catch of spawning fish before they have the opportunity to spawn has significantly greater impact on the overall health of the resource than the pounds reported in observer reports. Similarly, the impact of the bycatch of juvenile groundfish is understated when

⁵ There appeared to have been some initial questions about whether the change in definition from being an exempted gear would affect the existing access to closed areas, however, substantive discussion of whether such access should or should not change did not appear to take place. Groundfish oversight committee meeting summary, 10 (May 23 2005). (*available at* http://www.nefmc.org/nemulti/pdfmeet/groundfish_may05.pdf).

measured in pounds because it accounts for only a fraction of what their adult weight would be, if allow to grow to maturity, and removes fish from the population before they have had the opportunity to spawn.

Continued access to closed areas by midwater trawl vessels which are now known to catch adult and juvenile groundfish undermines the purpose of the closures and the legal duty of the Secretary to end overfishing, rebuild overfished stocks, and minimize bycatch. Immediate action to exclude midwater trawl vessels from closed areas will protect spawning, juvenile, and adult groundfish, thereby significantly reducing overfishing and contributing to groundfish rebuilding efforts.

C. THE MAGNITUDE AND SEVERITY OF THE IMPACT FROM MIDWATER TRAWLERS IS UNDERESTIMATED DUE TO THE EXISTING LIMITATIONS OF THE BYCATCH MONITORING PROGRAM

A federal court reviewing the New England Groundfish FMP has observed that “there is no dispute that, given the inadequacy of other reporting methods, live observers are an essential component of an adequate bycatch reporting methodology.” *Oceana v. Evans*, 2005 WL 555416 (D.D.C. March 9, 2005). The court recognized that NMFS has concluded that “[n]on-biased observer data collection in the majority of instances is the most effective way to monitor bycatch,” *id.* (citing 68 Fed.Reg. at 11,505, 11,509) and that “[o]bservers provide the most reliable source of high quality, objective, fishery-dependent data.” *Id.* Therefore, “[f]or fisheries where observer coverage is needed to monitor bycatch... a level of coverage should be deployed that provides statistically reliable bycatch estimates.” *Id.* (citing 68 Fed.Reg. at 11,504).

Unfortunately, the bycatch monitoring program for the midwater trawl fishery does not meet NMFS’ own standards as articulated by the court. As a result, the full impact of midwater trawl fishing in the groundfish closed areas remains unknown. The best available science

indicates that bycatch in the herring midwater trawl fishery is likely underestimated due to existing deficiencies in the monitoring program for these vessels, including insufficient levels of observer coverage. The level of observer coverage for herring vessels using midwater trawl gear was 16 percent in 2005, thanks in part to additional funding from Congress. Final Amendment 1 to the Fishery Management Plan for Atlantic Herring 353 (2006) [hereinafter Amendment 1]. However, 2005 was the only year in which coverage has been over 10 percent in this fishery. In 2004, another year in which Congress added funding for the program, less than 9 percent of trips were observed, while in prior years coverage levels did not exceed 1 percent. *Id.* at 339. Currently the observer coverage in the herring midwater trawl fishery is approximately 3 percent. Personal Communication with David Potter, Fisheries Sampling Branch Chief, Northeast Fisheries Observer Program (March 5, 2007).

Existing regulations allow the Regional Administrator to consider actions limiting midwater trawl access to the closed areas if, based on sea sampling data or other credible data, she determines that the bycatch of groundfish exceeds, or is likely to exceed, 1 percent of the herring or mackerel harvested, by weight, in the fishery or by any individual fishing operation. 50 C.F.R. § 648.81(a)(2)(iii). To put this allowance in perspective, the total allowable catch of herring alone is currently 145,000 metric tons, thus 1 percent would be the equivalent of 1450 metric tons of groundfish, or over 3 million pounds. This allowable level of groundfish waste dwarfs the amount of groundfish caught by the groundfishermen who are members of NAMA and the MFA. The real impact to the resource is even greater if such bycatch is of juvenile or spawning fish.

Recent scientific analysis confirms that the full impact of the midwater trawl fishery on groundfish is not known. Moreover, the level of certainty demanded by the existing rule is

unlikely to be met in the immediate future under the existing bycatch monitoring program because of low levels of observer coverage in the fishery and flawed sampling protocols that fail to reliably account for bycatch. NMFS recently proposed a new standardized bycatch reporting methodology (SBRM) that shows there are currently insufficient levels of observer coverage on the midwater trawl fleet. Final Draft Northeast Region Standardized Bycatch Reporting Methodology, C-44 (June 2007).

An independent peer review of the proposed SBRM, by Dr. Murdoch McAllister, indicates that the gap between actual and needed observer coverage is even greater than previously believed. The review found “a number of serious flaws in the estimation method chosen to be applied in the SBRM.” McAllister, Murdoch K., Review of the Northeast Region Standardized Bycatch Reporting Methodology, 4. Lenfest Ocean Program (September 2007)(Attachment D). Dr. McAllister concluded that “[b]ecause of insufficient quality control testing of the proposed SBRM, the one proposed could equally well end up prescribing unacceptably low levels of observer coverage.” *id.* Further, “[t]he proposed SBRM is unlikely to provide reliable discard estimates for the vast majority of fishing mode and species combinations including groundfish and other trawl fishery discards. As such the SBRM is unlikely to provide reliable prescriptions for observer coverage.” *Id.* at 6.

Dr. McAllister’s review confirms that even higher levels of observer coverage are needed to produce reliable estimates of the bycatch occurring in the midwater trawl fishery than are recommended in the SBRM. Since the levels recommended in the SBRM are already significantly higher than current levels of observer coverage, it follows that existing bycatch estimates significantly underestimate bycatch in the midwater trawl fishery. This point was reflected in Dr. McAllister’s comments regarding bias in the existing data that was analyzed. He

concluded that “[t]he conclusions drawn asserting that there is no evidence of bias in the observer data were inconsistent with many of the test results obtained in evaluations of the potential for there to be bias in the bycatch data obtained from observed fishing trips. In contrast, there is considerable evidence suggesting that the observer data on discards are not representative of unobserved trips.” *Id.* at 5.

Making matters worse, and likely contributing to bias in the existing observer program data, are questions about the protocols used by observers while on board midwater trawl vessels. Such shortcomings in the observer program appear to contribute to the bias in the data detected in the peer review. Serious and well-known deficiencies exist in sampling methods that would lead to underestimation of the amount of bycatch of groundfish occurring in closed areas. For example, there is unobserved catch even on observed trips, occasionally in large amounts and/or high frequencies. This is comprised of the catch left in the net after pumping operations conclude, or sometimes before they even begin; that catch is discarded with no examination. This practice is known as “dumping bags” or “slippage,” and there is no estimation of what or how much is dumped or the level of mortality. A second example of unobserved catch in these fisheries results from a pumping operation out of midwater trawl nets, through one or more sorting grates prior to entering the fish-hold and before any examination by observers. These sorting grates, the first of which is usually on the pump nozzle and is called the “seal guard,” shunt off larger unwanted bycatch so that it stays in the cod-end from which it is later dumped unobserved. Larger groundfish would remain in the net unobserved when such a grate is used.

In summary, the recently proposed SBRM, peer review, and sampling protocol weaknesses demonstrate that, the shortcomings of the existing bycatch monitoring and reporting system ensure that the amount of groundfish caught by midwater trawl gear in the groundfish

closed areas is underestimated.

* * *

All of these factors support action to exclude midwater trawl vessels from the groundfish closed areas.⁶ As discussed further below, the Secretary should take immediate action to exclude midwater trawl vessels from the groundfish closed areas in order to reduce overfishing in the groundfish fishery and protect juvenile and spawning groundfish. The Secretary should also initiate rulemaking to make such changes permanent, at least until such time as it is scientifically established that midwater trawl vessels do not catch groundfish, or closed areas are no longer necessary to end overfishing and rebuild depleted groundfish stocks.

IV. THE RECENT SCIENTIFIC INFORMATION WARRANTS IMMEDIATE ACTION BY THE SECRETARY TO EXCLUDE MIDWATER TRAWLERS FROM GROUND FISH CLOSED AREAS IN ORDER TO REDUCE OVERFISHING AND PROTECT OVERFISHED GROUND FISH

Emergency action to exclude midwater trawlers from groundfish closed areas is warranted in order to reduce overfishing occurring on New England's already depleted groundfish populations and prevent serious damage to the groundfish resource. Under the Magnuson-Stevens Act and existing regulations, the Secretary may issue emergency regulations or establish interim measures to address an emergency or overfishing. 16 U.S.C. § 1855(c)(1). Existing regulations define emergency situations as those resulting from recent, unforeseen events or recently discovered circumstances and that present a serious conservation or

⁶ Exclusion of midwater trawl gear would also advance NMFS efforts to meet the Magnuson-Stevens Act requirement to minimize the mortality of bycatch. Harvest of herring in closed areas by purse seine gear would continue and, as discussed during deliberations on Amendment 1, bycatch by such gear is less likely to result in mortality than is bycatch in trawl gear. Existing observer data also indicate that purse seines catch fewer groundfish as bycatch than do trawls. Amendment 1 at 96-97 (*finding, e.g.*, that “[w]hile the majority of observed bycatch by midwater trawls (single and paired) is still herring and dogfish, the number of species caught as bycatch and the overall bycatch amount (lbs.) is higher than by purse seines. The proposed restriction [on midwater trawling in the inshore Gulf of Maine during the summer] could therefore indirectly benefit recovering groundfish stocks in the inshore Gulf of Maine.”)

management problems in the fishery that can be addressed through emergency regulations, for which the immediate benefits outweigh the more deliberative consideration. 62 Fed. Reg. at 44,422. Emergency rulemaking may be initiated if notice and comment rulemaking “would result in substantial damage or loss to a living marine resource” and immediate action is necessary to “prevent overfishing” or “other serious damage to the fishery resource or habitat.” *Id.*

The discussion above sets out the elements necessary to satisfy the regulatory test for emergency action by the Secretary. Therefore these elements simply will be summarized here.

A. The Continued Overfishing of Groundfish and the Impacts of Herring Midwater Trawlers in Closed Areas on Juvenile and Spawning Groundfish Stocks are Recent Unforeseen Events and Newly Discovered Circumstances

As noted above, new scientific data and information have recently come to light establishing that an emergency situation exists that requires action by the Secretary to exclude midwater trawl vessels from groundfish closed areas in New England. First, the June report on the status of U.S. fisheries confirms that overfishing is occurring on several New England groundfish stocks and that several groundfish stocks remain depleted – despite management actions taken in the Groundfish FMP that were predicted to solve these problems. A 2007 scientific review of the existing closed areas in New England shows that they hold significant promise for rebuilding depleted groundfish stocks. However, this promise is undermined by the mounting evidence that, contrary to prior assumptions, midwater trawl vessels catch juvenile and adult groundfish, sometimes in significant amounts. Finally, new analysis by NFMS of its bycatch monitoring program, together with an independent peer review of that analysis, shows that the bycatch problem is likely much more severe than currently estimated and significant improvements are needed to establish a scientifically sound bycatch monitoring program.

B. The Continued Presence of Midwater Trawlers in Groundfish Closed Areas Presents Serious Conservation and Management Problems in the Groundfish Fishery.

As discussed above, groundfish closed areas were first established in response to the groundfish crisis of the mid-1990s and are intended to reduce groundfish mortality and protect spawning and juvenile groundfish stocks for several severely depleted species. Because these areas are closed to fishing by groundfishermen, they have a high population of groundfish relative to other areas, and thus hold a lot of value, as they are critical to the recovery of depleted stocks. *See* Fogarty at 23-25; *see also, e.g.*, GARM 2005 at 2-5 (noting that the lack of strong recruitment for Georges Bank cod suggests that recovery of the stock is largely dependent on (i) reducing fishing mortality in the near term and (ii) husbanding recent strong year classes to increase spawning stock biomass).

Continuing to allow midwater trawl vessels into the New England groundfish closed areas at this time -- when it is now understood that such vessels catch juvenile and adult groundfish -- poses a serious threat to the future of the resource. Well publicized enforcement actions have demonstrated that midwater trawl vessels are capable of catching thousands of pounds of juvenile groundfish in single fishing trips, and the existing observer program shows that groundfish continue to be caught in the fishery. Moreover, the fact that NMFS does not currently have the bycatch monitoring program in place to responsibly monitor the impacts from the midwater trawl vessels amplifies the threat such trawling presents to the groundfish resource. Allowing midwater trawl vessels to fish in critical groundfish closed areas with insufficient accountability mechanisms in place is a serious conservation problem that must be addressed by the Secretary.

C. The Benefits of Immediate Action Outweigh the Need for Advance Notice, Public Comment and Deliberative Consideration of the Impacts of the Emergency Action Through Normal Rulemaking.

All of the factors discussed above support action to exclude midwater trawl vessels from the groundfish closed areas in New England. The NEFMC and NMFS have clearly indicated, however, that the next management action that could potentially address the midwater trawl closed area access issue is not scheduled to take place until May of 2009, at the earliest. Given that the herring fishing year begins on January 1 each year, this suggests that the harm to groundfish stocks from midwater trawlers' access to groundfish closed areas is likely to continue for up to two years or even longer unless emergency and permanent action is taken by the Secretary.

In this case, the benefit of immediate action outweighs the need for the normal public comment procedures because the threat to juvenile and spawning groundfish from midwater trawlers threatens the recovery of the resource and the fishing future for groundfish fishermen. The Atlantic herring fishing year begins on January 1 and the peak months for the herring fishery are January through February, and June through December. *See* New England Fishery Management Council, Atlantic Herring Stock Assessment and Fisher Evaluation Report, 1, 14, (2004). These peaks overlap with the spawning seasons of several of the groundfish stocks that are subject to overfishing and/or are overfished. For example, the spawning season for cod varies depending on the temperature of the water, but ranges from the end of November to the end of April. *See* Henry B. Bigelow & William C. Schroeder, *Fishes in the Gulf of Maine* 194 (2002). For haddock the spawning season lasts from January through August. *Id.* at 238. The spawning season for yellowtail flounder begins in April and lasts through the summer months, *id.* at 275 while the spawning season for winter flounder begins in January and lasts through May. *Id.* at 280. Immediate action needs to be taken before the start of the next herring season to ensure that

the spawning groundfish stocks are protected, and to ensure that we do not waste more of New England's precious spawning groundfish.

Moreover, the NEFMC, groundfishermen, and the public have all spoken clearly on this issue since 1994, with the consistent premise for allowing midwater trawlers into the closures being that midwater trawlers catch negligible amounts of groundfish. The information now available to the agency no longer supports this premise and suggests that the catch of adult and juvenile groundfish by midwater trawl vessels in closed areas stands as a significant threat to one of the nation's critical fishery resources.

Finally, the requested emergency action would produce a fair result because it would treat fishermen using gear capable of catching significant amounts of groundfish equally; neither groundfishermen nor midwater trawl fishermen will be allowed to access the closed areas. For all of these reasons, the benefits of emergency action to exclude midwater trawl vessels from the groundfish closed areas outweigh the benefits of more deliberative consideration of this issue. The Secretary must use his Magnuson-Stevens Act authority to act now to exclude midwater trawlers from closed areas, consistent with the Act's conservation and management requirements and the New England Groundfish FMP.

CONCLUSION

Recent scientific information shows that immediate action by the Secretary to exclude midwater trawl vessels from groundfish closed areas is warranted in order to reduce the overfishing of groundfish and rebuild depleted groundfish populations. The June 2007 NMFS Status of the Stocks Report shows that the changes to the groundfish management plan over the past several years have not ended overfishing on 8 of 19 groundfish stocks, and that 13 stocks remain overfished. Meanwhile, mounting evidence shows that contrary to the assumptions made

when midwater trawlers were allowed into closed areas, such vessels catch adult and juvenile groundfish, at times in significant amounts. The concern over the amount of groundfish bycatch that is actually occurring is amplified by the bycatch program analysis released this summer by NMFS, which shows that current observer coverage levels are insufficient to provide reliable bycatch estimates. An independent peer review of that analysis concludes that the picture is likely significantly worse than the NMFS analysis indicates, and that even with the higher observer coverage levels recommended in NMFS' analysis the bycatch monitoring program would likely underestimate the amount of bycatch occurring in the fishery.

For these reasons, the Secretary must issue emergency regulations and initiate permanent rulemaking necessary to exclude midwater trawlers from New England groundfish closed areas not later than January 1, 2008.

Respectfully Submitted,

A handwritten signature in black ink that reads "Roger Fleming" with a stylized flourish at the end.

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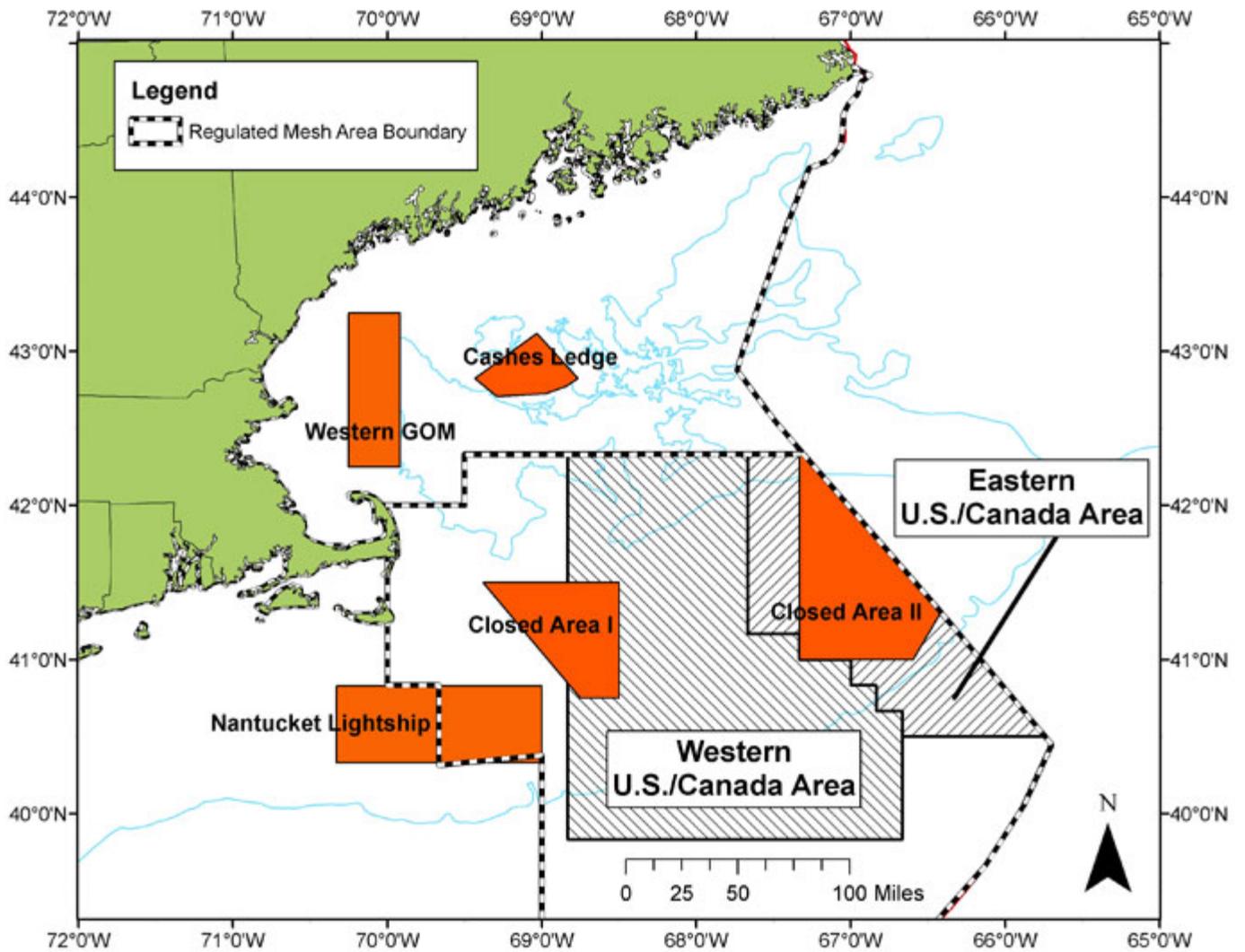
Attorney for Petitioners

EXHIBITS

- A. Northeast Multispecies Year Round and Rolling Closure Charts**
- B. Mike Fogarty, Efficacy of Fishery Closures in the Gulf of Maine (2007)**
- C. NOAA Fisheries Office for Law Enforcement, *Press Release: Three Fishing Vessels Penalized \$85,000 for Illegal Catch* (Oct. 26, 2004);**
 - C-2. David Hench, Fishing industry sounds alarm over incidental catches; Two large bycatches of young haddock could be a threat to the recovering groundfish, some say, *Portland Press Herald*, (2004, August 21);**
 - C-3. John Richardson, Officials back off estimating amount of dead haddock *Portland Press Herald*, (2004, September 21).**
- D. McAllister, Murdoch K., Review of the Northeast Region Standardized Bycatch Reporting Methodology, Lenfest Ocean Program (September 2007).**

Exhibit A

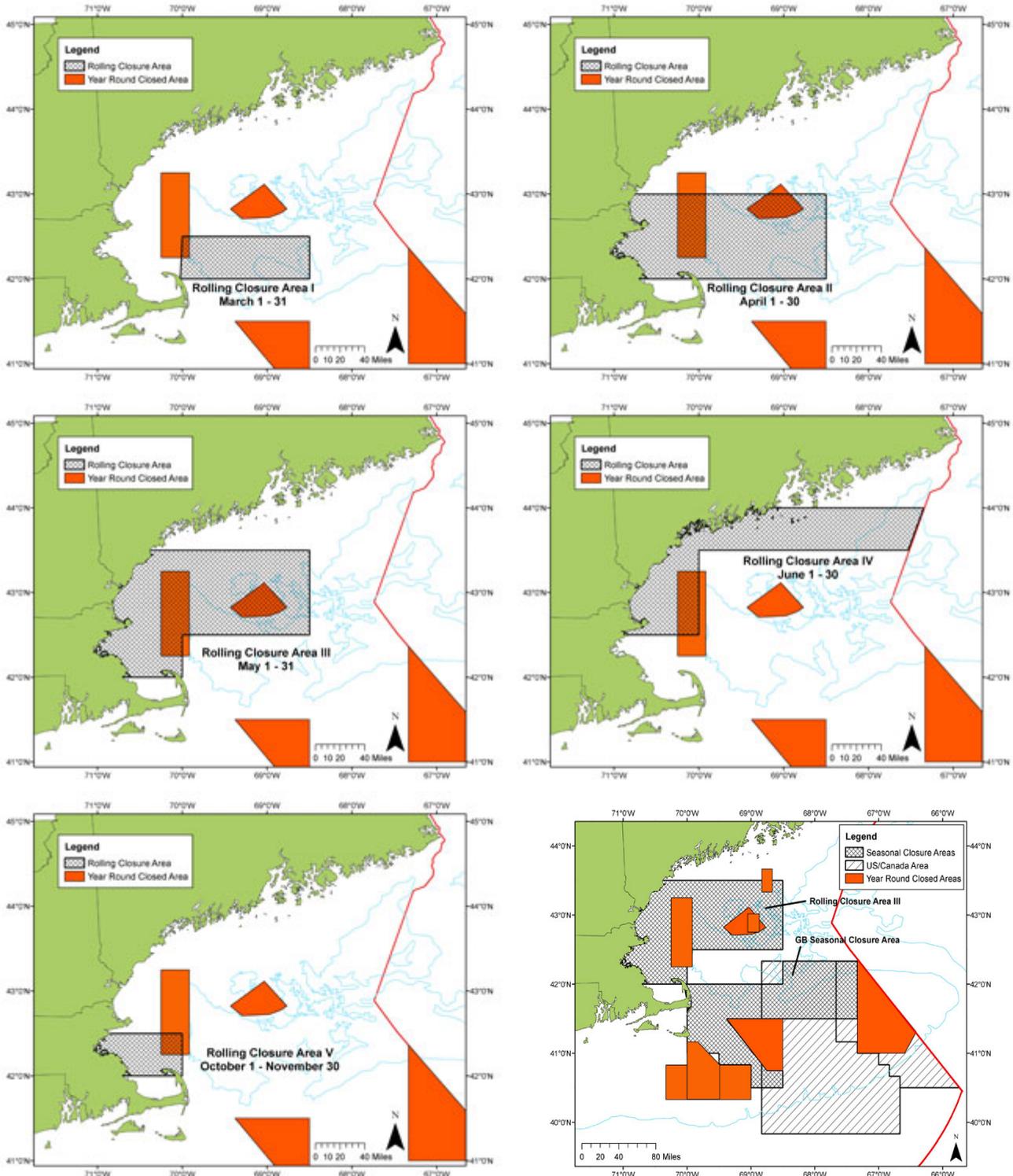
Northeast Multispecies Year Round Closed Areas (50 C.F.R. 648.81)



Source: NOAA Fisheries

Northeast Multispecies Rolling and Seasonal Closures

(50 C.F.R. 648.81(f)(g))



Source: NOAA Fisheries

Efficacy of Fishery Closures in the Gulf of Maine

Exhibit B

Mike Fogarty, Fisheries Biologist, NOAA Fisheries Northeast Fisheries Science Center

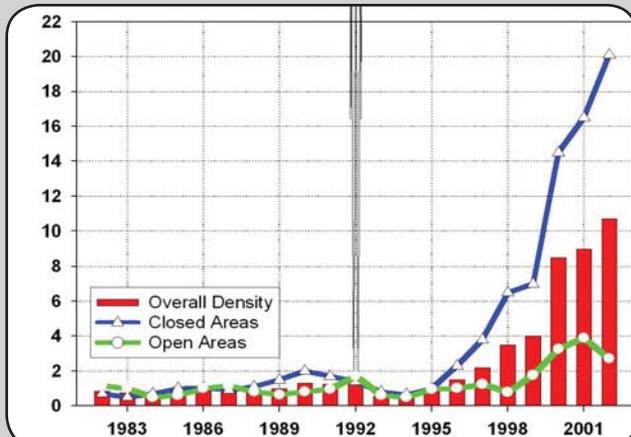
Mike Fogarty presented an overview of the complexity of the closures in the Gulf of Maine and evidence for biomass increases, larval protection and other benefits to the ecosystem that closures have provided. The closures discussed were Closed Area I, located on Western Georges Bank; Closed Area II, located on Southeastern Georges Bank; and the WGOMCA.

Fishery closures are primary management tools used to manage New England groundfish stocks. Almost all of the GOM is subject to closure at some point during the year due to both rolling and year-round closures. Year-round closures currently cover 22,000 km² of seafloor.

Within-closure Effects

There has been a tremendous increase in the biomass of sea scallops on Georges Bank since closures were adopted there in 1995. In general, sedentary finfish species have seen greater rebounds in closed areas compared to more mobile fish, such as cod, which may only be present in the closed area for short periods of time. Species that ex-

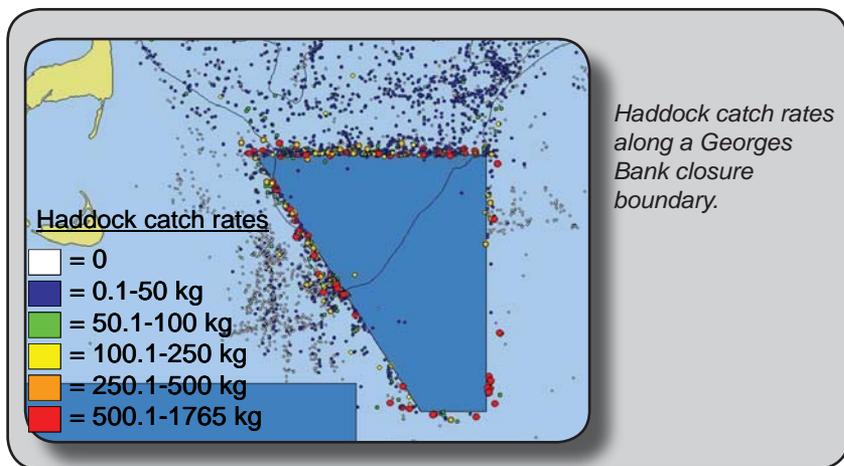
Within-closure effects on sea scallop density.



hibit intermediate movement patterns benefit from closures but also provide a benefit to the fishery by migrating out of closures.

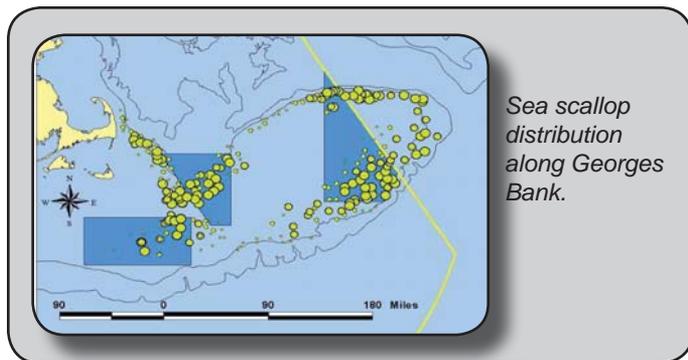
Closure Spill-over Effects

Open areas adjacent to closed areas have also experienced increases in fish abundance, due to the spill-over effect. Many fishermen experience economic benefits by “fishing the line.” Catch rates of haddock



and yellowtail and winter flounder are much higher along closure boundaries (e.g., adjacent to Closed Area I) than farther from closures due to spill-over. However, this is not the case for hake.

A model study on larval export showed that for both self-seeding and cross-seeding animals, larvae released in Closed Area I seeded areas



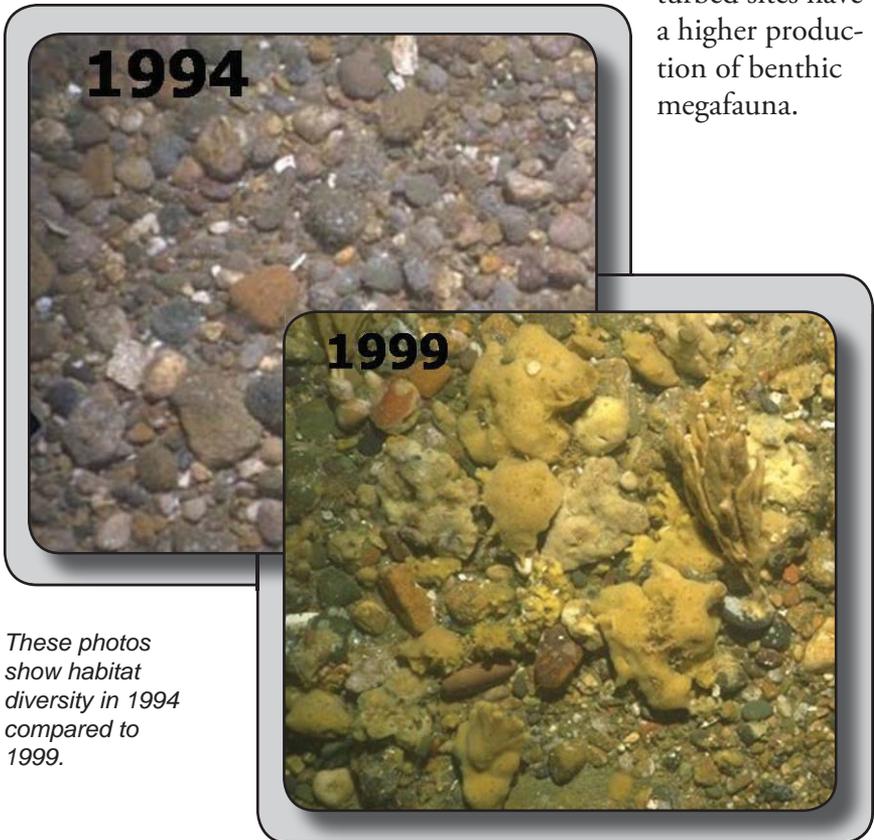
outside of the closed area. However, adults in Closed Area II only tended to seed the closed area.

Other Ecosystem Considerations

The WGOMCA closed an area of high species diversity and fishing effort, displacing many fishermen. However, the abundance and biomass of fish has increased dramatically in closed areas and has correlated with a reduction in fish mortality. Maps of species diversity showing the species affected by trawling will be used to decide where to have future closed areas to protect biodiversity.

The recovery of gravel habitat epifauna is evident in photographs from 1994, 1995, 1996, 1997 and 1999. Also, the benthic megafauna has grown dramatically in undisturbed areas such as Georges Bank Closed Area II. In a comparison of shallow sites versus deep water sites, the benthic megafauna had a much greater increase in the undisturbed deep water sites than the shallow sites. Overall, undis-

turbed sites have a higher production of benthic megafauna.



These photos show habitat diversity in 1994 compared to 1999.



NOAA FISHERIES: Office for Law Enforcement



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NOAA Fisheries
Office for Law Enforcement

Exhibit C

FOR IMMEDIATE RELEASE
October 26, 2004

CONTACT:

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THREE FISHING VESSELS PENALIZED \$85,000 FOR ILLEGAL CATCH

The National Oceanic and Atmospheric Administration (NOAA) issued Notices of Violation and Assessment (NOVA), with penalties ranging between \$10,000 and \$50,000 to three fishing vessels (FVs), for violations of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). The NOVAs issued on October 12, 2004 cited each vessel for landing and possessing northeast multispecies in violation of federal fisheries regulations promulgated under the MSFCMA. NOAA is an agency of the Department of Commerce.

On or about Aug. 10, 2004, Law Enforcement Officers from the Maine Marine Patrol boarded a commercial fishing boat and found unlawfully landed and possessed northeast multispecies caught by means of pair trawling near Rockland, Maine. NOAA issued a \$50,000 NOVA to the owner.

On or about Aug. 10, 2004, officers from the NOAA Fisheries Office for Law Enforcement and the Maine Marine Patrol boarded a commercial fishing boat in Portland, Maine. They found unlawfully landed and possessed northeast multispecies harvested by mid-water trawl gear in violation of the vessel's mid-water trawl exemption certificate. NOAA issued a \$25,000 NOVA to the owner and operator of the boat.

On or about July 16 and 17, 2004, personnel from the NOAA Fisheries Office for Law Enforcement, Massachusetts Environmental Police and US Coast Guard boarded a commercial fishing boat and found unlawfully landed and possessed northeast multispecies caught by means of pair trawling near Gloucester, MA. NOAA issued a \$10,000 NOVA to the owner and operator.

While fishing for herring, these vessels unlawfully landed and possessed various amounts of northeast multispecies, including haddock and hake. Herring vessels are prohibited from possessing and landing any amount of northeast multispecies.

"Because these cases were being so closely watched by both the herring and groundfish industries, we asked NOAA General Counsel to expedite their review of our investigations," said Special Agent-in-Charge Andy Cohen, Office for Law Enforcement – Northeast Division.

NOAA Fisheries is dedicated to protecting and preserving our nation's living marine resources through scientific research, management, law enforcement, and the conservation of marine mammals and other protected marine species and their habitat.

The Commerce Department's National Oceanic and Atmospheric Administration (NOAA) is dedicated to enhancing economic security and national safety through the predication and research of weather and climate-related events and providing environmental stewardship of our nation's coastal and marine resources.



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Exhibit C - 2

DAVID HENCH, Fishing industry sounds alarm over incidental catches ; Two large bycatches of young haddock could be a threat to the recovering groundfish, some say, *Portland Press Herald* B1 (2004, August 21).

"The groundfish industry has sacrificed and some have been put out of business. To see four-inch haddock caught and thrown away with six-cents a pound herring, it's a slap in the face." Peter Baker, spokesman for Cape Cod fishermen's group

Maine authorities found roughly 48,000 pounds of juvenile haddock mixed in with the herring catch from two boats last week - a violation of federal law and a threat, some say, to future groundfishing.

The discovery of so many haddock that have yet to reach maturity has some fishermen worried that large herring trawlers are hurting efforts to rebuild groundfish stocks, even though the herring boats aren't supposed to be fishing at the depths where groundfish live.

"The groundfish industry has sacrificed and some have been put out of business. To see four-inch haddock caught and thrown away with six-cents-a-pound herring, it's a slap in the face," said Peter Baker, spokesman for a Cape Cod fishermen's organization. Mature haddock typically sells for about \$1.50 a pound, he said.

Baker was attending a meeting in Portland of a panel reviewing herring regulations. Maine Marine Patrol officers and federal enforcement officials had hoped to report on the discovery of the haddock and alert processors and others to the problem, but they were told the meeting's agenda was full.

Depletion of fish stocks over the years has led to a succession of austere restrictions on the groundfish industry. Restrictions on where, when and how fishermen operate are intended to give the stocks a chance to rebound, for more lucrative harvests in the future.

The plan is working, especially for haddock. Officials say the stocks of juvenile haddock are at record levels and fishermen should expect a

banner year once the "baby boom" matures.

"We've got the largest size year-class that's ever been recorded in haddock," said Paul Howard, executive director of the New England Fisheries Management Council. "The council wants to husband that so it reaches full benefit for the fishery, which is in 2006. If we don't husband that, the fishermen who have been sacrificing in the groundfish fleet won't be able to benefit from this large year- class."

That's why the discovery of so-called **bycatch**, the incidental catch of non-target species, with the herring is potentially troubling. On Aug. 10, Maine Marine Patrol boarded two herring boats and found that of 1.1 million pounds of fish, about 4.5 percent was undersize haddock, according to the New England Fisheries Management Council.

Demand for herring has grown and the techniques for harvesting the fish have become more sophisticated. Herring is used as bait in lobster traps, but increasingly, the small fish also is being processed as food for people.

The Gulf of Maine herring fishing fleet has been criticized in the past for depleting an important food source for other species such as tuna, cod and whales.

Modern herring boats can run in pairs, pulling huge nets stretched between them. The net is pulled through the midwater column, that is, not along the ocean bottom. The practice should lead to relatively little **bycatch** of groundfish, which typically stay near the bottom.

Critics say the herring trawlers pull up groundfish because they fish too deep, seeking herring that have settled low in the water.

But a herring industry association says the two landings of herring mixed with haddock are an anomaly, the result of small haddock schooling higher in the water column on Georges' Banks.

They said the problem first appeared in late June when haddock was documented in a herring catch landed in Gloucester, Mass.

"Haddock, generally considered bottom dwellers, at certain life stages can school and move up in the water column.," said a statement from the herring industry group East Coast Pelagic Association. "However, intermixing with . . . herring stocks is an experience that fishermen have not had in the past." Historically, herring fishermen have not landed

significant amounts of groundfish, the association said.

Federal law prohibits the herring fishing boats from landing haddock, and its presence with a catch can lead to stiff penalties for a captain and vessel owner.

Last week's enforcement action against two herring boats is under investigation by federal authorities, in part to determine the severity of the problem.

"We really don't know what's happening. Is this is a problem or just an incident?" said Col. Joe Fessenden, head of the Maine Marine Patrol, which enforces federal fishing laws in Maine waters. "We also found a number of boats landing legal product."

In the meantime, the Maine Marine Patrol has stepped up its boarding of herring boats.

Hank Soule, executive director of the Portland Fish Exchange, said the presence of haddock in a couple of herring landings is not in itself a threat to groundfishing.

"If we were to see that recurring day after day, boat after boat, I would be concerned," he said.

But he believes the young haddock population is strong enough to withstand such pressures. "I'm not as worried about this one-time event as some other fishermen are."

Staff Writer David Hench can be contacted at 791-6327 or at: dhench@pressherald.com

Exhibit C - 3

JOHN RICHARDSON Officials back off estimating amount of dead haddock *Portland Press Herald*, p. B3 (2004, September 21).

Regulators caught in the middle of a fishing-industry feud are backing away from estimates that two Maine herring trawlers accidentally killed 48,000 pounds of young haddock during a fishing trip last month.

The actual amount of haddock can't be known for certain, according to NOAA Fisheries, which had more recently placed the number at about 30,000 pounds.

"In the end, after reflection of a couple of weeks, people said we probably shouldn't put a pound number on it," said Teri Frady, NOAA Fisheries' chief of research communications in the Northeast region.

Any possession of haddock by a herring trawler is a federal violation, but the estimates in the Maine case were so large that they triggered angry charges and countercharges within the New England fishing industry, and put pressure on federal regulators to take action, without taking sides.

Maine Marine Patrol officers found the haddock when they examined the catches of a trawler that docked in Rockland and another that docked in Portland.

A random sample taken from one boat contained 4 1/2 percent juvenile haddock, and the sample from the second boat contained 2 percent. If the entire catches inside the boats had the same rate of "bycatch," the two vessels would have contained about 31,000 pounds of haddock. Initial calculations had put the estimate as high as 48,000 pounds.

Federal scientists now concede the samples - 1,200 pounds from each boat - were not large enough for accurate estimates, according to Frady.

Col. Joseph Fessenden, the head of the Maine Marine Patrol, agreed there is no way to be sure about the total amount of haddock in the catches, which have already been distributed by bait dealers. But, he said, the numbers were clearly large. "You're not supposed to have any."

Frady said NOAA officials are still considering penalties in the case.

Staff Writer John Richardson can be contacted at 791-6324 or at: jrichardson@pressherald.com

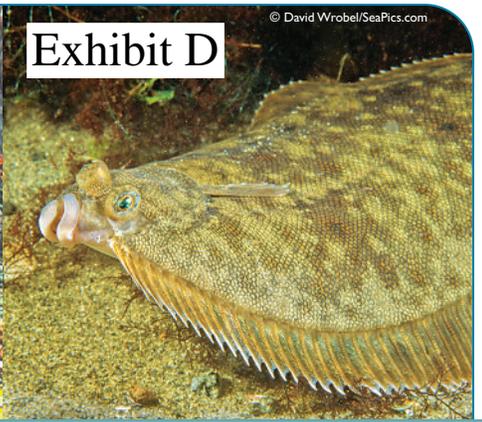


Exhibit D

Review of the NORTHEAST REGION STANDARDIZED BYCATCH REPORTING METHODOLOGY

By

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SEPTEMBER 2007

A report supported by the



**LENFEST
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Preamble

This report is a peer review of the scientific basis for the Northeast Region Standardized Bycatch Reporting Methodology (SBRM) (NMFS 2007). NOAA and the New England Fishery Management Council released a document outlining a SBRM in June 2006 that was revised in response to earlier public comment. NOAA has requested comment on it by September 24th. So far there appears to have been no independent scientific review of the SBRM. The chief goal of my report is to provide a review of the scientific basis in the SBRM report. The terms of reference for my review are provided below.

Terms of reference:

- Conduct a review of the National Marine Fisheries Service's proposed Standardized Bycatch Reporting Methodology to determine whether the methods will result in observer coverage levels that can be extrapolated to provide statistically significant catch and bycatch information to fisheries managers. The review should address the following points and consider the questions below:
 - Is the observer and other data used to calculate the recommended observer coverage levels for each fishery robust enough to be the foundation of this program?
 - Is the SBRM's treatment of the accuracy issue valid or are there ways to improve the analysis now or with additional data over time?
 - Is the filtering process scientifically sound?

- An independent scientific paper that either confirms the analysis and recommended levels of observer coverage contained in the SBRM or points out where it falls short and how it would need to be improved in order result in scientifically sound recommendations for observer coverage levels. This review should include a discussion of specific high profile fisheries, including:
 - NE Groundfish- discard mortality of groundfish in the fishery;
 - NE/Mid-Atlantic Scallops- sea turtle and yellowtail flounder discards;
 - NE Mid-water Trawl- bycatch of fish and protected species;
 - Mid-Atlantic Trawl – bycatch of sea turtles in trawl nets

Some additional questions for the Reviewer to consider:

- 1) Will the Standardized Bycatch Reporting Methodology program described and analyzed in the EA provide estimates of bycatch with the expected precision (CV=30%)?

- 2) Will the SBRM provide discard and mortality information which can be used to monitor, enforce and regulate a fishery that is governed by Annual Catch Limits/Hard TAC's that are required under the recently reauthorized MSA?

- 3) Does this reporting methodology account for rare bycatch events such as protected species?
- 4) Will the proposed methodology be sufficient to account for the change in fishing behavior caused by a fisheries observer (the observer effect)?
- 5) Is the apparent reliance on vessel trip reports, which are notoriously inaccurate, scientifically valid?

Executive Summary

The goal of the Standardized Bycatch Reporting Methodology (NMFS 2007) is to design a methodology that can be applied to all commercial and protected species in the Northeast region to estimate bycatch. My general conclusion is that I have serious reservations about the apparent low degree of scientific rigor in the determination of the SBRM.

First, the SBRM report describes the fisheries sampling programs currently in place that provide data on bycatch obtained by the large number of different fishing fleets in the Northeast Region. It evaluates the potential merits, limitations, and evidence for potential bias in the bycatch data obtained in the observer program. The observer data is identified as the most reliable dataset with which to estimate bycatch and the authors use this data as the foundation for the Methodology. The SBRM report concludes that this is appropriate because the available evidence strongly supports the hypothesis that any bias in the observer data is negligible. However, many of the key conclusions reached are inconsistent with the reported results. Considerable evidence of differences between observer data and FVTR data, FVTR data and dealer records, the spatial distribution of observed and unobserved trips suggest potential for bias in the FVTR and observer datasets. Yet the majority of the results suggesting potential bias are overlooked or explained away as unimportant. Despite the large amount of evidence suggesting systematic differences in records between observed and unobserved trips and between FVTR data and dealer data, the SBRM report concludes that if there is bias, it is negligible and that these data can be used as if they are unbiased.

Secondly, the SBRM describes six alternative statistical methods to estimate bycatch for each protected species and commercial species and species group from the observer records of bycatch. Some of these methods also use the FVTR estimates of total kept biomass for a given fishing gear type and region to expand the observer estimates to a similar scale. The SBRM report analyses the assumptions in each of the statistical methods and compares the estimates of bycatch provided by each of the methods against each other. The report concludes that the best bycatch estimation method is the combined ratio method, which uses the ratio of bycatch to kept biomass per trip from the observer database and multiplies it by the FVTR estimate of total discards kept to obtain the total bycatch per fishing gear type (fishing mode) and species. However, the key assumptions of the preferred statistical method do not hold in the vast majority of datasets shown in the report. This leaves open the possibility for there to be serious bias in the estimates provided. Additionally, the results showed that one of the statistical methods not chosen for application, the simple expansion method, provided bycatch estimates more precise than those given the preferred method. This simpler method could be expected to be more robust to the common lack of a linear relationship between discard and kept biomass observations and high frequency of zero discard observations. My conclusion is thus that the SBRM makes an inferior choice for the statistical method. This may seriously compromise the reliability of observer coverage recommendations and the reliability of discard estimates that will be provided from the currently proposed SBRM.

The methodology used to prescribe the necessary observer coverage for a given fishing gear type in a given region is largely "math-driven". Based on the target level of precision of 30%, the formulae for precision in the bycatch estimate and the existing data on discards and kept biomass, the number of observed trips can be calculated directly. This is done for each species

for which there is sufficient data. Where no such data exist, either a prescription for observer coverage is computed using an ad hoc rule to create a pilot survey with a fixed small percentage of the coverage already present for a given gear and region. The recommended amount of observer coverage for a given fishing fleet in a given region is set at the largest amount of coverage necessary to give a CV of no more than 30% in the bycatch estimate for each species. Some filters are applied to prevent highly impossible and highly unlikely gear-species combinations (e.g., baleen whales in crab pots) from dominating the determination of observer coverage for each given gear type. Other filters are applied to prevent species that have very low bycatch in a given gear type or contribute a very tiny amount to known fishing mortality from dominating the determination of observer coverage.

It is common to simulate datasets with the observed properties in the data obtained and apply a newly proposed estimation method to these simulated data to see whether it gives acceptably precise and accurate results. This was not done in this report. In my view statistical estimation methods such as the ones proposed in the SBRM should be simulation evaluated with simulated test data and found to have acceptably low bias (the average value for the estimates obtained is acceptably close to the true value) and acceptably high precision (the amount of variability in the estimates obtained is acceptably low). Additionally, the reliability of the prescriptions for sampling coverage would also need to be evaluated with simulated data. It is only methods that are found to perform acceptably after thorough simulation testing that could be proposed as candidates for the SBRM. This has not been done, and the current SBRM should not be accepted for implementation until this has been carried out with an acceptable degree of rigor.

My main conclusions and their implications for the acceptability of the SBRM are listed below:

1. I found a number of serious flaws in the estimation method chosen to be applied in the SBRM. This is serious because the resulting recommendations for observer coverage that could be obtained from the proposed SBRM could potentially lead to excessive wastage of government funds because unnecessarily high numbers of observer days could potentially be specified by the SBRM. Because of insufficient quality control testing of the proposed SBRM, the one proposed could equally well end up prescribing unacceptably low levels of observer coverage. The SBRM should have but did not provide sufficient assurances that the bycatch estimates obtained could be expected to have sufficiently high accuracy and meet the target level of precision. For example, without having applied conventional protocols for quality control testing of the proposed methods, it remains possible that point estimates of biomass could still vary wildly from year to year, despite the current SBRM's assurances that this variability will be acceptably low.
2. The SBRM failed to adequately evaluate the statistical properties of the six different bycatch estimation methods proposed in the report. The SBRM report's evaluations of whether the key assumptions of the statistical method chosen for the SBRM held showed that these assumptions did not hold for the vast majority of instances in which this method is to be applied. Yet, these violations in both key assumptions were ignored in the decision to choose this estimator for bycatch estimation and the calculation of the number of observer days required. Furthermore, comparisons between the precision in the bycatch estimate provided by each method showed one other method had higher precision than the chosen method in the majority of the instances shown in the report. Thus, the SBRM appears to have chosen a statistical method with inferior

precision and in which the key assumptions do not hold for the vast majority of combinations of fishing gears, regions and species where it is to be applied. It has done this despite the well-established principle that applying a statistical method to data for which the method's assumptions do not hold and severe violations of assumptions are extensively apparent can result in severe bias in the estimates obtained.

3. The two key assumptions of the chosen statistical method, i.e., the "combined ratio method", which applies the ratio of discards to kept biomass from observed fishing trips were not met in the vast majority of fishing method – species combinations shown in the SBRM report and in most instances, there appear to be marked violations of these assumptions. Failure to have these assumptions met could result in serious bias in bycatch estimates in the vast majority of fishing method – species combinations, bias in the estimates of precision in the bycatch estimates, and specifications for observer coverage that may in practice fail to meet the target levels of precision in future estimates of discards.

4. One of the proposed estimation methods that was not chosen, the simple expansion method (which does not use any ratios e.g., of discards to kept biomass), gave for the majority instances shown lower CVs in bycatch estimates than the other methods. This method also does not suffer the same lack of robustness to the nonlinearity and high proportion of zeros in the discard data as do the ratio estimation methods. This method could potentially serve as a candidate bycatch estimator before further study reveals estimators more suitable to the available data. A key problem that should have been acknowledged in the SBRM is that the available evidence suggests that there may be bias in the discard estimates obtained from observed trips. But at present, the amount of bias in the observer estimates of discards is unknown and impossible to accurately assess.

5. It is surprising that no simulation evaluations were conducted to evaluate the potential reliability of the proposed bycatch estimation methods, as this is standard protocol in quality control testing of proposed new statistical methods, and has been applied for decades in fisheries stock assessment. It is recommended that simulation testing of the bycatch estimation methods (i.e., estimators) should be carried out to evaluate the potential bias and precision in the candidate estimators of bycatch. Only those methods found to perform acceptably should be considered for implementation.

6. I could find nothing seriously wrong with the filtering methods adopted in the SBRM. These appeared to be scientifically sound and could be expected to reduce considerably the amount of observer effort without compromising the quality of data required for bycatch estimation.

7. The conclusions drawn asserting that there is no evidence of bias in the observer data were inconsistent with many of the test results obtained in evaluations of the potential for there to be bias in the bycatch data obtained from observed fishing trips. In contrast, there is considerable evidence suggesting that the observer data on discards are not representative of unobserved trips. However, it is not possible with the information available to quantify the direction or magnitude of the potential biases in the observer estimates of discards.

8. The conclusions drawn asserting that the Fishing Vessel Trip Report (FVTR) provide accurate estimates of kept biomass were inconsistent with many of the results obtained in evaluations of the potential for there to be bias in the FVTR records of kept biomass of various species by the different fishing methods. In contrast there is considerable evidence in the SBRM report that the FVTR estimates of landings may be biased. Yet this information has not been

applied in the development of the SBRM and could introduce bias in bycatch estimates obtained from the SBRM.

9. The proposed SBRM is unlikely to provide reliable discard estimates for the vast majority of fishing mode and species combinations including groundfish and other trawl fishery discards and protected species such as sea turtles. As such the SBRM is unlikely to provide reliable prescriptions for observer coverage. This is largely due to the serious violations in assumptions of the chosen ratio bycatch estimator. The violations of assumptions are caused largely by the high fraction of zeros in the data (i.e., rare event phenomena) and the requirement of the ratio estimator for the data to be adequately described by a linear model that goes through the origin.

Introductory Remarks

The proposed SBRM (NMFS 2007) identifies observed fishing trips as the source of data with which to estimate bycatch and formulate an approach to estimate the bycatch of various species and species groups in various fishing modes. Various analyses are carried out and other various information are reviewed to evaluate the potential for there to be sampling bias in the observer data, i.e., to evaluate whether the observer program could deviate from representative or random sampling of the total population of fishing trips and behaviours in each of the fishing modes and give estimates of bycatch systematically different from actual bycatch amounts. Based on these analyses the SBRM report concludes that there is strong evidence to support the hypothesis that the observer program provides data representative of the total population of fishing trips by fishing mode. My comparison of the evidence provided from these evaluations suggests that the evidence is not quite so strong and details are discussed further below.

The proposed SBRM aims to identify annually levels of observer coverage to estimate bycatch of various species and species groups in various fishing "modes" which characterize fisheries with particular gears, species and regional focus. The SBRM applies a conventional statistical approach to identify the observer coverage in the various fishing modes that could potentially yield bycatch estimates for the species of interest at the target level of precision. For example, well known conventional ratio estimators are identified for the estimation of bycatch of various species in each of the identified fishing models. Taylor series expansion is applied to formulate equations for the standard error in the bycatch estimates that could be obtained from the proposed ratio estimators. These equations are rearranged so that observer coverage for a particular fish and species combination can be computed based on data in the previous year.

Where data are missing in particular cells, a data imputation methodology is formulated and applied. The formulation of observer coverage is also subject to a variety of constraints and filters to take into account practical considerations such as whether particular species are at all likely to become bycatch in a particular fishery. Thus, it appears a standard / conventional statistical approach has been taken to identify desired levels of observer coverage from historical data.

In my view, however, the report shows relatively low standards of practice and/or serious omissions in its (1) identification of candidate bycatch estimators, (2) evaluation of their potential accuracy and bias in estimating bycatch, (3) identification of estimators of standard error in the bycatch estimates obtained, (4) evaluation of the accuracy and precision of the estimators of standard error, and (5) evaluation of overall potential reliability and the potential degree of interannual stability in the proposed estimators of annual bycatch, standard error and methods to identify annually the observer coverage by fishing mode. Below, I elaborate on these and other concerns I have about some apparently low standards of scientific rigor in some aspects of the proposed SBRM. I evaluate the questions outlined in the terms of reference of my review but due to the very large amount of material to review was unable to address with equal amounts of detailed analysis all of the terms of reference. I have however provided a very thorough and detailed evaluation of the adequacy of the key scientific and statistical components of the SBRM. I include in the report some recommendations for additional analyses that could be carried out to more adequately and rigorously evaluate the potential quality and usefulness of key components of the proposed SBRM.

Part 1: Conduct a review of the National Marine Fisheries Service’s proposed Standardized Bycatch Reporting Methodology to determine whether the methods will result in observer coverage levels that can be extrapolated to provide statistically significant catch and bycatch information to fisheries managers.

IS THE OBSERVER AND OTHER DATA USED TO CALCULATE THE RECOMMENDED OBSERVER COVERAGE LEVELS FOR EACH FISHERY ROBUST ENOUGH TO BE THE FOUNDATION OF THIS PROGRAM?

The robustness of data used in the standardized bycatch reporting methodology can be evaluated in a number of different ways. One important question concerns whether the set of observed trips is representative of unobserved trips. If observed trips are not representative of trips that are not observed, the estimates of bycatch, effort and catch kept can be different from the true values for those items. The SBRM report describes a number of tests that were applied to evaluate whether there might be sampling bias in the available observer data when comparing it to the FVTR data and VMS data.

FVTR data are used to characterize the fishing effort of each fishing mode and some of these modes do not yield this information because they operate mostly in state waters. However, this is a small proportion of the identified set of modes. The vast majority of fishing modes have complete or near complete coverage with the federally mandated FVTRs.

In my view the sampling program proposed for obtaining bycatch estimates has a few issues regarding accuracy but largely appears to be the best available sampling program for bycatch estimation. Some tests were applied to evaluate the potential for bias in bycatch estimates from this sampling program and some of the results seem to indicate that the observer program appears in many of the fishing modes to provide a representative sample of the trips in those modes. However, it appears that some of the results suggesting non-representative sampling in some modes were glossed over and I disagree that taken together the results of these tests provide strong evidence that the observer program will offer unbiased data for bycatch estimation.

I. EVALUATION OF BIAS IN OBSERVER DATA, TRIP REPORTS, AND LANDINGS DATA.

A. Tests for differences in biomass kept and trip length between observed and unobserved trips.

Plots of observer estimates versus unobserved estimates of average kept biomass per trip for 14 different species groups are provided in Appendix B, Fig. B-7. If these are to be perfectly comparable, then we should not be able to reject the null hypothesis that the slope equals 1. However, no results of such hypothesis tests were reported. The best estimate regression line and the 68% ellipse were plotted on each graph.

On p. 145 of the main report it is stated:

"Based on analysis that compared available FVTR data from unobserved vessels with data recorded by observers, average catches (kept pounds) by species groups for observed and total trips compare favorably (Appendix B, Figure B-7) and followed an expected linear relationship."

I don't have a file copy of the datasets. However, by inspecting the graphs, it appeared that in three of the 12 species groups reported where there were sufficient data, the apparent slopes

departed substantially from the one to one line and if tests had been performed I suspect that the null hypothesis that the slope equals 1 would be rejected (see Table 1 below).

Table 1. Comments on plots of observer and FVTR estimates of kept biomass per trip for various species groups in Figures B-7 and B-8 and B-9. The values in columns two and three should be the same if there were to be no bias at all.

	Average Kept (lb)		Histograms of VTR-Observer values for average kept		Comments
	Observer	VTR	Difference in Average Value	Difference in the SDs	
Atlantic Bluefish	200	2000	Right tailed	Right tailed	quite different, likely to be significant difference
Fluke-Scup-Black Sea Bass	1000	2000	Left-tailed	Right tailed	quite different, though might not be significant difference
Spiny Dogfish	400	700	Symmetric	Symmetric	quite different, though might not be significant difference
NE Multispecies - Large-mesh	2000	1500	Left-tailed	Symmetric	quite different, though might not be significant difference
NE Multispecies - small-mesh	1000	5500	Right-tailed	Right tailed	very different, likely significant
Monkfish	1000	1000	Left-tailed	Left-tailed	very similar, not significant
Atlantic Herring	50000	50000	Symmetric	Symmetric	very similar, not significant
Red crab	insufficient data				
Mackerel/Squid/Butterfish	200000	150000	Right-tailed	Right-tailed	quite different, though might not be significant difference
Surf Clam – Ocean Quahog	insufficient data				
Sea Scallop	50000	50000	Symmetric	Right-tailed	very similar, not significant
Skate complex	500	700	Left-tailed?	Left-tailed?	similar, not likely to be significant
Tilefish	1000	5000	Right-tailed	Right-tailed	very different, likely significant
All species	200000	160000	Symmetric	Right tailed?	quite different but not likely to be significant

Similarly, histograms of the differences in the average kept biomass per trip between FVTR and observer data were plotted in Figure B-8 and differences in the SDs are shown in Figure B-9.

The following is stated on p. 145 and 146:

"If the observed and unobserved trips within a stratum measure the same underlying fishing processes, one would expect not to detect a significant statistical difference in the average catches (and the standard deviations) between the FVTR and observer datasets. An examination of the distribution of these differences (Appendix B, Figures B-8 and B-9), by species group, indicates no evidence of systematic bias and general symmetry in the pattern of positive and negative differences".

Apart from the general claim of "symmetry" in the histograms shown for differences between the FVTR and observer records and for differences in their SDs, the report does not indicate what aspects of the visual inspection lead its authors to conclude no evidence of systematic bias. There are a number of aspects of the histograms that could be inspected visually to look for bias. One is to see whether the position of the mode (highest point of the frequency distribution) lines up with zero. Another is whether the tails on either side of the mode appear to be symmetric (mirror image tails on either side of the mode) or asymmetric (the length/ thickness of the tails are noticeably different on either side of the mode). While most of the plots show modal values at zero difference, in many of the plots for differences in average values (Figure B-8) and differences in the SDs (Figure B-9), the tails appear to be asymmetric suggesting possible systematic differences in kept biomass between observed and unobserved trips for many of the species groups (see Table 1 above).

It should be noted that the report does not indicate what order of difference in kept biomass would be of concern. For example, would a bias of the order of 5% or more in kept biomass be of concern? Without an objective quantitative basis to judge whether an apparent difference is of concern, the evaluation of potential bias applied in the report appears to be rather arbitrary. To provide a more objective basis to evaluate potential for bias in the observer data, statistical tests would need to be carried out, for example, to test the null hypothesis that the means and SDs from these two sources do not differ. These were carried out (see below for my comments on these). Tests could also be applied to evaluate skewness of the distributions of differences, but this was not done.

The results of hypothesis tests for the differences in kept biomass by species group between observed and unobserved trips are shown in report table 56. It is stated on p. 145 of the Report:

"The average difference in catch, by species, between the observed and unobserved trips was generally small as a proportion of total catch, and the average catch rates between the two datasets were not significantly different from zero in 12 of the 14 comparisons (Table 56)."

The report concludes on p. 145:

"These results suggest that average catch rates on observed trips were not significantly different from average catch rates reported on FVTRs, indicating no evidence of bias in the observer data based on the measure of average catch rate."

Even if there were differences found, in the average kept biomass of a given species type per trip, it is unclear whether this difference reflected a real difference in the kept biomass between observed and unobserved trips, or just reflected some bias in reporting between observed and unobserved trips when there really was no difference. This latter hypothesis seems to be a possibility given the large fraction (2/3) of species groups for which percent differences between FVTR and dealer based landings ranged between -10% and -40%, suggesting possible under reporting of landings in FVTR data.

i. The report incorrectly uses these results to support the position that observed trips provide unbiased information about unobserved trips.

In my view, the report incorrectly uses these results to support the position that observed trips provide unbiased information about unobserved trips. Firstly, the report misstates the case for there being no statistical difference. In Table 56, there were 11 out of 14 (not 12 out of 14) comparisons that were not significantly different from zero. Secondly, significance at a rate of three out of fourteen cases (21%) is higher than expected from the alpha error rate of 5%, i.e., higher than expected by chance variation alone if there really was no difference. Thirdly, using only null test results (i.e., failures to reject null hypotheses) to assert that no differences exist does not follow conventional statistical hypothesis testing protocol. Null results cannot be used to assert that no difference exists without also showing that the statistical power of the tests was acceptably high (Toft and Shea 1983; Peterman 1992). It is commonplace to require that statistical power be computed when no significant differences are found and when it is of interest to accept the null hypothesis that there is no difference. Fourthly, no data on average kept biomass in VTR vs. Obs. trips were shown to support claim that the differences were a small proportion of average catch. Given these various shortcomings, the report fails to meet conventional peer review standards in arriving at its conclusions that there was no evidence to indicate bias issues in the observer data.

ii. The reported statistical values do not match the stated conclusions.

Two other sets of results suggest differences between in the data collected from observed and unobserved trips. Firstly, a paired t-test of the stratum-specific standard deviations (SDs) of pounds kept showed significant differences in six of the 14 comparisons (i.e., 43% of the species groups tested showed differences in the SD in the pounds kept between observed and unobserved trips). Secondly, it was found that the difference in SDs between observed and unobserved trip length was significantly different. This single hypothesis test was performed for all 14 species groups in aggregate. In contrast hypothesis tests for differences in the average kept biomass per trip (and also the SD in kept biomass per trip) between observed and unobserved trips was performed separately for 14 different species groupings. It is not explained why the tests for difference in mean trip length and differences in SD in trip length were performed for all species (and all fishing mode types) in aggregate only. The evaluation for potential bias would have been better informed if the tests for differences in mean trip length and SD in trip length between observed and unobserved trips had been performed on a species grouping basis, or perhaps, even more appropriately, a fishing fleet mode basis, rather than lumping data from all fishing fleet types together in one single test.

The difference in mean trip length was found to be not significant at a p-value of 0.167 and it is concluded on p. 146 that:

"The results also suggest that average trip durations were similar between the observed trips and the FVTR trips, indicating no evidence of bias in the observer data based on the measure of average trip length."

This conclusion is inadequately supported since statistical power was not computed to indicate the chance of correctly detecting a difference if it existed (Toft and Shea 1983; Peterman 1990). As mentioned above, it would have been also more informative if statistical tests were carried out for each of the main fishing modes rather than doing a single test with data across all fishing modes lumped together in a single test. Indeed, it could potentially be found that when tests are

done for single fishing modes, that significant differences could be found at this level but due to some modes having positive differences and others negative differences, a single test all modes could show no significant difference in average trip length across all fishing modes.

- iii. Similarities in kept biomass, trip length and landings data are not representative of bycatch data

Also, while patterns in biomass kept per trip and trip length might be similar between observed and FVTR trips, this does not guarantee that discarded biomass and species composition will also be similar between observed and unobserved trips. Thus, a finding of similarity in landings indicates only indirect suggestive evidence about the key variable, discards, and the potential for there to be differences in discards between observed and unobserved trips.

The general conclusion from these analyses stated on p. 146 is:

"Overall, these results indicate that observer trips are generally similar to FVTR trips and there are no bias issues evident." (p. 146.)

This conclusion is made despite 21% of the tests showing significant differences in the mean values for kept biomass per trip between observed and unobserved trips, 43% of the tests showing significant differences in the SDs for kept biomass per trip between observed and unobserved trips, and a significant difference in the SD in trip length between observed and unobserved trips. Only one of the four sets of tests, i.e., for a difference in mean trip length showed no significant difference. In none of the instances where no significant difference was obtained was statistical power computed. Yet the set of negative test results obtained was used to assert that "there are no bias issues evident". The report does not explain why significant differences in the kept biomass per trip, SDs in kept biomass per trip, and SDs in mean trip length do not present bias issues in the observer data. Further tests for individual fishing modes could have been carried out to evaluate differences in the average trip length and SD in trip length per fishing mode.

B. Tests for differences in the spatial distribution of observed and unobserved trips

- i. The conclusion that there is a strong coherence in spatial distribution between observed and unobserved trips is incongruent with the test results.

Testing for differences in spatial distribution between observed and unobserved trips could also provide indications of bias in the observer data on discards. The occurrence of discards in fishing trips is highly likely to have strong spatial dependency, and any significant differences found in the spatial distribution of fishing effort between observed and unobserved trips could be taken to indicate the potential for there to be bias in observer trip data on discards.

Appropriately, there was some testing for such differences reported.

On p. 146, it is stated:

*"Two measures of spatial coherence were also examined. Within stratum h (fleet and quarter) the expected number of observer trips by statistical area j (E_{jh}) as the product of the proportion of FVTR trips in statistical area j and stratum h (V_{jh}) and the number of observed trips in stratum nh . Thus, $E_{jh} = V_{jh} * nh$. These expectations can then be compared to the actual*

frequencies (Ojh) of observed trips by statistical area. Results of these analyses indicate that the spatial distribution of fishing effort for trips with observers on board closely matches the spatial distribution of trips for the stratum as a whole (Table 57). It was possible to compute chi-square statistics for 86 strata. The null hypothesis of observer proportions equal to FVTR proportions was rejected ($P < 0.05$) in 38 of the 86 comparisons, which suggests that there are some spatial differences in the observed data compared with the FVTR data. This analysis included data collected on trips used for training observers, as well as quota-monitoring trips which have disproportionate higher rate of observer coverage than other observed trips, and this may explain the significant differences observed for otter fleets."

It is concluded on p. 147.

"Overall, these comparisons suggested strong coherency between these two independent measures of fishing locations; therefore, there is no evidence of bias in the observer data."

This conclusion is incongruent with the test results and there is also inaccuracy in the reporting of spatial test results. Firstly, the text on p. 146 inaccurately reports the test results in Table 57. In Table 57, 48 out of 86 comparisons (not "38 out of the 86 comparisons" as reported in the text on p. 146) show significant differences at the alpha level of 0.05. Secondly, rather than only 44% as suggested in the text, 55% of all of the tests carried out showed significant differences in the spatial distribution of fishing effort between observed and unobserved trips. This is far higher than could be expected from the specified alpha error rate of 5% if there really were no differences and would appear to provide strong evidence of differences in the spatial distribution of fishing effort between observed and unobserved trips. In contrast, it would appear perverse to suggest that finding only 44% (38/86) of all tests showing significant differences provides evidence of strong coherency in fishing location between observations.

ii. The report's conclusion that "there is no evidence for bias in the observer data" is inconsistent with the many results showing potential for there to be bias.

While the report carries out tests for differences in the spatial distribution of fishing effort and thus provides an apparently objective basis with which to judge whether evidence of for bias exists, the report deviates from conventional standards in the use of evidence from statistical tests to evaluate the plausibility of alternative hypotheses. Typically, rejections of the null hypothesis at a rate greater than the accepted alpha level should provide evidence against the null hypothesis of no difference. However, the authors or the report clearly do not apply this convention. The authors do not justify why they deviate from this convention in their judgment and do not indicate or justify the exceptionally high rate of rejection of the null hypothesis that must occur before the authors might concede that may be bias.

Thus a key question for the authors is what standard of evidence would they deem appropriate for the making of conclusions regarding the coherency in fishing locations between observed and unobserved trips? Indeed, what rejection rate would have lead to the authors of the report to conclude that there is evidence of bias in the observer data, a rejection rate of 55% (the rate actually obtained), 80%, 100% of all tests performed? As indicated above convention would have it that a rejection rate of more than the specified alpha rate of 5% would suggest that differences exist and require also that findings of no statistical difference be accompanied by statistical power calculations. With the apparent pronounced deviation from standard scientific conventions for the use of evidence, it appears unlikely that the report's conclusions would be

changed if it had instead correctly assessed 48/ 86 rejections of the null hypothesis of no difference. The report's conclusion that "there is no evidence for bias in the observer data" is thus inconsistent with the many results showing potential for there to be bias and in my view is inadequately justified.

iii. Trips aboard boats using Vessel Monitoring Systems can not be categorized as unobserved trips.

Other previous evaluations are also referred to and used as evidence to support the viewpoint that there is no evidence to suggest differences in spatial coverage between observed and unobserved trips. For example on p. 146 it is stated:

"A paper by Murawski et al. (2005 in press) presents information on the spatial distribution of otter trawl fishing effort for vessels with Vessel Monitoring Systems (VMS) with the distribution of tows on observed trips. Qualitatively, the spatial distributions match very well with high concentrations of effort near the boundaries of the existing closed areas on Georges Bank and within the Gulf of Maine. Moreover, the effort concentration profiles deduced from VMS data coincided almost exactly with the profiles derived from observed trips."

While this analysis appears to provide support for the hypothesis of no difference in spatial coverage between observed and unobserved trips, the VMS trips are another form of "observed" trip since the vessel operators may have been influenced by the knowledge that a VMS is on board their vessel. VMS trips, thus, are not exactly a fair representation of unobserved trips. One could therefore expect the VMS observed trips to show similarities with actual observed trips, and not necessarily correctly represent the behaviours of completely unobserved trips. The apparent similarity in spatial distribution of effort between VMS and observer trips is thus not very surprising.

iv. The question of whether bias exists in the observer data is a moot point.

It is most likely that some bias exists in some form or another in the observer data when compared to the unobserved trip data. The key questions should be rather as follows: (1) For each component of the data to be applied, what is the direction and magnitude of the bias in the observer data? (2) How much bias is tolerable for data to be used as is without any correction in the SBRM? e.g., is 1% tolerable, 5% tolerable, 10% tolerable? (3) If the assessed bias is judged to be in excess of the levels of tolerance for any one component of the data, what should be done about it? (a) What measures if any should be taken to correct the assessed bias in the data and/or estimators applied that utilized the biased data? (b) What measures if any should be taken to modify existing sampling programs to reduce to a tolerable level the biases in data obtained from the existing sampling program?

C. Tests for differences in landings data and between FVTR data and Dealer Records.

The FVTR data are used to define the "sampling frame" for the estimation of total bycatch by fishing mode and species and species group. In other words, the estimates of total kept biomass by each fishing mode for each species or species group, and estimates of total days at sea by

fishing mode from the FVTR data are used to expand the ratio estimates of bycatch to total bycatch. This requires that the FVTR estimates of landings by species and days at sea are acceptably accurate. The report compares FVTR data on landings by species and species group with dealer records of landings. The use of the dealer landings records as an unbiased benchmark appears to be reasonable because "[a]ll federally permitted dealers are required to report 100 percent of their purchases" (p. 122). It is stated also on p. 122 that " These data are generally considered to represent a near complete census of total landings".

The report also asserts on p. 122 the following:

"The validity of using the FVTR data as a basis for developing a sampling frame is supported by comparisons with total landings data from dealer records. ... A comparison of species landings from FVTR and dealer records for calendar year 2004 reveals some discrepancies, by species group, between these two sources (see Table 37). Overall, there is a 2.3 percent difference between landings reported in the dealer and FVTR databases; however, this low percentage difference is driven in part by a -10 percent difference for herring. If herring landings are removed from the total, the difference between the total kept weight in the two databases is 4.7 percent."

While the report admits that there are "some discrepancies", it appears here also that the report dismisses results that suggest potential bias in the data used in its SBRM.

Some explanations are given for the differences found, for example, on p. 123:

"Large percentage differences for bluefish and spiny dogfish may be due to an inability to partition out the mandatory reporting landings (reflective of the FVTR data) from the state landings data, but this issue is unique to 2004 when mandatory electronic reporting for dealers was first implemented."

It is concluded on p. 123:

"total landings of bluefish and spiny dogfish represent a small fraction of the total landings of all species and, overall, these differences are considered negligible."

The report emphasizes the small percent difference when landings are summed across species as part of the support of its conclusion that differences between the FVTR and dealer landings are negligible. In contrast, the SBRM aims to provide discard estimates by species and species group in a given fishing mode and for the bycatch to kept biomass ratios, the estimates of kept biomass for a given fishing mode are crucial to the total bycatch estimates and the prescriptions for observer coverage. In this light, estimates of the percent difference in landings aggregated across species groups can be misleading, i.e., particularly for assessing the potential differences in landings between the FVTR and dealer landings data at levels that are irrelevant to the SBRM. Thus, contrary to the information emphasized in the SBRM report, the most important differences to focus on are the differences at the species and species group level. While it might have been more appropriate to make comparisons between the FVTR data and the dealer landings data at the fishing mode level, the report points out that the Dealer landings data cannot

be disaggregated to the fishing mode level since information on fishing mode is not a part of the Dealer landings dataset.

The SBRM report also claims that for some of the instances where the percent difference is quite large, e.g., for spiny dogfish and bluefish, that these results are unimportant in the bigger picture since these landings represent a small fraction of the total landings. However, it should be kept in mind that the estimates of kept biomass per fishing mode from the FVTR data are to be used as expansion factors for estimated bycatch ratios. Thus, even if a FVTR landing estimate for a particular species is small compared to the total landings, the bycatch estimate obtained could still be substantial if the estimate of the bycatch ratio happens to be relatively high. A 30 or 40% bias in estimated landings for a given species group in the FVTR data could potentially propagate to a 30 or 40% bias in the estimated bycatch of a fishing mode that happens to catch mainly this species group. Thus, discounting some of the instances of large percentage differences because they represent a small fraction of landings may be misleading and inappropriately dismissive of important evidence.

Generally, stock assessment biases with magnitudes (absolute values) larger than 5 or 10% are considered to be of concern (e.g., Punt 1993; McAllister 1998). Here, the 8 out of 12 of the reported percent differences were larger in magnitude than 10%, ranging between 10.3% and 39.9% (see Table reproduced below). Because dealer landings could be considered to be unbiased estimates of landings, the percent difference in landings between FVTR and Dealer reported landings could be considered to represent the percent bias in the FVTR data. The average absolute percentage bias across all 12 species groups is 15.2%. Thus would indicate that on a species group basis, the average absolute bias could be expected to be in the order of 15%, which would in the field of stock assessment science would be considered to be non-negligible.

Table 2. Reproduction of Table 27 in the SBRM Final Report. The sign on the values for difference and percentage difference have been corrected and cells shaded with yellow indicate differences larger than 10%. Note also that Table 27 incorrectly reports the sign of the differences and percentage differences between the FVTR and Dealer landings by species group.

	Landings (mt live)		Difference	Percent difference
	FVTR	Dealer		
Atlantic Bluefish	2,357	3,423	-1,066	-31.1
Atlantic Herring	94,223	85,456	8,767	10.3
Deep-Sea Red Crab	1,733	2,041	-308	-15.1
Mackerel/Squid/Butterfish	97,400	97,083	317	0.3
Monkfish	14,643	21,185	-6,542	-30.9
Large-mesh multispecies	35,101	41,414	-6,313	-15.2
Small-mesh multispecies	8,883	9,277	-394	-4.2
Sea Scallop	242,550	243,736	-1,186	-0.5
Skate complex	13,054	16,073	-3,019	-18.8
Spiny Dogfish	600	983	-383	-39.0
Summer Flounder/Scup/Black Sea Bass	11,732	13,887	-2,155	-15.5

A simple t-test with the landings data log transformed to test for differences in the mean of the log transformed landings between FVTR and Dealer sources (i.e., whether the mean ratio of landings between these two sources deviates from 1), leads to a rejection of the null hypothesis of no difference with a p-value of 0.012. A 95% confidence interval for the mean ratio of FVTR landings to Dealer landings by species group lies between 0.77 and 0.96 with the mean ratio being 0.87 indicating that on average, FVTR data under-estimate actual landings. Note that this result concerns the mean value for the ratio across species groups. The estimates SD in the ratio across species groups is 0.15 thus indicating quite a bit of variability among species groups in the potential bias in landings estimates from the FVTR data. However, the result indicates that, unless bias corrections are applied, use of the FVTR data as bycatch ratio expansion factors will tend to lead to under-estimates of bycatch.

Thus, a perhaps more careful inspection of the comparisons between FVTR and Dealer records of landings by species groups would lead to conclusions other than those obtained in the SBRM report, e.g., on p. 122"

"The validity of using the FVTR data as a basis for developing a sampling frame is supported by comparisons with total landings data from dealer records."

In contrast, the results reported in Table 37 and further analyses of these results suggest that for the majority of species groups, substantial biases exist in the FVTR estimates of landings by species group. If these FVTR data are applied without correction, it is conceivable that biases in estimates of discard with magnitudes up to about 40% could potentially result and biases of similar magnitude in the prescriptions for observer coverage could also propagate, since the bycatch estimates and FVTR kept biomass estimates are also used in computing CVs in bycatch estimates and the CVs in bycatch estimates are used in estimating the desired amount of observer coverage. It is stated on p. 124 that:

"The above comparisons of dealer and FVTR-based landings estimates suggest that some of the expansion factors for estimating total discards, and the weighting factors for d/k ratios will be underestimated slightly."

However, the conclusion that where they may occur, underestimates will be slight is inconsistent with the fairly substantial apparent biases in the FVTR estimates of landings.

While comparisons of FVTR and Dealer estimates of landings are presumably applied to evaluate whether bias exists in the FVTR data and it is acknowledged that some differences between the FVTR and dealer estimates of landings were found, the report down-weights findings of differences in its conclusions. It is worrying that apparently conventional standards for judging bias were not followed and in their place no explicit criteria were offered with which to objectively apply the findings in arriving at a conclusion over whether bias exists in the FVTR data. Thus, conventional standards used in stock assessment were set aside, and considerably more extreme standards of evidence appear to have been applied. By conventional standards for example, it would appear to be perverse to conclude that overall, the differences in landings between FVTR and dealer records are negligible when in two thirds of the comparisons made, biases of magnitudes larger than 10% and up to 40% were found. A key question thus for the

authors of the report is what standard of proof would they require to lead to the conclusion that there is evidence of bias in the FVTR data? 80% of the results showing absolute differences larger than 10%, 100% of the results showing absolute differences larger than 10%, 50% of the results showing absolute differences larger than 50%? 50% of the results showing absolute differences larger than 100%?

Again, it appears to be a moot point, whether bias is present in the FVTR landings estimates. More important questions are as follows: 1) How large is the magnitude of the potential bias in the FVTR data for each species grouping (bias by fishing mode cannot be assessed due to information on fishing mode not being included in the dealer landings data)? 2) What is the direction of the bias for each species grouping? 3) What level of assessed bias should be considered sufficiently high to require some action to be taken to attempt to reduce the effects of the bias in the SBRM? 4) What particular measures, if any, should be taken to reduce the effects of assessed bias in the FVTR data on bycatch estimates, standard error in bycatch estimates, and prescriptions for observer coverage?

Accepting that some of the FVTR estimates of landings may be biased, one corrective measure that could potentially be taken is to utilize the dealer landings data to estimate the potential bias in the FVTR landings data by species and species group and if at all possible, region and/or fishing mode. A bias-correction factor could then be applied to the FVTR estimates of landings to attempt to correct for the bias in these data. It is however problematic that the dealers landings data base does not include sufficient detail on fishing mode. This could mean that the bias correction factors obtained from the dealer landings and FVTR landings comparisons might not precisely apply to a particular fishing mode. The bias in the FVTR data on landings for a given fishing mode could be expected to deviate from the average bias found in the mode – aggregated comparisons between the FVTR and dealer landings data. It is likely however that applying a bias correction factor and the species / species group level across modes to the FVTR estimates of kept biomass for a given fishing mode could reduce the bias in discard estimates. As suggested below, the potential reductions in bias from such a bias correction approach should really be evaluated through Monte Carlo simulation of simulated data with known specifications that mimic as best as possible the properties of the existing data.

D. Summary points on the robustness of data used in the SBRM

1) The observer data on bycatch appear to be the best available data on bycatch by species and fishing fleet type. No other data exist with the extent of coverage of bycatch species, landed species and fishing mode. As to the robustness of the observer data with regards to bycatch estimation, the fraction of combinations of species and species groups by fishing mode by quarter that have coverage too low to permit estimation of bycatch, is relatively small. There appears to be sufficient data in the vast majority of species-fishing mode-quarter cells to permit the computation of a bycatch value and standard error in the estimate. No other type of data collected comes close to providing the high level of coverage offered by the existing observer dataset.

2) A non-unsubstantial fraction of the estimates of bycatch already provided gave precision within the target level of a CV of 30%, indicating that the existing observer database has potential to provide bycatch estimates with the desired level of precision. For example it is stated on p. 143-4:

"For the 28 fishing modes for which a CV could be estimated, 19 (68 percent) had CVs less than or equal to 30 percent for all species combined (Table 44 and Table 45)...Looking at the non-gray cells for which there was observer coverage, the majority (58 percent) had either no discards or CVs of 30 percent or less. By definition, those cells that had either no discards or CVs less than 30 percent were of sufficient quality to meet the performance standard proposed to be implemented through this amendment."

3) There are some potential robustness issues concerning whether observed trips are representative of unobserved trips. The various empirical tests for potential differences reveal significant differences in the average landings per trip, SD in landings per trip, SD in trip length, and spatial coverage between observed and unobserved trips.

4) There are also some potential robustness issues about potential biases in the biomass kept expansion factors obtained from the FVTR data with about two thirds of the comparisons showing magnitudes of bias between 10 and 40%.

IS THE SBRM'S TREATMENT OF THE ACCURACY ISSUE VALID OR ARE THERE WAYS TO IMPROVE THE ANALYSIS NOW OR WITH ADDITIONAL DATA OVER TIME?

There are two dimensions to the accuracy issue in the SBRM, as adroitly pointed out in SBRM report and Appendix A. For example on p. 117 of the report it is stated:

"There are generally two primary potential sources of bias in a sampling program such as the at-sea observer program: Non-representative sampling; and the statistical properties of the consistency of the estimators (Rago et al. 2005). Non-representative sampling means that the targets of the sampling program (i.e., the vessels and trips on which an observer is present) are distinct and different from the overall population for which an estimate is desired. For example, if observers were placed only on small vessels fishing just offshore using a single gear type, these trips would not be representative of the variety of vessels, fishing gears, trip lengths, and fishing locations that comprise the wider fleet. The following section addresses the many ways in which the NEFOP strives to ensure that the observer program samples (observes) the Northeast Region fishing fleets in a representative manner. Later sections of this chapter address the statistical properties of the estimators, and provide evidence that there is very little bias associated with the data collected by the at-sea observers."

In the next section I comment further on the issue of how the SBRM deals with the issue of potential bias from non-representative sampling. In the following section, I comment on the issue of how the SBRM deals with the issue of potential bias from "the properties of the consistency of estimators".

I. ADDRESSING ACCURACY IN DATA, I.E., ARE THE DATA OBTAINED AND APPLIED REPRESENTATIVE?

There are at least two key potential sources of bias resulting from possible non-representative sampling in the SBRM report. One is in terms of the potential bias in the FVTR estimates of the sample frame. A second is in terms of the potential bias in estimates of bycatch from observed fishing trips. In the previous section, I addressed the issue of whether the SBRM's treatment of

the accuracy issue is valid for the first two sources of bias. In both cases, my answer is no. I do not agree with the viewpoint on p. 117 stating the evidence reviewed suggests "that there is very little bias associated with the data collected by the at-sea observers". Where tests revealed potential bias in the observer and FVTR data, these results were downplayed. Some analyses suggesting no difference were inappropriately used to support the hypothesis of no bias, for example, the use of null results in significance tests for potential differences without accompanying statistical power tests, the use of percent differences in results aggregated across species and species groups, when what really matters is at the species group level. There's also the use of results from studies that show no difference when in fact the supposed control group is inappropriately identified, e.g., the assumption that VMS trips provide unbiased representations of observed trips.

Despite a large amount of evidence obtained suggesting potential bias in the FVTR and observer data, the SBRM report asserted that there was no evidence to suggest bias and that any differences obtained were negligible. I do not believe these conclusions of negligible bias are adequately justified given the many different results suggesting bias. As I've indicated above, I believe the SBRM would be better served by accepting that bias is likely to exist in various components of the FVTR and observer data and to formulate protocols to reduce as much as possible the impacts of the assessed bias in the FVTR and observer data.

Some possible ways to improve the analysis now include the following:

(1) As stated above, the dealer landings data could be utilized to estimate the potential bias in the FVTR landings data by species and species group and, if at all possible, region and/or fishing mode. A bias-correction factor could then be applied to the FVTR estimates of landings to attempt to correct for the bias in these data. It is however problematic that the dealers landings data base does not include sufficient detail on fishing mode. This could mean that the bias correction factors obtained from the dealer landings and FVTR landings comparisons might not precisely apply to a particular fishing mode. The bias in the FVTR data on landings for a given fishing mode could be expected to deviate from the average bias found in the mode –aggregated comparisons between the FVTR and dealer landings data. It is likely however that applying a bias correction factor and the species / species group level across modes to the FVTR estimates of kept biomass for a given fishing mode could reduce the bias in discard estimates. As suggested below, the potential reductions in bias from such a bias correction approach should really be evaluated through Monte Carlo simulation of simulated data with known specifications that mimic as best as possible the properties of the existing data.

2) While differences were found in the average landings per trip, the SD in landings per trip, and the length of the trip between observed and unobserved trips, this does not pertain directly to the key variable utilized in the observer database, the discarded amount of a given species or species group per trip. Thus, a mean difference in the landings per trip between observed and unobserved vessels for a given fishing mode and species type, does not necessarily imply that the same percentage bias will occur for the discards between observed and unobserved trips. The same goes for any differences found in the SD in the landings per trip between observed and unobserved trips. That differences are found in the landings data, indicates however that there is potential for there to be differences in the bycatch.

3) One correction factor could potentially be applied to the observer data estimates of kept biomass of a given species type in observed trips. If there was some quantitatively assessed bias

in the kept biomass per trip for a given species in a given fishing mode, a bias correction factor could be derived for the observer based estimates of kept species per trip. However, there appears to be no objective or reliable basis to estimate the potential bias in kept biomass in observed trips, because the standard against which the bias would be assessed, the FVTR data, could themselves be biased, as suggested above.

4) For the longer term, if the dealer landings records could for each landings obtained also record the fishing mode, as defined in this SBRM, this could provide a far more accurate set of data, i.e., the dealer landings data, on kept biomass per fishing mode, than the FVTR data. This could lead to the use of more reliable, more accurate expansion factors for bycatch estimation and more accurate estimates of bycatch and the observer coverage needed.

II. ADDRESSING POTENTIAL BIAS FROM THE STATISTICAL PROPERTIES OF THE CONSISTENCY OF THE ESTIMATORS

The SBRM report correctly identifies bias from the statistical properties of the consistency of the estimators as one potential source of bias in bycatch estimates. However, my overall impression is that the report did not take appropriate and sufficient measures to evaluate this form of bias in the estimators proposed in the report. This section reviews the six bycatch estimation methods formulated and the SBRM report's analysis of the properties of the estimators that lead to a choice of the best estimator. Various analyses in Chapter 5 of the SBRM report were intended to assess the potential for bias in the estimators and to compare the precision in bycatch estimates offered by the estimators. The steps taken achieve this included evaluating how well assumptions of the methods were met, and comparing the standard errors and CVs (SE divided by the estimate) in estimates provided by the estimators, and to compare the estimates provided by the different estimators. The inspection of assumptions is standard practice and is necessary to evaluate the potential for bias since bias typically arises when model assumptions are not met. For example, when X-Y data show a strongly curved relationship, and a linear model is applied, the linear model will produce biased results.

Six alternative methods to estimate bycatch were formulated and evaluated in the SBRM report. On p. 135 it is stated:

"Three methods were examined to estimate annual total discards, precision, and coverage necessary to achieve a 30 percent CV for fleets and species/species groups: (1) A separate ratio method; (2) a combined ratio method; and (3) a simple expansion method (mean discard per trip). Cochran (1963) discusses these three methods in greater detail. Each method utilized quarterly estimates of bycatch rates (d/k and d/da) and associated CV, and the number of sea days necessary to achieve a CV of 30 percent. In these analyses, stratum is defined as fleet and species group. Significant improvements in discard estimation may be possible through a variety of species-specific refinements. These might be accomplished via use of additional covariates, post stratification, or other model-based approaches."

The first two methods are applied to two different ratios, i.e., (i) the ratio of bycatch to days at sea, (ii) the ratio of bycatch to kept biomass. The third method, the bycatch rate per trip, is applied in two different ways, i.e., to data formulated (i) from the days at sea and (ii) the kept biomass sampling frames which are not 100% overlapping.

While the formulation of a total of six alternative estimators appears to be a reasonable number to evaluate and choose from, this is a relatively limited set of alternatives to choose from, as indicated in the report which provides references to several other bycatch estimation methods also. My general impression is that these particular estimators are not very well suited to the bycatch and effort data presented in the report (see below for further details). On this basis, I would hesitate to argue that simply more or different estimators of discard should have been formulated and applied as alternative candidates. Instead, I would advocate that some further careful inspection of the bycatch data (e.g., as shown in Appendix plots B-1 (non-protected species) and B-2 (protected species)) be carried out to formulate and apply estimators of bycatch that more accurately model the observer bycatch data at the very least and bycatch and effort data, if at all possible.

III. COMMENTS ON THE SBRM'S EVALUATION OF ASSUMPTIONS OF THE RATIO ESTIMATORS

When a new estimator is proposed to be applied to some data, it is common practice to evaluate whether the known assumptions of the estimator are satisfied with regards to the available data. The report appropriately proceeds to evaluate whether ratio estimator assumptions are satisfied in the observer data set. It considers two different sets of assumptions, one concerning the degree of correlation between the numerator and denominator of the ratio applied, and another concerning the linearity assumptions of the ratio.

A. Assumption 1: correlation between discards and the measure of effort

One of the identified requirements of a ratio estimator is that a positive correlation exists between the numerator and denominator of the ratio. When there is a significant positive correlation between these two variables, this can help to reduce the variance in the estimate of the total bycatch compared to an estimator that does not use the ratio, e.g., the simple expansion method. The report evaluates the correlations between observer discards and the two different measures of effort, kept biomass and days at sea (das). Table 42 shows these correlations by gear type for the various species and species groups. Table 43 does so for the various gear type by protected species. General conclusions offered in the report on p. 134 are that:

"Overall, the correlation coefficients were low but the exceptions are important and notable."

I agree that overall correlations were low. However, the authors do not specify explicitly what values they consider to be unacceptably low so that a ratio estimator would be inappropriate, or acceptably high such that a ratio estimator would be appropriate. Is 0.2, sufficiently high? Is 0.5 sufficiently high? Should the estimate of the correlation coefficient be significant at the 0.05 alpha level? None of this information was provided and this makes it difficult to use the information in Tables 42 and 43 to evaluate in which instances, ratio estimators would be applicable and in which instances not. Moreover, Tables 42 and 43 do not provide indications of which estimates of correlations are significant. Providing estimates of whether a correlation estimate is significantly different from zero would help in evaluating which ones are reliably obtained.

Presuming that correlations of 0.5 or 0.7 could imply that the ratio estimator might be appropriate, this still leaves very few instances where a ratio estimator would be more suitable than for example the simple expansion method. For example, in Table 42, if I have tallied

correctly, 199 cells (combinations of fishing modes and species group (non-protected)) have estimates of the correlation between discards and discard to kept. Of these, 20 cells (roughly 10% of the correlations) have correlation coefficients larger than 0.5, and 8 cells (roughly 4%) have correlation coefficients larger than 0.7. Given the fact that 75% of the cells have fewer than 30 data points as noted on p. 134, I'd suspect that the correlation coefficient would need to be quite high before the correlation was found to be significant. Also, a correlation coefficient of about 0.7 would imply that about 49% of the variance in discards can be explained by variation in kept biomass. If a correlation of approximately 0.7 or higher was significant and implied that a ratio estimate could be suitable, the fraction of significant correlations is approximately equal to the 5% alpha level, i.e., the fraction of instances in which you'd expect to get a significant correlation by chance alone.

In contrast, the report on p. 134 points to a number of instances where it claims there are "exceptions". In some instances, these have correlation coefficients of 0.2, in others, 0.32, and in yet others, 0.48. These benchmark values still seem pretty low and there's no indication of whether the estimated coefficients are significantly different from zero. It is concluded on p. 134 that:

"The evidence indicates strong relationships for the three primary fisheries (large-mesh otter trawls, extra-large-mesh gillnets, and scallop dredges)".

This is misleading. For large-mesh otter trawls 2/13 have correlation coefficients larger than 0.5 in the NE and 0/11 have correlation coefficients larger than 0.5 in the MA. For extra-large mesh gillnets none in the NE and MA have correlation coefficients larger than 0.5. For scallop dredges only 3 in 62 instances have correlation coefficients larger than 0.5. In contrast, though its not stated, the MA small sink-anchor-gillnet has correlation coefficients over 0.95 for the three species groups where the coefficients are computed, i.e., of 0.993 for mackerel, squid and butterfish, 0.981 for dogfish, and 0.993 for fluke, scup, black sea bass. The MA large sink-anchor-gillnet has correlation coefficients over 0.5 for all four species where the coefficients are computed, i.e., of 0.575 for bluefish, 0.507 for NE multispecies, 0.652 for skate and 0.664 for dogfish. However, in none of the 22 other gear types, where there are three or more species groups, are more than 50% of correlation coefficients larger than about 0.5. Thus, which ever way you look at it, the results in tables 42 and 43 suggest that the vast majority of correlations are low and by this standard the ratio estimator would not be appropriate in the vast majority of cases.

B. Assumption 2: linearity assumptions.

On , p. 135 the following is stated:

"The ratio estimator assumes that a zero intercept regression is an appropriate model of the relationship between discard and kept (or days absent). ... [U]sing a fourth root transformation, examples of the comparison between discard and kept (or days absent) are illustrated by thirteen fish species groups in otter trawl and gillnet gears by mesh sizes (presented in Appendix B, Figures B-1a to B-1xx) and by five protected species groups for longline, otter trawl, gillnet and scallop dredge (Appendix B, Figures B-2a to B-2j). Departures from linearity are often controlled by large numbers of trips with zero discards. When trips with zero discards are removed, improvement in linearity occurs. Examples of these are given for large-mesh groundfish discarded in the otter trawl and gillnet fleets (Appendix B, Figures B-3a to B-3d). Rho and sample size analyses (using power = 0.80, alpha = 0.10; alternative hypothesis = 'not

equal' and null value = 0) indicated that a low percentage of fleets and species groups had linear relationships using a ratio estimator (d/k or d/das)."

Many of the plots in B-1 and B-2 (with fourth root transformation of the data) show many zero observations over many different values for trip durations and kept biomass, and where positive bycatch occurs, either no apparent relationship (correlation not different from zero) or some potentially positive correlation with kept biomass (k) and days at sea (das). It is thus correctly pointed out that "a low percentage of fleets and species groups had linear relationships using a ratio estimator (d/k or d/das)". This provides further evidence that a ratio estimator is not appropriate for the observer bycatch and kept biomass data. Thus, both key assumptions of the ratio estimator, that there is sufficiently large positive correlation (though not adequately defined in the report) between observer bycatch values and kept biomass, and that there is a significant positive linear relationship that intersects zero, do not hold in the vast majority of fishing mode – species group instances. Despite this, the report puts aside the one non-ratio estimator that could have still been appropriate, i.e., the simple expansion method, and applies the combined ratio estimator with discard to kept ratio in all instances. Because two key ratio method assumptions do not hold for the vast majority of instances, yet a ratio method is still applied, this could introduce serious bias in the bycatch estimates, CVs, and prescribed levels of observer coverage in the SBRM.

While, the statement, "[w]hen trips with zero discards are removed, improvement in linearity occurs...", is true, it appears that significant positive linear relationships emerge in only a small fraction of the instances shown (e.g., only two of sixteen plots in Figures 4). Moreover, the ratio estimators applied still presumably include the zeros and do nothing to account for their high frequency. The point about the improvement in linearity when zero discard observations are removed thus appears to be a moot point.

Quite worryingly, none of the six bycatch estimators applied account for the large frequency of zero bycatch observations in most of the plots bycatch against k and das in Figures B-1 and B-2. For the last few decades, it has been common in fisheries data analysis, to apply for example, delta-lognormal GLM method estimators, where there appears to be a larger-than-expected fraction of zero observations (e.g., ICCAT 2003). Delta-negative binomial GLM methods have also been applied in estimation of red snapper bycatch in shrimp trawl fisheries in the Gulf of Mexico to account for the high frequency of zero bycatch observations, the over-dispersion in the bycatch observations and to utilize covariates in the estimation of bycatch (Nichols 2004). Such methods model the chance of a zero response together with the value for positive responses as a function of various covariates. The commonly applied delta-lognormal method estimator models the chance of a zero observation using the binomial distribution, and the values of positive observations using some form of GLM model. In this particular instance, the majority of the bycatch datasets could potentially be modeled more accurately with some form of delta-lognormal or delta-negative binomial model.

It should be noted however, that in many instances, even if a delta-lognormal model approach were to be applied, with a GLM model fitted to the positive bycatch observations, there may be no underlying positive relationship between the positive observations for discards and the utilized measures of fishing effort, i.e., das or k. One possible explanation in some instances for the lack of positive correlation between bycatch and say kept biomass is that there may be a gear saturation effect at high bycatch levels, such that when kept biomass happens to be high, the gear

is saturated with kept biomass and there's little room in it for bycatch. Such potential explanations for the lack of positive relationship between bycatch and effort observations were not mentioned anywhere in the report. Gear saturation effects are plausible for gillnets, traps and trawl nets and correlations of close to zero despite large numbers of positive observations can be seen for each of these gear types (e.g., in Figs. B 1hh, 1ll, 1jj, 1nn, 1pp).

Thus, at present, it appears that the choice of a ratio estimator for discards is not appropriate for the majority of fishing mode-species group instances. It could be appropriate in a few instances, e.g., where the assumptions are met, but these are a very small minority of the instances. One possible improvement would thus be to apply the simple expansion method to all instances where the two key ratio assumptions are found not to hold, and a ratio estimator to those few instances in which the two key assumptions are well supported. It may also be appropriate to identify and investigate the usefulness of bycatch estimators that are appropriate to instances in which there is a large number of zero observations, as is the case in most of the fishing mode-species group instances (e.g., as in Nichols 2004).

IV. COMMENTS ON THE CHOICE OF THE COMBINED RATIO METHOD USING THE DISCARDS TO KEPT POUNDS RATIO

It is reported that a combined ratio method, using discards to kept pounds ratio, was selected and applied to all fishing modes, species and species group combinations.

p. iv (Executive Summary): *"In the end, the combined ratio method was selected using discard to- kept pounds. Data for kept pounds are more easily verified than data for days absent, and the combined ratio method better utilized information associated with kept pounds."*

In general, I've found that (1) the criteria that the authors of the SBRM report applied to choose among the six alternative were not very well explained or justified, (2) the criteria that appeared to be applied to choose a bycatch estimator did not appear to be applied in a consistent manner in the final choice of an estimator of total bycatch, (3) the section in Chapter 5 that compares the results from the different estimators and goes on to apparently choose an estimator, did not provide a clear statement about which estimator was chosen for application and precisely why it was chosen over and above the other candidate estimators, and (4) the overall approach taken to evaluate and choose among the estimators falls below the standards of rigor usually applied in evaluations of alternative estimators.

The only statement I could find in Chapter 5 that indicates the combined estimator as the method of choice is as follows:

p. 143: *"The tables presenting precision (Table 44 and Table 45), ranking of total discards (Table 46, Table 47, Table 48, and Table 49), and the sea days and trips necessary to achieve a CV of 30 percent (Table 50-Table 55) are based upon the variance of the composite annual total discards using the combined ratio method (method 2)."*

This statement does not reveal as it should the authors' choice also of the discards to kept in pounds ratio; nor is a clear summary statement provided about why this particular bycatch estimator was chosen. Also, the estimation method applied to produce the results in the Tables referred to in this paragraph is not mentioned anywhere in the Table captions for these Tables.

Apparent supporting statements about the combined ratio estimator and discards-to-kept ratio include:

p. 142-143. *"In general, results in Figures B-5h to B-5n of Appendix B suggested a greater degree of dispersion among methods 1 to 3 when days absent was used as a measure of fishing effort. Since days absent does not account for variations in steam time versus fishing time nor the effects of soak time for fixed gear, it was judged to be less useful than estimators based on a discard-to-kept ratio. In particular, estimators based on the separate ratio method were more variable than those based on the combined ratio method."*

The report here does not refer to any results (Tables or Figures) that would support the conclusion that "estimators based on the separate ratio method were more variable than those based on the combined ratio method." Though it is not pointed out, Appendix B, Figures B-5h plot CVs in estimate of bycatch obtained from the six different estimators. In three out of seven instances, these show that the CVs from the combined ratio method are lower than those from the separate ratio method. In the other four instances, the CVs appear to be identical between the two methods. There are results presented in Fig. B 6a -B6g that allow comparisons of the CVs in the discard estimates between the combined ratio method and the simple expansion method. Why weren't similar figures produced for the comparison of separate ratio method and combined ratio method (D1, D2)? This would have provided additional information helpful for evaluating whether this conclusion was justified.

I found that the comparisons made between the combined ratio and simple expansion methods to be inaccurate. It is stated on p. 143.

"Closer examination of the comparison of precision from the combined ratio method and the simple expansion method are presented in Appendix B, Figures B-6a to B-6g, for four major gear types (longline, otter trawl, gillnet, and scallop dredge). In these figures, the identity line and a reference line representing a 30 percent CV are given; the symbol represents a species/species group and mesh size. There is general symmetry above and below the identity line, except for Mid-Atlantic otter trawl where coverage is low and precision estimates are higher, consequentially leading to higher coverage."

From my inspection of Figures B-6a to B-6g, I was unable to verify the statement: "There is general symmetry above and below the identity line, except for Mid-Atlantic otter trawl". In contrast, the most common pattern is asymmetry with the majority of the points resting above the identity line. For example, Figures B-6b, B6c, B6d, B6e, B6f, B6g all show that for eleven of fourteen cases shown, i.e., three of the otter trawl plots (except for one of four plots here, the NE dda ratio estimator), the four scallop dredge plots, and the four gillnet plots, substantially more than 50% of the CVs from the simple expansion method were less than the CVs from the combined ratio method. Only for three of fourteen cases, i.e., NE long line DDA and DK and NE otter trawl for the DDA ratio, was there apparent symmetry. This means that in the vast majority of fishing method-species group combinations, the CVs in bycatch estimates are lower for the simple expansion method than for the combined ratio method. Here, there is direct evidence of this, and yet it is incorrectly claimed that there is general asymmetry when in fact, the simple expansion method is providing more precise estimates in the vast majority of instances than the combined ratio method. And while it is argued on p. 143 (without any reference to supporting evidence) that the combined ratio method provided more precise estimates of bycatch than the separate ratio method and is thus preferable to the separate ratio

method, a method with yet higher precision in the majority of cases shown is rejected over an estimator that has lower precision.

Despite the higher precision offered in the majority of the instances by the simple expansion method compared to the combined ratio method, the reason for choosing the combined method over the simple expansion method was not made clear (I was unable to locate the precise explanation). It seems that it may have been based on the apparently incorrect presumption of symmetry in CV estimates above and below the identity line in the CV plots shown in Figures B-6a-B6g and the presumption that the ratio method can provide higher precision due to the presumption of a positive correlation between the variables in the numerator and denominator of the ratio, as considered on p. 133-134 of the report (see above).

Thus, the criteria applied in the selection of an estimator appear to be inconsistently and incorrectly applied. The two key assumptions for the ratio estimators do not hold in the majority of fishing mode-species group instances, i.e., it appears that no significant positive correlation of a sufficiently large magnitude holds for the vast majority of instances (Tables 42 and 43) and that in only a small fraction of instances does a positive linear model fit the observer discards and kept data (Figures B-1, B-2, B-3). For example, the SBRM report, indicates that the chosen estimator, i.e., the combined method with the discard to kept ratio, is an inappropriate choice for an estimator and indicate that further research is required to identify estimators that are more appropriate to the available data.

V. COMMENTS ON WHAT'S MISSING IN THE EVALUATION OF ESTIMATORS.

It is common practice in stock assessment and the field of statistics to evaluate the potential bias/accuracy and precision in proposed estimators using data simulated from models with fixed properties that plausibility mimic the data and situation to which the models are proposed to be fitted (e.g. Punt 1993). This is analogous to safety and quality control testing methods applied to new proposed items for mass consumption by the public such as new cars. A rigorous battery of tests is applied to ensure that new proposed cars function as intended and meet national safety standards.

Simulation of mock datasets to test estimators is such a commonly applied approach to test for bias in proposed estimators that there is no need to go into a lot of detail here about this. It is surprising that the report does not show any such attempts to simulation evaluate the potential accuracy in the six alternative estimators. In my judgment, the SBRM is not complete until such simulation evaluations have been carried out and at least one estimator is identified that performs satisfactorily in the simulation evaluations.

To start with, a data simulator would need to be constructed that could simulate data with the same patterns seen in the observer bycatch and kept biomass data in Appendix B Figures B-1 and B-2. The high frequency of zeros in such datasets should be modeled as well as the apparent lack of positive linear relationship with kept biomass in the non-zero observer bycatch data. Some underlying true value for total bycatch for a given fishing mode-species group would need to be formulated and plausible models for how this translates to discards per biomass kept on a trip by trip basis. The error variability seen in the actual data should also be captured in the "mock" data simulator. Since the proposed estimators are relatively simple, it should be possible to simulate thousands of mock datasets from the underlying assumed true model for bycatch and

kept biomass per trip (or days at sea), fit each estimator to each of these datasets and then inspect the bias, mean square error in the estimate, precision in the estimates and accuracy of the percent coverage of the true value by the estimated 95% confidence intervals (or probability intervals) obtained from each of the proposed by catch estimators. Standards of acceptable performance would need to be defined beforehand, to outline what could be considered to be acceptable levels of precision and accuracy in estimates of bycatch and estimates of precision.

I thus conclude that an SBRM should not be approved until the proposed estimators of bycatch and the methods to estimate SEs in the SBRM are simulation-tested for their accuracy and precision and found to perform acceptably according to predefined tolerance levels for accuracy and precision.

IS THE FILTERING PROCESS SCIENTIFICALLY SOUND?

I have reviewed the filtering processes proposed, and in my view they are scientifically sound. I have no issues at all with the filtering methods proposed in the SBRM. They appear to be well-founded and sensible from a scientific point of view and in my view could lead to very little compromise in the quality of information provided yet considerably keep to reasonably low levels the amount of observer coverage required to meet the target levels of precision for the various bycatch species. My only comment concerns the fraction of fishing mortality rate filter.

p. 188. It is stated in one of the report given examples that

"[a]pplying the mortality ratio filter (fourth level) at a threshold of 98 percent reduces the observer sea days necessary for this fishing mode to 1,229 days, which is the target level for sea turtles. Bluefish (2,231 sea days) is filtered at this stage as the discards of bluefish associated with this fishing mode contribute only 0.16 percent of the total fishing mortality on bluefish (including all commercial and recreational landings plus discards)."

This ignores uncertainty in the discard estimates from existing observer datasets. e.g., discards of bluefish associated with this fishing model contributes only 0.16 percent of the total F on bluefish. If bycatch estimates are already imprecise due to low observer coverage, the use of point estimates e.g. if CVs are 0.3 or more give rather quite variable estimates of bycatch upon which to form a species filtering algorithm. This could lead to some species which are on the border of the tolerance level of e.g., 98 percent, being actively included in the observer coverage calculations in some years and not in others. This could have the undersirable result of yielding bycatch data that may swing between being highly imprecise to the target levels of precision and overall produce some time series with very poor quality. The fraction of instances in this category should be assessed to make sure that such instances are only a very small minority and that data for species of concern are not unduly impacted.

Part 2: An independent scientific paper that either confirms the analysis and recommended levels of observer coverage contained in the SBRM or points out where it falls short and how it would need to be improved in order result in scientifically sound recommendations for observer coverage levels. This review should include a discussion of specific high profile fisheries, including:

- NE Groundfish- discard mortality of groundfish in the fishery;

- NE/Mid-Atlantic Scallops- sea turtle and yellowtail flounder discards;
- NE Mid-water Trawl- bycatch of fish and protected species;
- Mid-Atlantic Trawl – bycatch of sea turtles in trawl nets

Time was too short to allow me to address in detail the four particular fisheries mentioned. I can however provide some summary comments on **"how the SBRM would need to be improved in order result in scientifically sound recommendations for observer coverage levels"**.

(1) The current SBRM is seriously flawed because it utilizes a ratio estimator to all fisheries mode-species group combinations when in the vast majority of them, the two key assumptions of ratio estimation do not hold, i.e., significant positive correlation between the denominator and numerator in the ratio and the ratio data are adequately modeled by a linear model that goes through the origin. This can be seen to be the case for all gear types in all regions including groundfish and other trawl discards in Appendix B, Figures B1 whereby in only a tiny fraction of the instances shown were the linearity assumptions of the ratio estimator reasonably satisfied (i.e., a linear model fitting through the positive discard data and also the high frequency of zero discards data). This was seen for all results for protected species including turtles in both regions for caught in all forms of fishing gear (e.g., Figures B2a and B2b). Based on results in Tables 42 and 43 (NMFS 2007) indications of the fraction of instances for these four fisheries in which the requirement for there to be a positive correlation between bycatch and kept biomass might be met are provided below. This, however, arbitrarily presumes that a correlation coefficient (ρ) of 0.5 for values of bycatch and kept biomass is acceptable. Note that the particular level of ρ that might be considered acceptable for the application of a ratio estimator remains unclear.

NE Groundfish- discard mortality of groundfish in the fishery

Commercial species

- NE otter trawl, small: 1/ 13 species had a $\rho > 0.5$.

- NE otter trawl, large: 2/ 13 species had a $\rho > 0.5$.

Protected species

- NE otter trawl, small: 0/ 2 species had a $\rho > 0.5$.

Conclusion: The assumption of a positive correlation appears to be met in very few instances and the estimation method may be unreliable

NE/Mid-Atlantic Scallops- sea turtle and yellowtail flounder discards

Commercial species

- NE: 3/ 31 instances had $\rho > 0.5$.

- MA: 1/ 31 instances had $\rho > 0.5$.

Protected species

- NE : 0/ 7 instances had $\rho > 0.5$.

- MA : 0/ 4 instances had $\rho > 0.5$.

Conclusion: The assumption of a positive correlation appears to be met in very few instances and the estimation method may be unreliable

NE Mid-water Trawl- bycatch of fish and protected species;

Fish

- 0/10 instances had $\rho > 0.5$

Protected species

- 0/4 instances had $\rho > 0.5$

Conclusion: The assumption of a positive correlation appear to be met in none of the instances shown and the estimation method may be unreliable

Mid-Atlantic Trawl – bycatch of sea turtles in trawl nets

- Otter trawl: $\rho = 0.044$ (too low).

- Scallop trawl: $\rho = 0.981$ (ok).

Conclusion: Only for the scallop trawl would the discard to kept ratio method appear to be reliable

(2) The ratio estimators could thus be considered for application in only those few instances in which the two key assumptions of ratio estimators are satisfactorily met. These ratio estimators could also be applied only in those instances in which the fraction of zero bycatch observations is very low with the bench mark level to be determined by simulation evaluation as suggested in recommendation 3 below. Given the data presented in Figure B-2 for various protected species this would be in fact in none of instances, due to there being no instances in which positive linear relationships that go through the origin and also the positive bycatch observations.

(3) The prescriptions for sampling coverage for protected species in virtually all of the fisheries are likely to be unreliable due to the serious violations in assumptions of the estimators applied to the existing data.

(4) The simple expansion method should be considered instead as estimator of bycatch and in the amount of observer coverage necessary to obtain the desired level of precision. This is because it does not require that the ratio assumptions be met and presumably might not be unduly affected by the high frequency of zeros in the observer bycatch data. Results presented in the report also indicated that it provided higher precision than the combined method with the discard to kept ratio.

(5) All candidate bycatch estimators should be simulation-tested with simulated data with known properties that mimicked plausibly the currently available data to evaluate whether these estimators could provide acceptable accuracy and precision in estimates of bycatch in the full

variety of fishery mode and species group combinations in the mid-Atlantic and NE Atlantic regions.

(6) Only estimators that are quality control tested and found to meet commonly required standards of performance may be considered as provisional candidates for the SBRM. Such candidates should be found to perform acceptably well in all simulation test evaluations of precision and accuracy and wherever applied, it must be verified that the assumptions of the estimators are adequately met.

Part 3: Some additional questions for the Reviewer to consider:

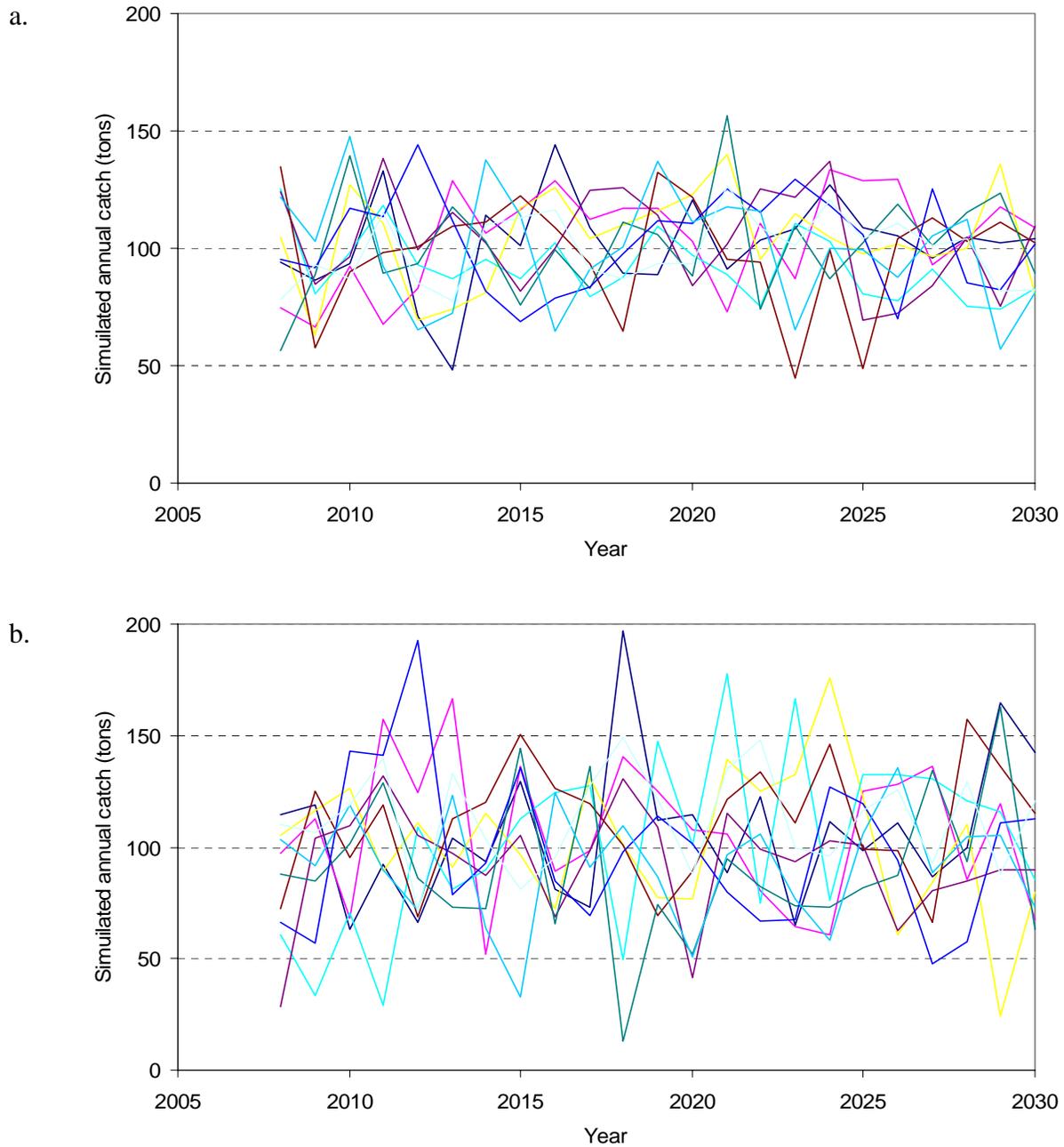
1) Will the Standardized Bycatch Reporting Methodology program described and analyzed in the EA provide estimates of bycatch with the expected precision (CV=30%)?

- It is conceivable that the computed precision could meet the target level of 30%. However, it may be the case that the estimates could have CVs quite different from 30% because in the vast majority of instances the two key assumptions of the ratio estimator are not met. Thus, over many years, and presuming bycatch and kept biomass levels did not change much from year to year, and the same amount of observer coverage was applied, the realized interannual variation in the actual point estimates obtained could be considerably different and possibly larger than the CVs calculated using the Taylor Series estimate of the standard error of the estimate.
- Results in Figures B-5 and B-6 show that the simple expansion method could be expected to give more precise estimates of bycatch in the majority of instances. The higher precision of the simple expansion method could also lead to lower number of observer days being required to meet the same target level of precision of 50%. Because this method is more robust to poorly behaved bycatch and effort data than the ratio methods, it could be expected that it could provide more reliable better behaved estimates of discards and more reliable prescription for observer coverage.

2) Will the SBRM provide discard and mortality information which can be used to monitor, enforce and regulate a fishery that is governed by Annual Catch Limits/Hard TAC's that are required under the recently reauthorized MSA?

- CVs of 30% in total catch estimates for a given exploited population would produce a large amount of error variability in catch estimates on an interannual basis (see Figure 1 below). Most of the commonly applied stock assessment methods such as VPA, catch-age, and surplus production models assume that catch is known without error or with very little error (e.g., $CV < 10\%$). Having absolutely no error in catch estimates is almost never the case, but in many fisheries, particularly those managed by individual transferable quota (ITQ), catch seems to be estimated with fairly high precision and this assumption is not badly violated. However, should the CV in the total catch approach 30%, this could cause the results from the methods and recommended TACs to vary quite a bit from year to year due to error variability in the catch data information, and thereby create a serious source of stock assessment error. The effect of large amounts of error variability in landings estimates (e.g., CVs of 20 to 30%) on stock assessment and management performance in TAC systems has to my knowledge rarely been evaluated. Accepting a 30% CV in bycatch and possibly landings estimates could conceivably be expected to be a major source of imprecision and possibly bias in stock assessments and the TAC recommendations that come out of them. This would particularly be the case for instances in which bycatch made up a substantial fraction of total catch of a particular fish population.

Figure 1. Graphical illustration of the expected variability in catch (or bycatch) estimates that could be obtained if target precision for catch estimation was set at (a) 20% and (b) 30%. The true underlying catch in each year is 100 tons. Thus simulated true catch is constant at 100 tons for all years in each graph. The 10 trajectories in each graph show possible time series of catch estimates that could be expected to be obtained under these two alternative target levels of precision. Note that the amount of error variability apparent in time series with 30% CVs in catch (or bycatch) estimates seems particularly high with many estimates being less than 50% and larger than 50% of the true value for catch.



3) Does this reporting methodology account for rare bycatch events such as protected species?

- SBRM information and results on protected species are shown in many of the SBRM report's figures and tables separately from such for commercial species. Prescriptions of observer effort for each of the fishing modes explicitly takes into account requirements to meet precision requirements for estimating protected species bycatch also. The SBRM thus considers both protected and unprotected species in its evaluations of the assumptions of the estimation methods and the estimates produced.
- The problem of there being a high frequency of zero bycatch observations however is not adequately taken into account in the specification and evaluation of proposed bycatch estimation methods. The ratio estimator chosen and applied in the SBRM is inappropriately applied to protected species because in none of the instances shown in Appendix Figure B2 does a linear model appear to adequately fit the data. Where there are positive bycatch observations, the linear model fails to predict them because it goes mainly through the very large fraction of zero observations over a wide range of kept biomass values. Also, in only 3 of 59 instances in Table 43, are correlations between discards and kept biomass larger than 0.7.
- Thus a "one-shoe size fits all" approach in the current SBRM is inadequately justified and inappropriate for the vast majority of fishing mode-protected species combinations.
- Whether it would be an overall better approach to tailor bycatch estimators to each particular species-fishing mode combination is a difficult issue. But in principle, this approach could produce more reliable prescriptions for observer coverage and estimates of bycatch. Such an approach however would require a lot more work than the preparation of an SBRM like the present one that applies a single bycatch estimation method to all instances.

4) Will the proposed methodology be sufficient to account for the change in fishing behavior caused by a fisheries observer (the observer effect)?

- Most of the empirical comparisons of landings and trip data from observed and unobserved trips shows some differences between observed and unobserved trips, particularly in the spatial distribution of fishing locations between observed and unobserved trips.
- However, while there are some detected differences (3 out of 11 instances) between observed and unobserved trips in landings, the report claims that the differences are relatively small, though no data are shown to confirm this.
- There currently appear to exist no data that can enable the estimation of the potential bias in discard estimates provided by observed trips relative to unobserved trips. Thus apart from there being strong evidence of differences in spatial distribution of observed and unobserved trips there remains no way to accurately assess the potential bias that may be present in discard data from observed trips.
- It appeared that by installing VMS on vessels (Muraski et al. 2005), the spatial distributions of fishing effort became nearly identical between observed vessels and these VMS trips. The implication here is that requiring the installation of VMS on all vessels whether observed or not, could potentially help to reduce differences in spatial

distribution of fishing trips between observed and unobserved trips. This could help to reduce some of the potential differences in bycatch between observed and unobserved trips. Requiring mandatory video monitoring of fishing operations, the obtaining of data on presence/ absence of all bycatch species on a haul by haul basis, and comparisons made between observed and unobserved trips could potentially have a similar effect but the video monitoring proposition seems to be still under consideration and there are many pros and cons that need to be weighed.

- In summary, the current methodology does not appear to account for the change in fishing behaviour caused by fisheries observers because it appears to assume that no such difference exists.

5) Is the apparent reliance on vessel trip reports, which are notoriously inaccurate, scientifically valid?

- The current SBRM bycatch estimator is a ratio estimator that is scaled up using unadjusted kept biomass estimates from FVTR data.
- Comparisons of landings from FVTR data and Dealer landings records show that in the majority of instances, FVTR landings data are 10 to 40% less than the Dealer records.
- The current SBRM, though revealing these systematic differences does not make any attempt to correct for them in its combined ratio method for estimating bycatch.
- Based on this, some negative bias can thus be expected to be introduced in bycatch estimates.
- Use of the simple expansion method estimator instead would use the records of total numbers of trips made from the FVTR data base. Presumably, the FVTR records of total numbers of fishing trips could be expected to be more accurate than its records of landings and provide possibly more reliable estimates.

This last point can be checked by comparing the 3rd and 2nd to last cells in the last row of Figures Appendix B-4a – B4g which compare for various fishing methods bycatch estimates obtained by the two discards to kept ratio methods (which use the FVTR landings data as expansion factors) and the simple expansion method which uses FVTR data on the number of trips but does not use the FVTR landings data. If there is no difference in the estimates of bycatch provided by the simple expansion method and the bycatch to discard ratio methods, the lines plotted should be the identity line and perfectly diagonal through the individual cell. Figure B4a (**New England longline**) shows both lines very close to the diagonal suggesting no systematic differences in the kept ratios estimates and the simple expansion method. Figure 4Bc (**New England otter trawl**) shows lines below the diagonal suggesting some positive bias in the discard to kept ratios estimates. Figures B4b and B4d (**Mid-Atlantic otter trawl and mid Atlantic scallop dredge**) shows lines very close to the diagonal suggesting no apparent difference between the simple expansion and the discard to kept ratios estimates. Figure B4e (**New England scallop dredge**) shows both lines very close to the diagonal suggesting no systematic differences between the discard to kept ratios estimates and the simple expansion method. Figure B4f (**Mid Atlantic gillnet**) shows considerable scatter in both plots but both lines well below the diagonal suggesting some potential strong positive bias in the discard to kept ratios estimates (relative to the simple expansion method). Figure B4g (**New England gillnet**) shows both lines very close to the diagonal suggesting no

systematic differences between the discard to kept ratios estimates and simple expansion method estimates.

Thus in two out of seven instances, there appear to be systematic differences in estimates obtained between the simple expansion method and the discard to kept ratio methods. What the comparisons of the simple expansion method and discards to kept ratio method suggest is potential for systematic differences between estimates provided by the discard to bycatch ratio and simple expansion method and systematic bias in at least one of these two alternative methods. The violation of the two key assumptions in the discards to kept ratio method for the majority of instances would suggest that in terms of bias, the expansion method is preferable.

Figures B-5h to B5n show that the CVs in estimates provided by the simple expansion method are systematically less than those provided by the combined ratio method in six out of the seven instances. Figures B-6a-B6g which compare the CV estimates from the simple expansion method and the combined ratio method also show that the simple expansion method gives lower CVs than the ratio method. Thus, based on the issues of both bias and precision, the simple expansion method shows superior properties when compared to the discard to kept ratio and combined method estimator. The choice of the combined method with the discards to kept ratio method for the SBRM thus is inappropriate and the simple expansion method considered and tested as a potential alternative candidate method.

Some additional comments

1. Other simple design-based estimators of discard could have been formulated and applied as alternative candidates but this was not done. I would recommend that at least one or two alternative types of estimators of bycatch be formulated together with formulae to compute their standard error. The potential accuracy of these alternative estimators should be compared with the proposed ratio estimators.
2. Only a single Taylor series approximation of variance is applied to estimate the standard error in the ratio estimators. In my view, the accuracy of this estimator of standard error should have been simulation evaluated for its accuracy in estimating standard error in the estimator. Bootstrap and jackknife estimators of the sampling distribution of estimators are also commonly applied in fisheries and the results from these are often more reliable than analytically derived approximation of standard error. I recommend that either bootstrap or jackknife variance estimators be applied to estimate the standard error in the estimators to evaluate the sensitivity of the estimate of SE to its method of calculation.
3. Data only from a single year was utilized to formulate a bycatch sampling protocol and it is proposed that the sampling coverage applied be updated each year based on the previous year's data. Given that there's been no simulation testing of the variance in the proposed estimators from a single year and no evaluation of how the estimates obtained and the variances in estimates obtained might vary between years, there is as yet no basis upon which to judge the reliability of the prescriptions for sampling that are provided on an annual basis and how these prescriptions might vary from year to year based on sampling error in the data. It could be the case the prescribed observer coverage by mode and species might vary wildly from year to year based on yet undetected instability in the estimators of standard error and bycatch. Further research on

how the estimators of bycatch by species and fishing mode could be expected to vary from year to year and how well they could be expected to track actual bycatch are thus recommended.

4. It could be expected that bycatch amounts by species and fishing mode might change as a function of changes in fishing regulations, e.g., a change in minimum size regulations. Computation of annual estimates of bycatch by species and fishing mode from the last five years of historic observer data could help to enable some understanding of the ability of the proposed estimators to detect any changes in bycatch amounts as a result of changes in regulations and how variable bycatch estimates could be expected to be from year to year where there are no changes in regulations and whether the realized internannual variability in annual bycatch estimates can be seen to be a function of the amount of observer coverage in the different fishing modes.

5. While bycatch is disaggregated to the gear-type and species level and in some instances species group level, and also disaggregated into the New England and Mid-Atlantic regions, this does not necessarily provide estimates of bycatch at the population level. For example, it could be that in one region there may be more than one more or less spatially non-overlapping breeding population of a given bycatch species (e.g., there may be two or three populations of a commercial crab species in e.g. the mid-Atlantic region). Yet the bycatch monitored is the region-wide bycatch and thus there will be no bycatch estimates possible at the population level. For some particular bycatch species which may have more than one spatially non-overlapping breeding population in a given region, it may be appropriate to disaggregate the SBRM further so that estimates of bycatch by breeding population are obtained, rather than aggregate estimates of bycatch across different breeding populations. Without disaggregating the sampling information to the level of the range of a particular breeding population the impacts of bycatch on individual populations could be assessed. This may however make the formulation of an SBRM at region-wide levels considerably more complicated.

Acknowledgements

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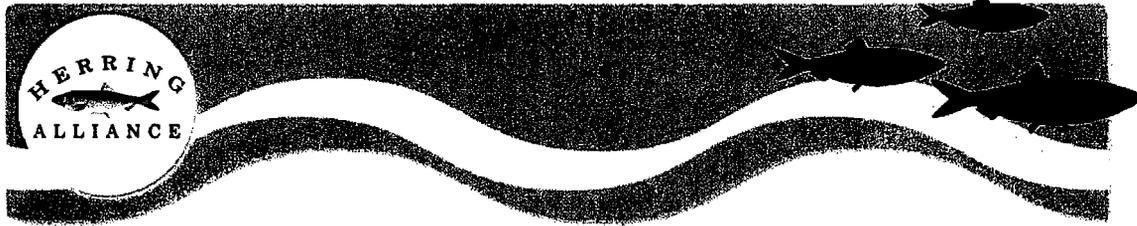
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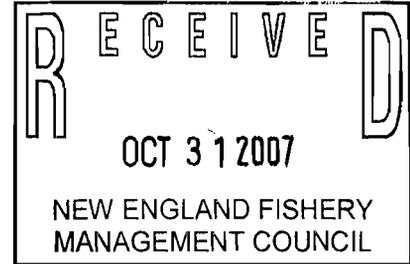


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October 31, 2007



John Pappalardo, Chairman
c/o Paul Howard, Executive Director
New England Fishery Management Council
50 Water Street, Mill 2
Newburyport, MA 01950



Patricia Kurkul, Regional Administrator
NOAA/NMFS
One Blackburn Drive
Gloucester, MA 01930



RE: SEA HERRING PUBLIC COMMENTS

Dear Chairman Pappalardo and Regional Administrator Kurkul,

I am writing to you today to bring to your attention the more than 3000 communications from Herring Alliance supporters that you have received over the last several months calling for the NEFMC to make herring a priority in 2008 (see enclosure). To date, we have not seen these communications reflected in any NEFMC meeting materials, including those recently posted online in advance of the November meeting. It is our hope that these communications will be included in the NEFMC meeting materials for the November 6 - 8, 2007 meeting in Newport, Rhode Island.



Clearly, many ocean enthusiasts are weighing in on the need to address herring management in 2008. While members of the public often overlook ocean fisheries issues, the many voices represented in the attached enclosure certainly indicate that this is not the case with Atlantic Herring. It is important that NEFMC members understand the breadth of public support for this issue as they deliberate priorities for 2008.



Thank you,



Peter Baker, Director
Herring Alliance
(508)641-4064
pbaker@pewtrusts.org
www.herringalliance.org

See attached example letter



Cc: William Hogarth



Enclosure (1)
Communications supporting NEFMC herring action in 2008



Herring Alliance
1632 Orleans Road Harwich, MA 02645
www.herringalliance.com | PewTrusts.com
A Project of the Pew Environment Group

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

**Example of 3126 letters
attached to cover letter.**

Patricia Kurkul, Regional Administrator
Northeast Region, NOAA Fisheries
One Blackburn Drive
Gloucester, MA 01930-2298

August 9th, 2007

RE: Action Needed to Fix Herring Fishery

Dear Captain Howard and Regional Administrator Kurkul,

I'm writing today because I am a New England resident and I am extremely concerned about the health of the Gulf of Maine ecosystem and the traditional fisheries and communities it supports. My concern arises from the inadequate management of New England's industrial herring fleet.

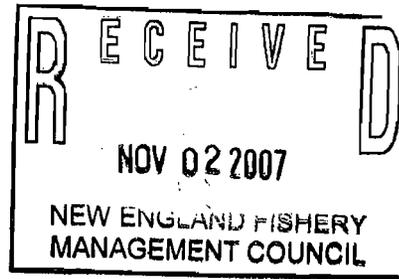
The Atlantic herring fishery has serious problems that need to be addressed. Currently, midwater trawlers are operating without proper monitoring and insufficient observer coverage levels. We lack the most basic information on this fishery, taking educated guesses at best about what is caught. Midwater trawl ships also operate near shore, creating substantial gear conflicts and potentially posing a threat to important near shore species such as river herring and striped bass. It's time for management to do something about this problem and act accordingly.

The fleet of 150+ foot midwater trawl ships currently operating in New England poses a grave threat to the future of New England's healthy fisheries and the rebuilding of groundfish and whiting stocks. I encourage you to take action immediately to protect our marine ecosystem and our traditional fisheries. Please work together to craft and implement new regulations for this fishery as soon as possible.

Sincerely,

Marina A
24 Gerard Street
Milford, CT 06460

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



Paul,

Enclosed you will find a CD-ROM containing 2,135 pieces of correspondence concerning the Atlantic Herring Fishery. In addition, I have included an example of the postcard that filled my mailbox everyday this fall. My staff has scanned them for and assigned the letters, post cards and comments into the following breakdown by location;

MA: 797
NH: 307
ME: 128
CT: 39
RI: 10
Other: 757
Signature, no Location: 11
International: 86
Total: 2,135

Please include this in the Council's correspondence section.



John Pappalardo

Cc Patricia Kurkul

Dear Mr. Pappalardo,

Date: 8/22/07

Please lead the NEFMC to take immediate action to reform the herring fishery. I support the CHOIR Coalition's efforts to promote the following actions:

- Create an inshore buffer zone where midwater trawling is not allowed
- Put accountability measures in place, including increased observer coverage and sampling of all catch
- Implement a weighmaster system to give managers and the public real-time landings data
- Require a science and ecosystem based approach to the determination of area-specific catch limits

Please initiate action before it is too late for the herring and the predators and traditional fishing communities that depend on it.

Sincerely,

(signature)

Eric Pappalardo

(print name)

Manchester, NH

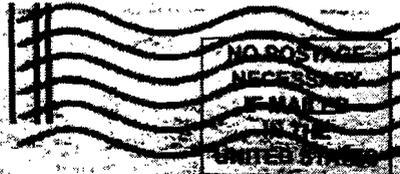
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CHOIR
COALITION



MANCHESTER NH 031

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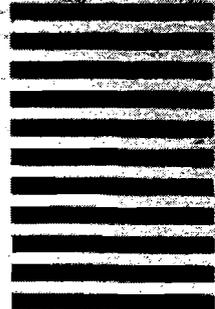


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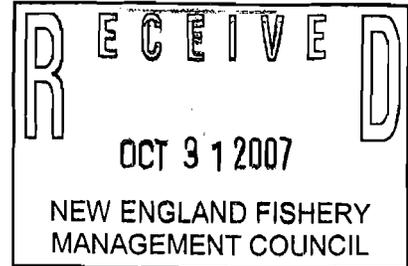
FIRST-CLASS MAIL PERMIT NO. 1 NORTH CHATHAM MA

John Pappalardo, NEFMC Chairman
210-E Orleans Road
North Chatham, MA 02650





October 31, 2007



John Pappalardo, Chairman
C/o Paul Howard, Executive Director
New England Fishery Management Council
50 Water Street, Mill 2
Newburyport, MA 01950



Patricia Kurkul, Regional Administrator
NOAA/NMFS Northeast Regional Office
One Blackburn Drive
Gloucester, MA 01930



Dear Chairman Pappalardo and Regional Administrator Kurkul,



I am writing to you today on behalf of the Herring Alliance (www.herringalliance.org) to ask that you initiate action in 2008 to make critical changes to the Atlantic Herring Fishery Management Plan (FMP). The Herring Alliance includes the following 12 state, regional and national organizations:



- Pew Environment Group
- United States Public Interest Research Group
- Environment Maine
- Environment Massachusetts
- National Coalition for Marine Conservation
- Conservation Law Foundation
- Earthjustice
- Oceana
- Greenpeace
- Ocean Conservancy
- National Environmental Trust
- Natural Resources Defense Council



The Herring Alliance is dedicated to protecting and restoring marine wildlife populations, ecosystems, and fisheries, by reforming the Atlantic herring fishery.



Herring Alliance
1632 Orleans Road Harwich, MA 02645
www.herringalliance.com | PewTrusts.com
A Project of the Pew Environment Group



Atlantic herring is a vital source of food for commercially and recreationally important fish stocks such as tuna, haddock, cod, striped bass, whiting, and dogfish as well as for seabirds, whales, seals, dolphins and porpoises. In addition, herring is a critically important source of bait for the region's lobstermen and an important food source for New England's rebuilding groundfish stocks. In many ways, herring is the most important fish in the sea. The current FMP for Atlantic herring is inadequate and cannot assess bycatch in the industrial midwater trawl fishery, does not account for the needs of predators that feed on herring, and fails to accurately determine the catch and discards of herring.

To fix the herring fishery, NEFMC must take action in 2008. Changes to the Atlantic Herring FMP should include

- A weigh master system and discard monitoring that provide real-time TAC accounting
- Increased observer coverage levels with sampling of all catch
- An ecosystem-based approach to setting annual catch limits that take into account the changing needs of predators
- A coastal buffer zone prohibiting midwater trawling within 50 miles of shore

Herring are a keystone species in the Gulf of Maine ecosystem. It's imperative that NEFMC take action to fix the problems in the Atlantic Herring fishery in 2008.

Sincerely,

Peter Baker, Project Manager
Atlantic Herring Campaign
Pew Environment Group

Allison Chase
Policy Associate
Natural Resources Defense Council



Gerry Leape

Gerry Leape
Vice President, Marine Conservation
National Environmental Trust

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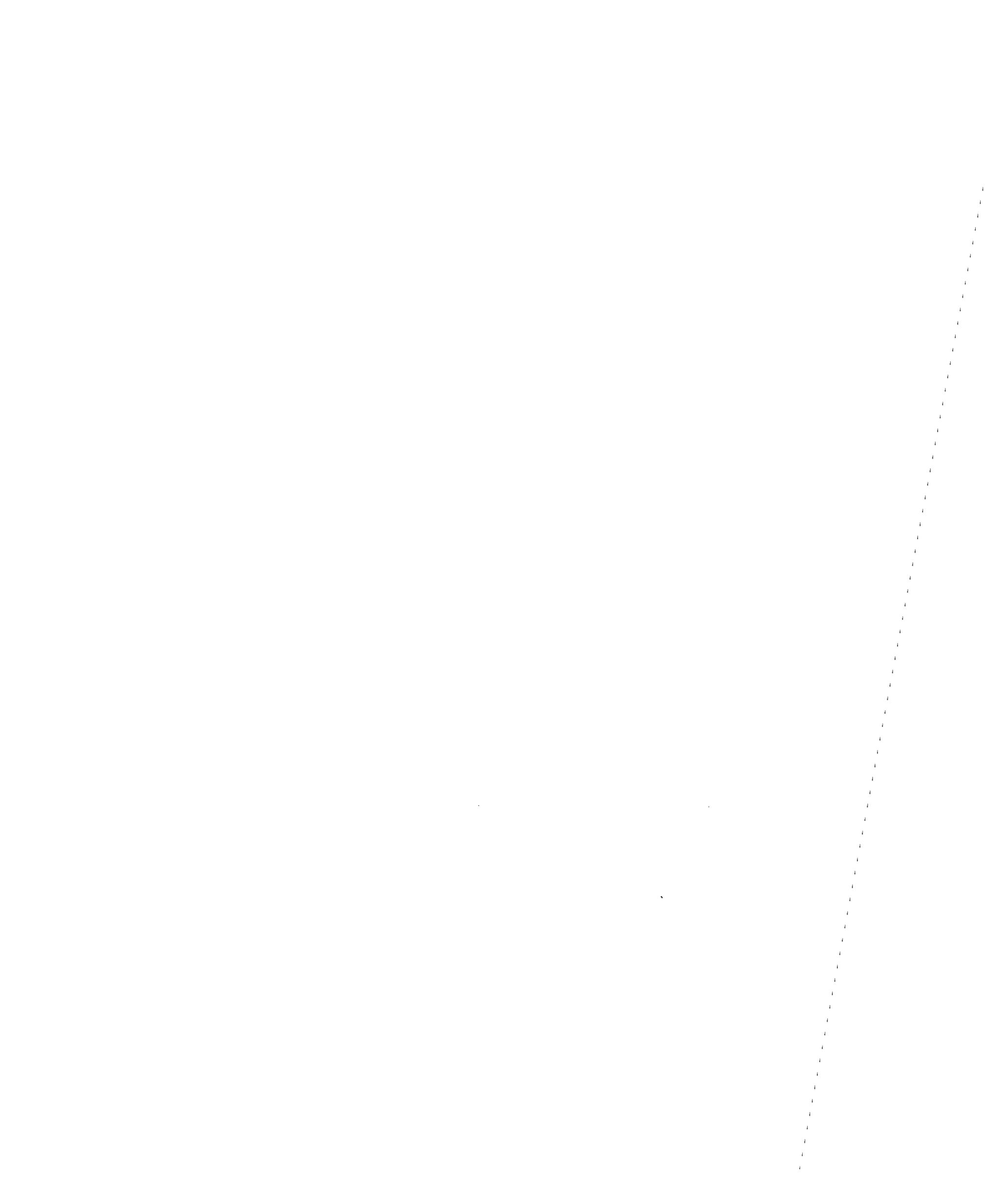
Matthew Davis

Matthew Davis
Organizational Development Director
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Michael Gravit
Michael Gravit, Ocean Advocate
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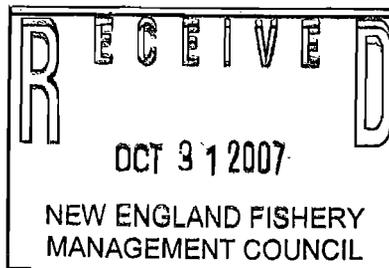
Frank Gorke

Frank Gorke
Director
Environment Massachusetts





Paul Howard, Executive Director
 New England Fishery Management Council
 50 Water Street, Mill 2
 Newburyport, MA 01950
 October 31, 2007



Dear Mr. Paul Howard,

I am sending you the enclosed report prepared by the Herring Alliance in your capacity as a member of the New England Fishery Management Council, as you plan for the November meeting next week. This report, released today, shows that river herring populations along the entire East Coast have been decimated to a mere fraction of their historic levels.

The Herring Alliance, www.herringalliance.org is a coalition of environmental and other public interest organizations dedicated to protecting and restoring marine wildlife populations and Northeastern U.S. marine ecosystems by reforming the Atlantic herring fishery. The Alliance includes:

- The Pew Charitable Trusts
- Conservation Law Foundation
- Earthjustice
- Greenpeace
- National Environmental Trust
- Natural Resources Defense Council
- National Coalition for Marine Conservation
- Oceana
- US PIRG
- Ocean Conservancy
- Environment Massachusetts
- Environment Maine.

River herring are among the country's founding fisheries and represent a "pulse of protein" for almost every fish, bird and mammal that shares the same habitat. Ospreys, bald eagles, harbor seals, sea otters and striped bass are just a few of the predators that depend upon this fish for their survival. Entire ecosystems could be in danger as these

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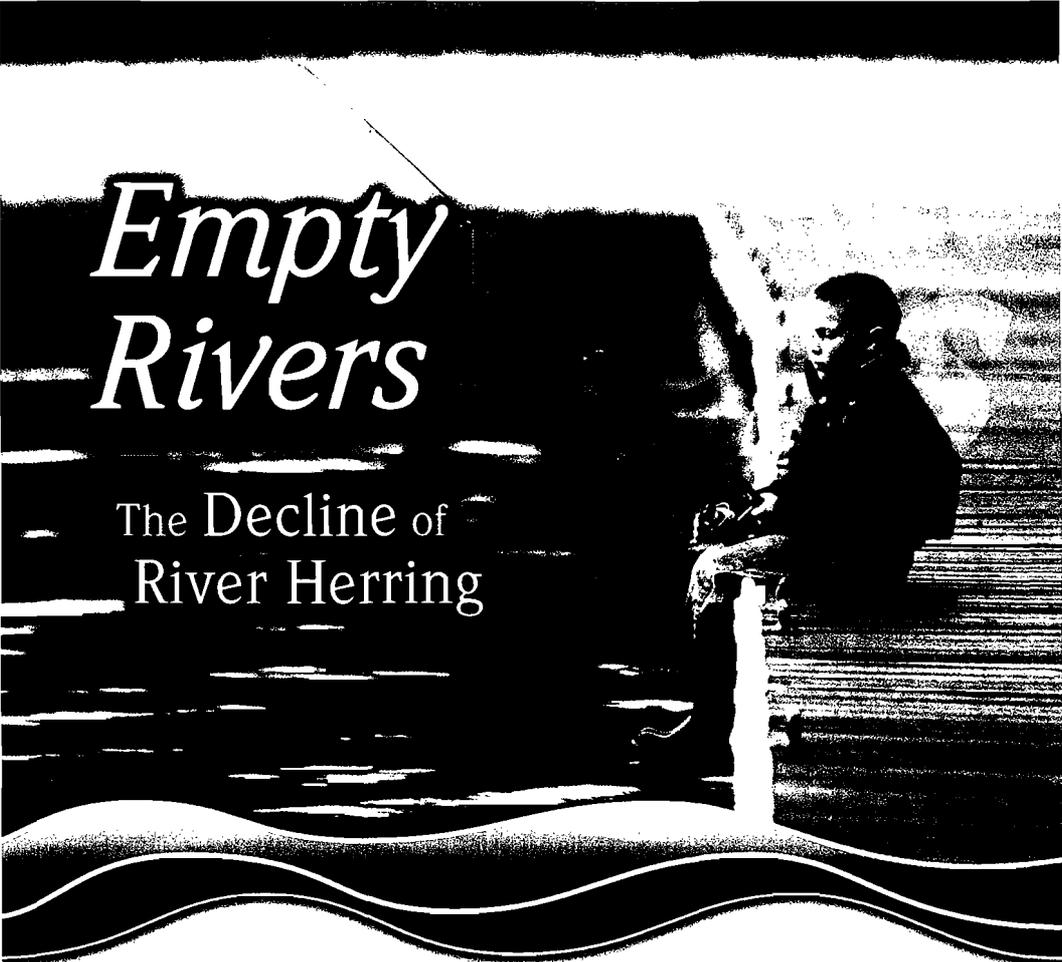
once abundant fish continue to vanish from their home waters. The report shows that the recent rapid changes in the Atlantic (sea) herring fishery, particularly the arrival of large midwater trawlers which now dominate the fishery, are clearly an important cause of this decline. It further concludes that deficiencies in the Federal Atlantic Herring FMP are largely to blame for the serious datagaps that prevent managers from assessing the extent of the problem.

The NEFMC and NMFS must do their part to address the problem and help reverse the declines in our river herring stocks. Please consider this report as you contemplate 2008 Council workplan priorities, and consider that you have the authority and responsibility to put a stop to the status quo in which river herring are falling through the cracks of fishery management. Please work with ASMFC to craft a 2008 Atlantic herring FMP action that will improve monitoring of catch, discards and landings, create full accountability, and implement inshore buffer zones to protect river herring.

Thanks very much for your time and consideration.

Sincerely,

Peter Baker, Project Manager
Atlantic Herring Campaign
Pew Environment Group



Empty Rivers

The Decline of
River Herring



And The Need to Reduce
Mid-water Trawl Bycatch

A REPORT OF THE HERRING ALLIANCE

Empty Rivers

The Decline of
River Herring



and the Need to Reduce
Mid-water Trawl Bycatch

A Report of the Herring Alliance

Acknowledgements

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Cover photo of trawlers: www.FishingPix.net

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EMPTY RIVERS



Photo: Tom Arter

An osprey carries away an alewife. River herring provide an important source of food for many other species.

Introduction

Over the past two decades, populations of river herring along the Atlantic coast have declined by more than 95 percent. At the Holyoke Dam on the Connecticut River, the number of river herring passing each year to spawn declined from 630,000 fish in 1985 to only 21 in 2006. On the St. Croix River, running through Maine and Canada, alewife runs declined from a high of 2,624,700 fish in 1987 to a low of 22 in 2005. To the south, the Susquehanna River in Pennsylvania also saw an alarmingly low return of only four river herring in 2005, down from hundreds of thousands in previous decades.

The dramatic declines of river herring returning to spawn each year is coupled with a crashing fishery, which has declined by 99 percent over the last 50 years. Landings peaked between 1950 and 1970 at 40 to 65 million pounds and hit record low levels in 2005 of under 700,000 pounds.

We are witnessing the disappearance of river herring. Until now, restoration efforts have focused on protecting essential spawning and nursery habitats, removing dams and other structures that impede fish passage, and setting limits for the river herring fisheries.

But these threats have existed for decades without a coast-wide crash. What has changed? The answer appears to be industrial mid-water trawlers, singly or in pairs, dragging large nets through the water to catch Atlantic herring (a different species from the river herring) and mackerel. These vessels probably catch millions of river herring each year, a development that has gone unnoticed by the public and has been ignored by fishery managers.

Unless we act immediately to protect the remaining population, we will lose river herring altogether. Why should we care? The answer is that river herring play a critical role in rivers, estuaries, and ocean waters along the Atlantic coast. They provide food in the spring for hundreds of thousands of animals. Many species of birds, marine mammals and fish, hungry from the winter, depend on the arrival of river herring.

In addition, commercial fishermen, from the time of our founding fathers, have made a living by catching river herring. Recreational fishermen try their luck at luring a fish as they run up the rivers. Towns such as Jamesville, North Carolina, celebrate the annual herring run with a festival that began in 1949. Others simply enjoy standing on the bank of a stream watching the miracle of thousands of river herring make their heroic journey to spawning grounds.

A handful of states—Connecticut, Massachusetts, North Carolina, and Rhode Island—took a leadership role in protecting river herring stocks by implementing a moratorium on harvest in their waters. Unfortunately, the decline of river herring continues.

The time has come to protect what few river herring are left through a coastwide management effort. The Atlantic States Marine Fisheries Commission (ASMFC), an organization designated to coordinate the management of fish species along the East Coast, should act immediately to stop directed fishing on depleted stocks of river herring and limit the incidental take of river herring as bycatch by the mid-water trawl fishery. The National Marine Fisheries Service (NMFS) should improve observer coverage and other monitoring programs, such as port sampling, to adequately account for all river herring taken by the mid-water trawling fleets, and implement limits on river herring bycatch.

The Northeastern United States has already lost one anadromous fish, the Atlantic salmon, which is considered commercially extinct. Without action, we may soon lose two more.

River Herring Life History

The term “river herring” refers to two species of fish: alewife¹ (*Alosa pseudo-harengus*) and blueback herring² (*Alosa aestivalis*). Alewife and blueback herring have a similar appearance and life history, making them indistinguishable to the untrained eye. The two species can only be distinguished by measuring the diameter of the eye and body depth, and by observing the color of the abdominal cavity membrane (Collette and Klein-MacPhee, 2002).

1 Other common names include freshwater herring, grayback, gaspereau, sawbelly, kyak, brank herring.

2 Other common names include giut herring, summer herring, black belly, kyack.

River herring are found in rivers, estuaries, and coastal waters of the North Atlantic. They are anadromous fish, spending the majority of their lives in the ocean before returning to natal rivers and streams in the spring and early summer to spawn. Alewives tend to occupy a more northern range, from Newfoundland to North Carolina (ASMFC, 1999). Blueback herring range from Nova Scotia to the St. Johns River in Florida (Hildebrand, 1963). River herring form large schooling aggregations that undertake long seasonal migrations.

Spawning varies from north to south and between the species. Alewives spawn from late March through July, beginning first in the south and moving progressively north during the year. Typically, blueback herring begin spawning three to four weeks after alewives in the same spawning areas (Jones *et al.*, 1978).

At southern latitudes, many river herring exhibit a semelparous life history: they spawn once and then die, similar to the Pacific salmon. This characteristic is more common in southern states because fish travel a greater distance from the Gulf of Maine, where river herring congregate in the winter (Neeves, 1981). The journey, followed by spawning, seems to exhaust them.

Juveniles generally remain in fresh water for several months before emigrating to estuarine nursery areas by the late summer or early fall of their first year. They spend their first winter close to shore (ASMFC, 1999). Little information is available on distribution and migration of adults once they are in the ocean. Tagging studies have shown that both species are capable of migrating over 1,200 miles in ocean waters (VIMS, 2003).

"River herring are a humble but fascinating fish. Their life history is complex, and reversing their drastic decline will require attention to a range of impacts spanning watersheds, rivers, estuaries, and the open ocean. The task will not be easy, but it is within our reach. By bringing back thriving runs of river herring, we will restore a key piece of both coastal ecosystems and our coastal heritage."

*—Jake Kritzer, scientist for
Environmental Defense*

Importance of River Herring

River herring are culturally and ecologically significant along the Atlantic coast. Humans have revered river herring for centuries as one of the nation's oldest fisheries. Generations have watched the magic of nature as hundreds of thousands of fish migrate up rivers and streams to spawn. And many larger fish, birds, and mammals along the route depend on river herring for food.

Heritage and Non-Consumptive Factors

Many outdoor enthusiasts and naturalists from Maine to Florida regard the annual migration of river herring as a natural wonder. These fish are a key part of the

"I used to take my wife and kids down to the Herring Run in the Spring and Fall. It was great to watch the mature fish migrate upstream and see the fry pile up in the fall preparing to move out to sea. We just don't go anymore, it's too depressing."

—Teddy Ligenza- Commercial Fishermen

culture, education, heritage, outdoor recreation, and tourism in these areas. At the Jamesville River Herring Festival in North Carolina, which began in 1949, generations have gathered to witness the traditional fishery activities and savor the delicacy of fried herring.

The river herring fishery connects us to our Nation's past. For example, Native Americans used river herring to fertilize crops, a practice the early settlers in the colonies adopted.

Thomas Jefferson was "always mindful of the spring migration" of river herring (McPhee, 2002). River herring runs connect us today with America's early history.

River Herring as Forage

River herring play an important role as forage for other species along the Atlantic coast, bringing much-needed food after the winter. A second wave of protein moves downstream later in the year as the young fish migrate to sea.

Studies of predator diets confirm the importance of river herring as a primary food source for fish, birds, and mammals. Ospreys, loons, herons, bald eagles, egrets, kingfishers, harbor seals, river otters, and bluefin tuna, among others, rely on river herring to satisfy a significant portion of their diet.

- ◆ Along the northeast coast from Maine to New Jersey, up to 33 percent of the diet of striped bass can be river herring during the spring migration (Walter *et al.*, 2003).
- ◆ In the Chesapeake Bay during the herring migration, the diet of striped bass can be nearly 80 percent river herring (Walter and Austin, 2003).
- ◆ In North Carolina, 33 percent of the diet of striped bass can be river herring during winter, rising to 50 percent during the spring migration (Walter *et al.*, 2003).
- ◆ In the Hudson River Estuary, up to 40 percent of the diet of bluefish can be river herring during the summer months (Buckel *et al.*, 1999).
- ◆ In Maine, during late summer and early fall, white perch live entirely on young-of-the-year river herring (Moring and Mink, 2002).
- ◆ Ospreys depend on strong river herring runs to feed their chicks (CT DEP, 2007).
- ◆ In Saint John Harbor, New Brunswick, during the peak of the alewife run, harbor seals are five times more abundant than the yearly average (Brown and Terhune, 2003).

“Besides menhaden, river herring is the number 1 bait for striped bass in the spring. I am currently working with a local group to restore the habitat and water quality of a local run. There are other reasons besides habitat degradation contributing to their decline such as mid-water trawlers and increased water use leading to the fry not being able to migrate to the ocean.”

—Craig Poosikian- Commercial/ Recreational Fisherman

“River herring are an important food source for a variety of birds, including herons and egrets, species that have shown breeding population declines in recent years throughout the northeastern US.”

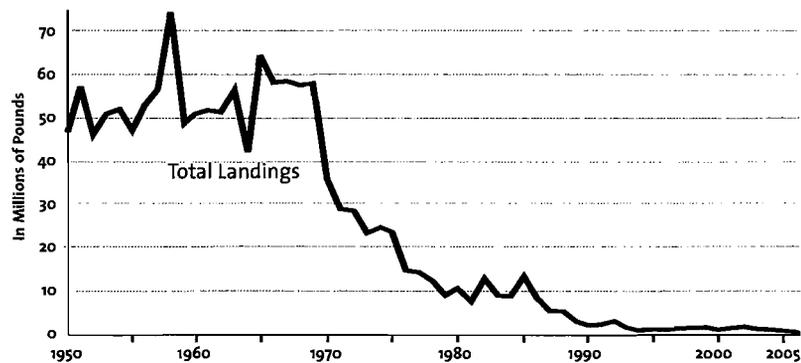
—Rebecca Harris, Massachusetts Audubon Society.

River Herring Fisheries

From the 1800s to the 1960s, fishing for river herring along the Atlantic coast was a thriving industry. During this time, the harvest was exclusively from U.S. fishing boats. In the 1960s, large foreign vessels arrived off the mid-Atlantic coast, scooping up far greater volumes of river herring than the traditional U.S. fishery. The foreign fleet fished in U.S. coastal waters from 1967 to 1972, with a peak foreign harvest of 24 million pounds in 1969. The foreign fleet primarily targeted juvenile fish and probably contributed to the decline in commercial landings in the 1970s (NCDMF, 2007). Commercial landings ranged from a high of 75 million pounds in 1958 to a low of 692,827 pounds in 2005, a 99 percent decline (Figure 1).

Figure 1

Commercial River Herring Landings



Source: Personal communication from The National Marine Fisheries Service, Fisheries Statistics Division, Silver Spring, MD.

In addition to commercial landings of the directed fishery, river herring are caught accidentally—referred to as bycatch—by fisheries for other species. Bycatch, unfortunately, is poorly monitored, reported, and regulated. Inadequate monitoring hides a potentially high level of river herring mortality. The inadequate monitoring of bycatch, especially in the mid-water trawl fleet, stands as a major obstacle to proper management of river herring.

Recreational fishing for river herring also exists in many river systems along the Atlantic coast. Fishermen use various types of gear, from hook and line to dip nets and seines. These recreational landings may be quite large, but it is difficult to know for sure because they are often unreported. This represents another potentially large error in landings data (ASMFC, 1999).

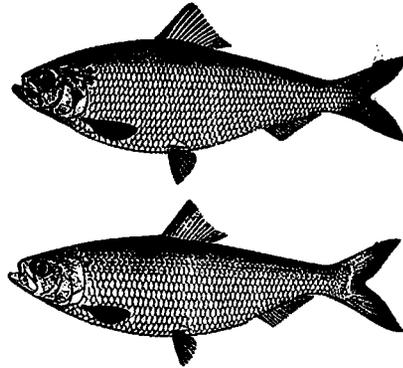
Status of the Stock

The official status of river herring stock, as reported by the ASMFC, is “unknown.” This designation is given because no recent, coastwide stock assessment exists. The last assessment was conducted 17 years ago. Despite the “unknown” status, individuals from New England to North Carolina are witnessing a decline in the population of these fish.

The last coastwide stock assessment for river herring was prepared for the ASMFC in 1990. The Commission plans to begin a new assessment in 2008, which will take approximately two years to complete. In 2005, North Carolina conducted a stock assessment for river herring. In addition, other states collect data on fish counts and young-of-the-year surveys. Although this data will not be analyzed collectively until the stock assessment, the individual indicators paint a grim picture of the status of river herring.

Stock Status from the 1990 ASMFC River Herring Stock Assessment

The 1990 coastwide stock assessment for river herring considered the status of 15 river herring stocks between New Brunswick, Canada, and North Carolina. The assessment found that the following one-third of these stocks were or had been overfished: St. John, Damariscotta, Potomac, and Chowan River alewife,



Alewife (top) and blueback herring (bottom) can only be distinguished by measuring the diameter of the eye and body depth, and by the color of the abdominal cavity membrane.

and St. John River blueback herring. The following four stocks had experienced declines, but were not considered overfished: Potomac and Chowan River blueback herring, and Nanticoke and Rappahannock River alewife (Crecco and Gibson, 1990).

The report also suggested benchmarks to define sustainable fishing rates and found that a narrow range of fishing mortality rates is safe before the stock tends toward collapse. Finally, the scientists recommended new conservation measures to rebuild the adult spawning populations and stabilize recruitment in rivers with overfished stocks.

Despite the evidence of serious declines and in disregard of the recommendations of its own scientists, the ASMFC took no action to protect river herring.

Stock Status from the 2005 North Carolina Assessment

In 2005, North Carolina conducted an assessment of river herring populations in its waters (Grist, 2005). The study found that excessive fishing combined with poor recruitment had significantly reduced the abundance of both alewife and blueback herring over the past 20 years, resulting in much lower catches in recent years.

Across the board, the report found evidence of dramatic declines:

- ◆ Both alewife and blueback herring were overfished, and overfishing was ongoing.
- ◆ Recruitment—the amount of fish available to the fishery—had declined more than 95 percent in the last 30 years.
- ◆ The spawning stock biomass—a measure of the adult spawning population that returns to the river—dropped significantly for both species in the 1990s.
- ◆ The juvenile abundance indices for both species were well below the long-term average.
- ◆ Since 1986, blueback herring spawning repetition has been six percent or less per year, and zero repeat spawners were observed for the first time in 2006. Historically, 20 percent of spawners had previously spawned in the river.

Fish Counts

Unfortunately, stock assessments are time and data intensive. A simpler indicator is the annual count of fish returning to their natal streams. Each year, the number of fish passing a fixed point on the river are counted and recorded, providing an estimate of the spawning population.

Coastwide, fish counts indicate that river herring populations have been declining. In most cases, the declines are dramatic and precipitous, ranging between 95 and 99.9 percent (Figure 2) over the past decade. Rivers that once saw hundreds of thousands of fish swimming upstream to spawn are now seeing less than one hundred fish.



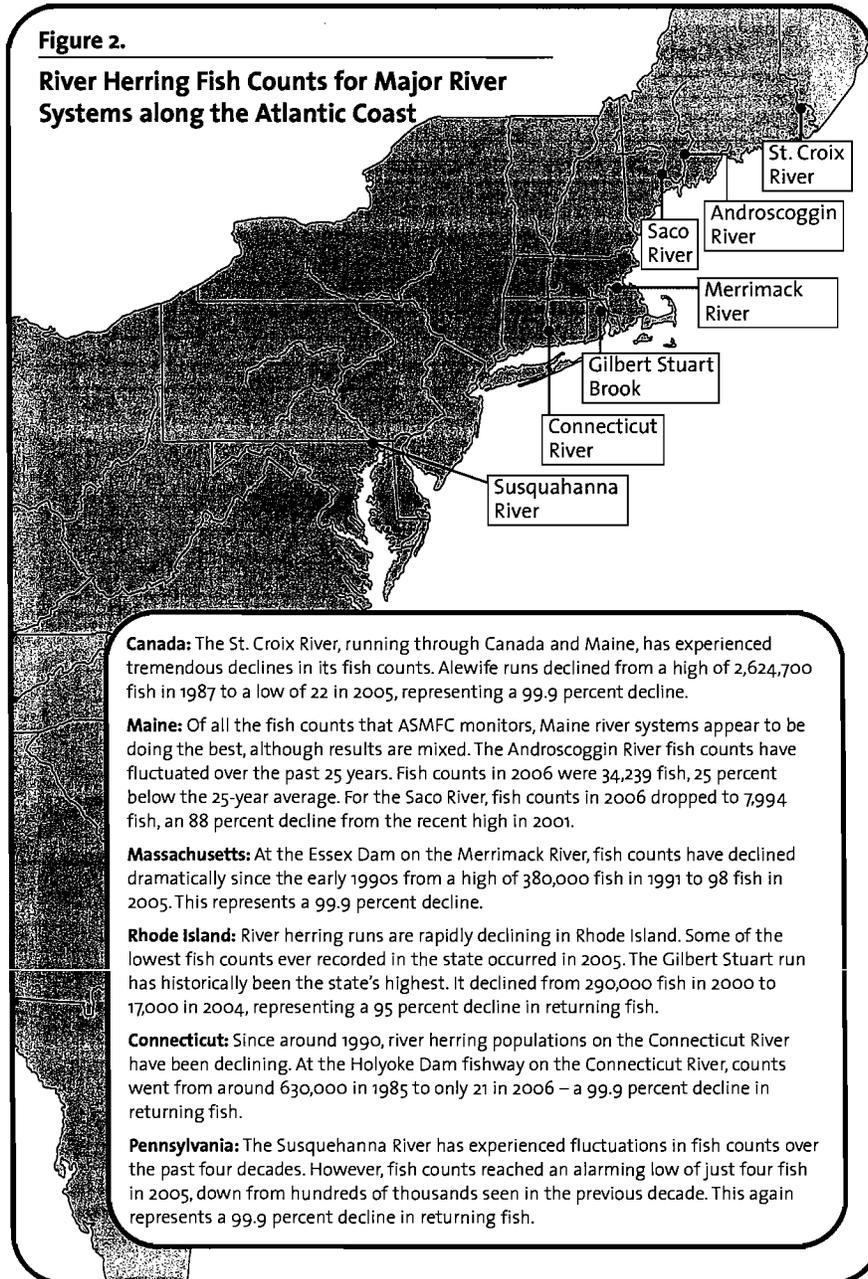
Photo: NOAA

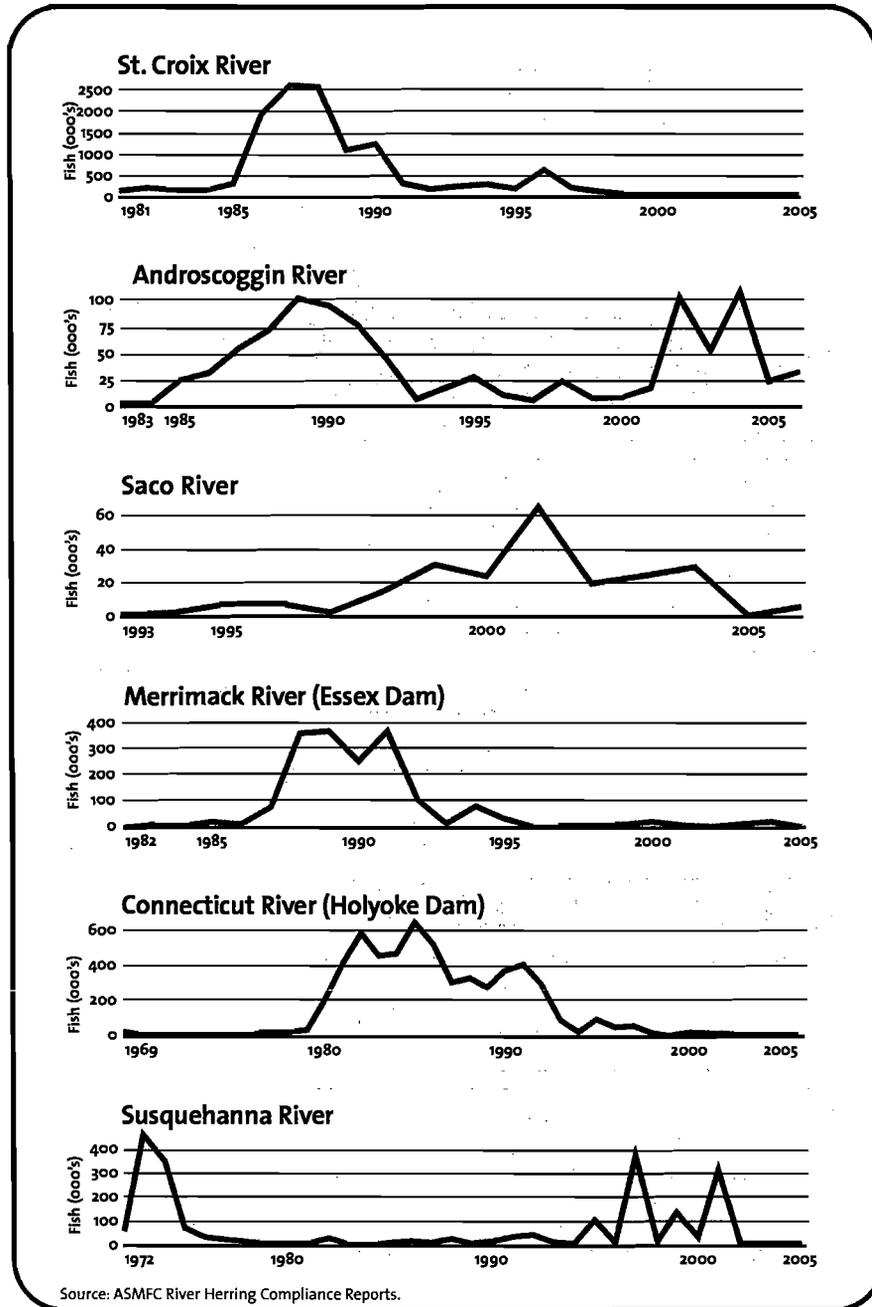
Massive runs of herring once signaled the arrival of spring along the East Coast.

Management of the River Herring Fishery

River herring have fallen through the cracks of fisheries management. These fish cross multiple jurisdictions throughout their lifetime, making it easier for fisheries managers to ignore the problem or pass it on to others. River herring begin life in small headwater creeks and streams that often fall under the jurisdiction of state inland fisheries agencies. By the end of their first year, they have migrated to estuaries and coastal waters managed by state marine fisheries agencies. As juveniles, they move further offshore to school in federal waters controlled by the NMFS. Once they reach maturity, they retrace the spawning route, again crossing multiple jurisdictions.

Only four states—North Carolina, Connecticut, Rhode Island, and Massachusetts—have implemented strong management measures to protect dwindling stocks of river herring. But these plans focus on protecting fish in coastal waters, and do not address the question of vulnerability at sea where





these fish spend the majority of their life. Moreover, no action has been taken coastwide to comprehensively address the dramatic decline of river herring.

Fortunately, a management structure exists to address the complex migratory pattern of river herring and the multiple jurisdictions involved. The ASMFC was specifically established to manage fish that cross multiple political boundaries. In 2008, the ASMFC has the opportunity to consider additional management measures to protect river herring.

ASMFC: Amendment 1 to the Interstate Fishery Management Plan for Shad and River Herring (1999)

The Atlantic States Marine Fisheries Commission, an interstate body, enables states from Maine to Florida to develop fishery management plans (FMPs) for more than 20 migratory fish species. The ASMFC established its first fishery management plan for river herring in 1985 in response to rapidly declining stocks of shad and river herring (ASMFC, 1985).

In the mid-1990s, the ASMFC decided to modify the shad and river herring FMP primarily to change the management strategy for shad (ASMFC, 1999). The most significant change to the 1985 plan, articulated in Amendment 1, concerned a phase-out of the ocean intercept fishery for American shad by 2004. This fishery intercepted shad in ocean waters as they migrated along the coast. Unable to tell if shad were coming from healthy or depleted spawning runs, fishery managers shut down the entire fishery. River herring benefited from the closure as they were also caught in the intercept fishery.

In addition to its focus on shad, Amendment 1 included provisions on river herring. It required states to initiate monitoring programs to collect information on the river herring fishery and river herring populations. States were required to maintain existing or more conservative regulations for river herring. Since 1999, however, no additional management measures have been approved for river herring.

In May 2007, North Carolina proposed a coastwide moratorium on the harvest of river herring out of concern for the rapidly declining populations along the East Coast. Three months later, the ASMFC voted to initiate an amendment to the

FMP that would consider various measures to protect river herring, including a moratorium on the fishery.

Moratorium on River Herring Fishing in Massachusetts, Rhode Island, and Connecticut

Currently Massachusetts, Rhode Island, and Connecticut have statewide moratoriums on the harvest of river herring. The decision to close river herring fisheries in some of New England's waters began in Connecticut in 2002 when the commissioner of the Connecticut Department of Environmental Protection declared a moratorium on river herring harvest, which has been extended each year since. The current prohibition extends through March 31, 2008 (CT DEP, 2007).

“Back in 1987, we had a big storm and the access to the bay where the fish started their migration shifted north because of erosion and sedimentation. The fish piled up on the east side of the sand bar looking for a way to get into the bay. In the years following the herring population returning to the river was very low. To protect the stock we placed a local moratorium on the taking of any river herring. We decided to restock and were able to eventually lift the moratorium. A second decline began in 2002. The stocks haven't returned to the same level since.”

—Don St.Pierre, Chatham Herring Warden

Massachusetts followed with regulations in 2005, declaring “the harvest, possession or sale of river herring in the Commonwealth or in the waters under the jurisdiction of the Commonwealth by any person is prohibited through 2008.” To accommodate the bait harvesting fisheries, up to five percent of the fish caught may be comprised of river herring species (MA DMF, 2005).

Rhode Island took emergency action in 2006 to establish a moratorium on river herring harvest. It implemented regulations two months later stating, “No person shall land, catch, take, or attempt to catch or take any alewives, *Alosa pseudo-harengus* or blueback herring *Alosa aestivalis*, from any marine waters of the State of Rhode Island” (RIDEM, 2007a). A similar regulations was issued for alewife and blueback herring taken in fresh water (RIDEM, 2007b).

*North Carolina River Herring Fishery Management Plan:
Amendment 1 (2007)*

In contrast to states with stopgap regulations to protect river herring, North Carolina chose to enact a comprehensive fishery management plan for river herring. Concern over reductions in landings and the declining numbers of juvenile river herring in state waters led to the imposition of seasonal closures and fishing quotas as early as the 1990s. It also prompted the North Carolina Marine Fisheries Commission (NCMFC) to develop a comprehensive management plan for the fishery. In 2000, the NCMFC approved the Albemarle Sound Area River Herring FMP, which established an annual commercial limit of 300,000 pounds and a recreational limit of 25 fish per person per day.

Despite North Carolina's best efforts, river herring continued to decline. The NCMFC authorized the development of interim management measures for the 2006 river herring season as a result of the poor stock condition. The measures reduced the commercial catch to 100,000 pounds and the recreational limit to 12 fish per person per day.

The state evaluated the status of river herring stocks in preparation for the five-year update of the coastwide FMP. The stock assessment indicated poor stock condition, which led the NCMFC to approve strong conservation measures to its river herring FMP in February 2007. North Carolina officials enacted Amendment 1 establishing a variety of management and research programs designed to protect remaining stocks of river herring. Specific provisions included:

- ◆ setting landings of river herring at zero statewide;
- ◆ establishing a monitoring program and stock recovery indicators;
- ◆ surveying spawning and nursery areas and recommending restoration programs;
- ◆ endorsing predation research and considering a multi-species management program; and
- ◆ calling for research programs to collect and assess bycatch data from ocean fisheries.

North Carolina, Connecticut, Massachusetts, and Rhode Island deserve credit for taking action to protect river herring in their waters. Yet despite their efforts, river herring populations continue to decline. The time has come for a coastwide effort to minimize all sources of river herring mortality and prevent further declines.

National Marine Fisheries Service: Species of Concern List

The NMFS listed river herring (both alewife and blueback herring) as a “species of concern” in 2006. NMFS applies this designation to species when there are concerns about the status of the stock and threats to recovery, but not enough information to warrant listing under the Endangered Species Act. Designation as a species of concern is based on factors of demographic and genetic diversity, such as abundance and productivity, distribution, and life history characteristics. River herring met all these criteria and was listed in 2006.

Unfortunately, the NMFS Office of Protected Resources has a limited budget to conduct or support restoration efforts even though river herring are listed as a “species of concern.” Equally troubling, it has no management authority. Rather, states or management authorities may apply for funds from the Proactive Species Conservation Grant Program, which provides money to implement measures to prevent a species from being listed as threatened or endangered. Massachusetts submitted an application for funding, but NMFS had already allocated the \$500,000 appropriated to the program to two existing projects (Damon-Randall, 2007).

Threats to River Herring

Scientific studies have shown a number of factors that lead to the decline of river herring or prevent their recovery:

- ◆ excessive and unsustainable fishing,
- ◆ the construction of dams and other impediments that eliminated access to hundreds of miles of spawning grounds,
- ◆ pollution that degrades water quality and reduced suitable habitat in spawning and nursery areas, and
- ◆ predation on river herring by recovering fish populations, such as striped bass.

Fish Passage

Historically, efforts to restore river herring have focused largely on two major causes of decline: directed fishing and habitat loss. Efforts to control fishing were summarized in the discussion of state efforts to restore river herring. Habitat loss includes obstructions to fish passage (primarily dams), reduced water quality, and the elimination of habitat for spawning and nursery areas.

Concerns about fish passage are not new. In 1824, the residents of Gouldsborough, Maine, petitioned the state legislature to open a mill dam on Prospect Stream, which was “formerly visited, in the proper season, by great quantities of Alewives, which used to go up said stream to a pond at the head thereof, and

there cast their spawn. . . .”

The petition asked for “convenient and sufficient passage . . . through or around said dam at a small expence, and without material injury to the Mills situated thereon” (Atlantic Salmon History Project, 2007).

In the 180 years since the Gouldsborough petition, similar concerns have been raised over limited access for diadromous fish to main stem rivers and tributaries for spawning.

When migratory fish encounter a

dam or any system blocking passage, all upstream habitat and spawning areas are eliminated. Dam removal and fish passage projects are necessary to expand the population of river herring by providing access to historical spawning grounds. These projects are vital to the recovery and sustenance of healthy river herring populations and must continue.

Photo: NOAA



Dams prevent millions of river herring from returning to their spawning streams. Fish ladders are often installed to help them migrate upstream.

Restoration Efforts

There are many ongoing restoration programs by towns and local groups to open waterways, create better habitat, and count river herring returning to their spawning grounds. An excellent example can be found on the Connecticut River (see Text Box) where state and federal agencies have made tremendous progress on restoring river herring populations in the Connecticut River basin. Runs that had dwindled to approximately two hundred fish in the early 1970s were restored to 630,000 fish by 1985. Clearly, such a serious commitment to restoration efforts can work.

But despite the best efforts on the Connecticut River, fish counts have once again plummeted to record low levels. The same river is empty again. Why?

Predation

Other observers have attributed the decline of river herring to the resurgence of predatory fish populations—striped bass in particular—resulting from successful fishery management programs. River herring are an important, and in some cases primary, source of food for predatory fish. Striped bass populations increased dramatically in the 1990s in response to strong conservation measures. Some scientists speculate that the resurgence in predatory fish populations has played a role in the poor recovery of river herring and are exploring this hypothesis.

However, the single most important factor contributing to the disappearance of river herring in recent years, and one that has often been overlooked, is bycatch. Large quantities of river herring are being scooped up by industrial mid-water trawlers fishing for Atlantic herring and Atlantic mackerel. Current methods of detecting and reporting bycatch of river herring in the industrial mid-water trawl fisheries are inadequate. If river herring populations are to recover, the problem of bycatch must be addressed.

The Arrival of Mid-Water Trawl Gear: Atlantic Herring and Mackerel Fisheries

In the 1990s, a new threat to river herring populations emerged, which has been largely overlooked by fishery managers. Amidst reports that Atlantic herring and

Restoration Efforts for Diadromous Fish: Connecticut River Basin

The Connecticut River has a long history of restoration efforts for diadromous fish species. Beginning in 1867, four adjacent states (Connecticut, Massachusetts, New Hampshire, and Vermont) agreed to work together to restore fish runs. Problems continued in the early 1900s, including increased water pollution and the construction of dams, which prevented fish from reaching spawning grounds.

Restoration efforts began again in the late 1960s when federal money became available through the Anadromous Fish Conservation Act (Public Law 89-304). The states and federal agencies worked together to restore anadromous fish to the river basin. The Policy Committee for Fisheries Management of the Connecticut River Basin conducted an ecological study of the river basin, assessed habitat for fish species, began negotiations with power companies regarding fish passage, and planned a restoration program. At the same time, water quality began to improve as a result of the Clean Water Act of 1977, allowing even greater opportunity for a successful restoration program.

The Connecticut River Atlantic Salmon Commission (CRASC), established in 1983, replaced the Policy Committee. Although CRASC's primary focus was Atlantic salmon, other diadromous fish—including both alewife and blueback herring—were often considered in management decisions. Today, CRASC has a fishery management plan for river herring.

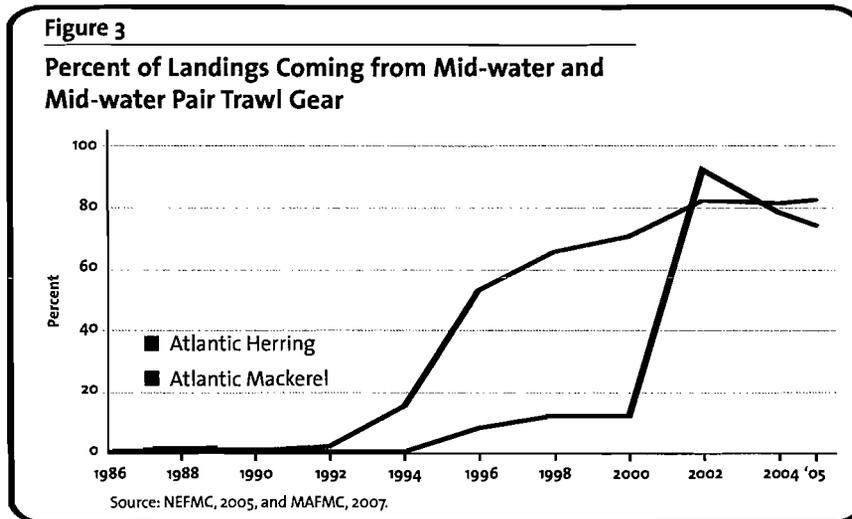
The early efforts of CRASC were extremely successful for river herring. They identified targeted habitat, opened fish passage, and reintroduced species into habitats. Fish counts at the Holyoke Dam increased from an average of around 50 fish per year between the mid-1950s and mid-1960s, to a high of 630,000 fish in 1985. While returns remained high (in the hundreds of thousands) through the early 1990s, counts began again to decline dramatically after 2000. Only 21 fish returned in 2006, a 99.9 percent decline since 1985.

For a complete discussion of restoration efforts in the Connecticut River, see Gephard, S. and J. McMenemy. 2004.

mackerel were plentiful and underutilized, a fleet of industrial mid-water trawl vessels gradually converged on the eastern seaboard. Ranging in length between 90 and 164 feet, these vessels deploy nets the size of a football field, and tow them at high speeds through the water column. This type of fishing gear catches many important marine species, from whales to bluefin tuna to river herring. Each year, the mid-water trawlers captured a greater percentage of the total landings for Atlantic herring (Figure 3). Within a decade, 80 percent of the Atlantic herring catch came from these vessels.

Within the Atlantic mackerel fishery, the percentage of landings taken by this gear remained relatively low until 2001, when more vessels entered the fishery. At that point, it jumped to 92 percent (Figure 3). With the arrival of mid-water trawl gear, the total quantity of mackerel caught increased dramatically. Mackerel landings rose from 12,000 metric tons in 2001 to 54,000 metric tons in 2004. As more mackerel are caught, the opportunity to incidentally catch river herring also increases.

The arrival of the mid-water trawlers in the 1990s appears to coincide with the recent declines of river herring.



River Herring Bycatch in the Atlantic Herring and Mackerel Fisheries

No one questions the fact that river herring are caught by at-sea fisheries for Atlantic herring and mackerel. The extent of this bycatch, however, and its true impact on river herring populations is unknown because NMFS has scant data on

the problem. The little data available suggest that the number of river herring taken by the mid-water trawl fleet is high—in some cases greatly exceeding the total landings of river herring by the directed fishery.

NMFS relies largely on fishermen to report the details of their catches. Herring species look similar, especially in a catch comprised of thousands of fish. As a result, fishermen often list all herring in a single category using generic terms such as “bait” or “herring species.” Indeed, a recent scientific review found evi-

dence that fishermen’s catch reports, used by NMFS to track the impact of the fishery, may be unreliable (McAllister, 2007).

In an attempt to verify the composition of species caught, NMFS conducts an onboard observer program to document catches. The observer program, however, has low coverage rates and flawed protocols.

The number of fishing trips observed by the program—or 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. When observer rates are low, vessels can afford to change their fishing patterns on the few trips where they are required to carry an observer. This is known as the “observer effect” (Babcock *et al.*, 2003). River herring bycatch appears to be episodic; therefore a full assessment to under-

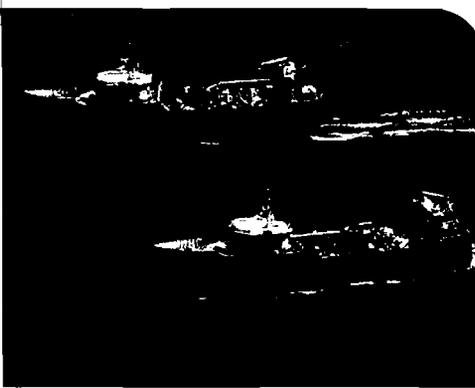


Photo: www.FishingPX.net

Mid-water trawlers target mackerel and Atlantic herring, a completely different species, but they also catch an unknown quantity of river herring.

stand its impact will require higher coverage. A low number of onboard observers can leave uncommon but important bycatch events completely unaccounted for (Babcock *et al.*, 2003).

In addition to low coverage rates, there are problems with the quality of data collected. Even on an observed trip, vessels catch fish that are not sampled by the observer, either because the net is dumped—often on purpose to avoid reporting bycatch—or because some fish are left in the net. In other cases, vessels use sorting mechanisms that dump bycatch fish before they can be examined by the observer. In either case, bycatch goes unreported.

The flaws in the current observer program can be used to misinterpret or even purposefully distort data to demonstrate that the Atlantic herring and mackerel fisheries have little impact on river herring populations. The Atlantic mackerel FMP reports, for example, that river herring bycatch ranged from at least 600 pounds in 1996 to 11,570 pounds in 1997 (MAFMC, 1998). Likewise, the Atlantic herring FMP reports that the total observed take of river herring in the Atlantic herring fishery between 1994 and 2000 was 69,741 pounds for the mid-water trawl fishery and 45,024 pounds for the pair trawl fishery (two vessels pulling a single net) (NEFMC, 2005). These data give the impression that there is minimal impact; however, the numbers only reflect the bycatch witnessed by an observer on board. At best, these are minimum estimates.

In 2004, NMFS introduced a new sampling methodology that required standardized basket sampling. This obliged observers to take samples of fish throughout the net and to identify the catch by individual species (NEFSC, 2004). Prior to this, observers were not required to record a mid-water trawl catch by herring species (NEFSC, 2003). This change improved data on river herring bycatch, although problems still exist.

In 2006, NMFS observed 18 mid-water trawl trips on which 48,000 pounds of river herring were caught, a 2 percent bycatch rate. If this 2 percent rate is applied to all 2006 mid-water trawl landings for Atlantic herring, the data indicates that 700,000 pounds of river herring were taken as bycatch that year. Even more disturbing is the observer data for 2007. Only five mid-water trawl trips

carried observers between January and April. Of this sample, 105,000 pounds of river herring were taken for 297,000 pounds of Atlantic herring landed (NEFMC, 2007), indicating a 35 percent bycatch rate. These large amounts of bycatch could represent a single spawning run of river herring. Thus, a single net could eliminate the entire population of a river system.

Clearly the methodology and data quality for river herring bycatch is seriously flawed. NMFS must improve the program through broader observer coverage and more effective sampling for river herring to adequately account for bycatch in oceanic fisheries.

Wasted Resources: Bycatch and Discards in U.S. Fisheries

A unique study exploring bycatch in U.S. fisheries applied bycatch rates to total landings within a given year (Harrington *et al.*, 2005). Its goal was to produce estimates of discarded bycatch for each fishery. The report includes an analysis of both the Atlantic herring and Atlantic mackerel fisheries on the East Coast, and their impact on river herring.

Data from the observer program were used in the analysis, but instead of reporting the minimum amounts of bycatch observed, the researchers applied the bycatch rates to the entire fishery, thereby giving a closer approximation of the total amount of river herring caught by the Atlantic herring and mackerel fleets.

The analysis for Atlantic herring indicates that 380 metric tons (nearly 1 million pounds) of primarily alewife were caught in the Atlantic herring fishery in 2002 by mid-water and pair trawls.³ The bycatch-to-landings ratio was 0.035 (or 3.5 percent of the Atlantic herring landings). Whereas 3.5 percent bycatch seems low compared to the Atlantic herring landings, this level is significant when compared to river herring landings. A bycatch of one million pounds is equal to the annual coastwide, directed landings of river herring in recent years. It is also possible that the resemblance of river herring to Atlantic herring could conceal the fact that even more river herring were caught but counted as sea herring.

³ This analysis is based on 12 observed trips in 2002. The bycatch ratio is calculated and multiplied by total landings in 2002 to arrive at a bycatch estimate for the fishery during that year. Given the low percentage of observer coverage, the estimates may not be statistically significant.

Likewise, the analysis of 2002 data for Atlantic mackerel suggests that 17,091 metric tons (approximately 40 million pounds) of blueback herring were caught in the mackerel fishery in 2002 by mid-water and pair trawls.⁴ The bycatch-to-landings ratio for this fishery was 1.039 percent. This means that for every mackerel caught, a blueback herring was caught. This catch level is similar to the large river herring catches in the 1970s when foreign ships, were fishing off the Atlantic coast. These landings were blamed for the massive declines in herring in the 1970s and 1980s. To put the 40 million pound bycatch of blueback herring into perspective, consider that the annual harvest of river herring during the last 10 years has been less than two million pounds, and, more recently, under 1 million pounds.

The analysis presented in Harrington *et al.* (2005) suggests that more attention should be focused on the levels of river herring bycatch found in both the Atlantic herring and Atlantic mackerel fisheries. Greater observer coverage is necessary to adequately measure the river herring bycatch. In addition, bycatch limits are necessary to reduce mortality rates of river herring in both fisheries to prevent further declines of the alewife and blueback herring stocks.

Solutions

We are witnessing dramatic declines in river herring. Commercial river herring fisheries along the Atlantic coast have collapsed. The number of spawning fish returning to their natal streams has crashed to historic lows. Five major river systems—the St. Croix, Merrimack, Gilbert Run, Connecticut, and Susquehanna—have experienced a decline in fish counts of between 95 and 99.9 percent from historic highs to the present.

Despite efforts to restore populations, river herring continue to decline. Four states—Connecticut, Massachusetts, Rhode Island, and North Carolina—closed their waters to directed river herring fisheries. Numerous restoration efforts are underway to remove dams, build fish passage, and restock depleted river systems. Yet the trends have only worsened.

⁴ This analysis is based on four observer trips in 2002. The bycatch ratio is calculated and multiplied by total landings for the year. Given the low percentage of observer coverage, the estimates may not be statistically significant.

In the last decade, a new threat to river herring has emerged off the New England and mid-Atlantic coast: mid-water trawlers. These large vessels have tremendous capacity to catch everything in their path. Data suggest that an enormous volume of river herring is accidentally being caught by this gear.

If river herring are to stand any chance of survival, conservation measures must be put in place immediately. The Herring Alliance recommends that management action be taken by states, the Atlantic States Marine Fisheries Commission, and the National Marine Fisheries Service:

Recommendations to States:

- ◆ Increase accessible spawning grounds for river herring by removing dams or providing fish passage.
- ◆ Implement a moratorium on the directed river herring fishery to protect depleted stocks.
- ◆ Support coastwide management measures through the amendment process of the Atlantic States Marine Fisheries Commission.

Recommendations to the Atlantic States Marine Fisheries Commission:

- ◆ Adopt a coastwide management framework for river herring that includes meaningful management measures at the state and federal level.
- ◆ Reduce all sources of mortality on river herring.
 - Implement a moratorium on the directed river herring fishery to protect depleted stocks.
 - Limit the allowable bycatch of river herring by other fisheries.
- ◆ Require data collection programs to accurately document and monitor bycatch of river herring at sea.
- ◆ Support habitat protection and restoration efforts by encouraging dam removal and fish passage projects.

- ◆ Establish indicators of a healthy river herring population, beyond traditional measures of fishing mortality and spawning stock biomass, using the North Carolina Fisheries Management Plan as a guide.
- ◆ Conduct a stock assessment immediately to evaluate the status of river herring populations.

Recommendations to the National Marine Fisheries Service:

- ◆ Increase observer coverage in all mid-water trawl fisheries, especially the Atlantic herring and mackerel fisheries, to adequately account for total river herring losses. Any coverage level that does not allow a statistically significant extrapolation of observed bycatch should be unacceptable.
- ◆ Prohibit the dumping of unsampled catch on observed trips. All catch in the net must be made available to observers for basket sampling to identify the catch by species.
- ◆ Institute a weighmaster system to monitor the offload of Atlantic herring and mackerel vessels. All landed catch should be weighed using flow scales and port-sampled by trained personnel to identify the catch by species so that the data can be extrapolated to obtain an accurate species composition for the total landings by the fishery.
- ◆ Limit river herring bycatch.
- ◆ Report the annual bycatch levels of river herring to the Atlantic States Marine Fisheries Commission.
- ◆ Increase efforts by the Office of Protected Resources to encourage recovery of river herring populations.



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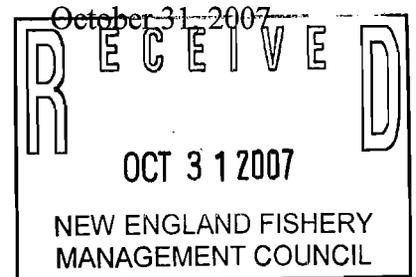
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nama

NORTHWEST ATLANTIC MARINE ALLIANCE

Pat Kurkul, Regional Administrator
National Marine Fisheries Service
One Blackburn Drive
Gloucester, MA 01930



Dear Pat,

I have recently been made aware of a letter addressed to you by NW Atlantic Small Pelagic Resource Oversight Group. I want to respond and add clarification to a couple of the statements in the letter.

First: Earthjustice filed the petition to Secretary of Commerce on behalf of Northwest Atlantic Marine Alliance (NAMA) and Mid-Coast Fishermen's Association (MFA).

Second: Both organizations have been perfectly clear-this issue is a groundfish issue we desire to be included in a groundfish action.

Third: In our petition, we did not use the words that the herring fishery is unmanaged and poorly regulated. We do not consider this a herring management issue.

Fourth: NAMA and MFA request that any meeting to discuss the pending petition include an invite to Glen Libby and I since we are the petitioners and Roger Fleming, our legal representative at Earthjustice.

Fifth: I am attaching my written comments which were read word for word at our press conference announcing our intent to file. Again, you will see that there is no specific comment regarding mis-management of herring.

Thank you for your attention to this matter

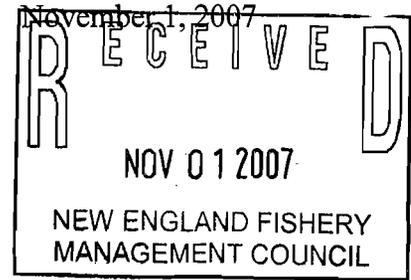
Sincerely,


Craig A. Pendleton
Coordinating Director



CC: Dr. Nancy Thompson, NOAA Southeast Fisheries Science Center and Miami Laboratory
Mr Andrew Cohen, NMFS Enforcement
Mr. John Pappalardo, Chairman, NEFMC
Mr. Rip Cunningham, Chairman, NEFMC Groundfish Committee
Dr. David Pierce, Chairman, NEFMC Pelagic Committee
Mr. Paul Howard, Executive Director, NEFMC

Pat Kurkul, Regional Administrator
National Marine Fisheries Service
One Blackburn Drive
Gloucester, MA 01930



Dear Ms Kurkul,

We have recently been made aware of a letter addressed to you by NW Atlantic Small Pelagic Resource Oversight Group.

The MidCoast Fishermen's Association would like to respond to a couple of the statements in the letter.

The recent petition to the Secretary of Commerce to exclude herring trawlers from groundfish closed areas was filed by the Northwest Atlantic Marine Alliance (NAMA) and MidCoast Fishermen's Association (MFA).

Both organizations have been perfectly clear-this issue is a groundfish issue that needs to be addressed through changes to the groundfish management plan.

In our petition, we did not use the words that the herring fishery is unmanaged and poorly regulated. We do not consider this a herring management issue.

The MFA and NAMA request that any meeting to discuss the pending petition include an invitation to both Craig Pendleton and a representative of our organization, along with Roger Fleming, our legal representative at Earthjustice for the petition.

While we did not state in our petition that the herring industry was mis-managed, we are concerned about bycatch in the fishery. Under current rules, the potential bycatch from these vessels would take the fishermen from Port Clyde approximately 123 years to catch under the DAS regime we currently operate under.

Thank you in advance for your consideration.

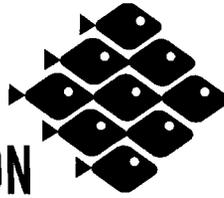
Sincerely,

/S/

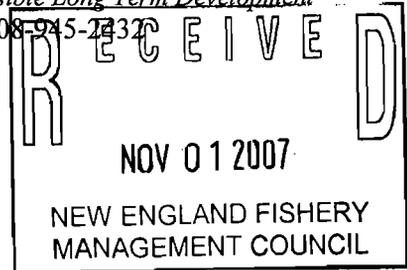
Kimberly Libby
MidCoast Fishermen's Association

CC: Mr. Paul Howard, Executive Director, NEFMC

CHOIR COALITION



Coalition for the Atlantic Herring Fishery's Orderly, Informed and Responsible Long Term Development
210-E Orleans Road · North Chatham, MA 02650 · 508-945-2432



November 2, 2007

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

RE: 2008 Council Management Priorities

Dear Captain Howard,

I am writing to you today on behalf of the CHOIR Coalition to request that the New England Fishery Management Council (NEFMC) make herring a management priority in 2008.

CHOIR is an industry coalition made up of commercial and recreational fishing organizations, fishing and shore side businesses, and eco-tourism companies. CHOIR is recognized as a stakeholder in the herring fishery and is a leading voice for the responsible management of herring.

The Atlantic herring fishery has serious problems that can only be addressed with changes to the Herring Fishery Management Plan (FMP). Currently, midwater trawlers operate without proper monitoring and insufficient observer coverage levels. In addition, midwater trawlers are allowed to operate in Groundfish Closed Areas even though they have a proven bycatch of groundfish, including substantial bycatch of juvenile haddock. Midwater trawlers also operate near shore, creating substantial gear conflicts and posing a threat to important near shore species such as river herring and striped bass.

The monitoring system in the herring fishery is inadequate. Recent events illustrate this and serve to reinforce the longstanding concerns many people have with the way the herring fishery is monitored. These events include the area Total Allowable Catch (TAC) overage in Area 1B in 2006, the Area 1A pre-June TAC overage in May 2007, and the monitoring mishap that resulted in NMFS closing- then reopening- the fishery in August 2007. There is also great concern that landings data are highly inaccurate to begin with since they are based solely on vessel and dealer good-faith hail weights and because herring vessels are allowed to dump bags at sea without reporting that catch

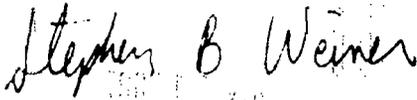
It is time for the NEFMC to initiate an action that will fix these glaring deficiencies in the herring FMP. The action should include:

- A mandatory weighmaster system whenever midwater trawlers unload that reports catch and bycatch on a real-time basis.
- Mandatory observer coverage for midwater trawlers and U.S. At-sea processors
- Requirements to bring all fish aboard for sampling

- In addition to the seasonal Area 1A buffer, an inshore buffer zone that keeps midwater trawlers at least 50 miles from shore year-round

The fleet of large midwater trawlers currently operating in New England poses a grave threat to the future of New England's healthy fisheries and the rebuilding of groundfish and whiting stocks. We encourage you to take action immediately to protect the herring resource, our marine ecosystem and our traditional fisheries.

Signed,



Steven B. Weiner
Chairman
CHOIR Coalition

On behalf of the undersigned businesses and groups:

Commercial Fishing Associations/Organizations

East Coast Tuna Association, Executive Director Rich Ruais, Salem, NH
 General Category Tuna Association, Executive Director Peter Weiss, Boston, MA
 North Shore Community Tuna Association, President Mark Godfried, Saugus, MA
 Cape Cod Commercial Hook Fishermen's Association, Ex. Director Paul Parker, N Chatham, MA
 Georges Bank Cod Hook Sector, Manager John Pappalardo, N Chatham, MA
 Georges Bank Cod Fixed Gear Sector, Manager Eric Brazer, Jr., N Chatham, MA
 Midcoast Fishermen's Association, Chairman Glen Libby, Port Clyde, ME
 Northeast Hook Fishermen's Association, President Marc Stettner, Portsmouth, NH
 Port Clyde Draggermen's Co-Op, President Glen Libby, Port Clyde, ME
 Downeast Initiative, Project Director Aaron Dority, Stonington, ME
 IFISH, President Proctor Wells, Bath, ME

Recreational and Charter Fishing Associations/Organizations

Recreational Fishing Alliance, Executive Director Jim Donofrio, New Gretna, NJ
 Stellwagen Bank Charter Boat Association, President Tom Depersia, Marshfield, MA
 National Association of Charterboat Operators, Executive Director Bobbi Walker
 Northeast Charterboat Captains Association, President Rich Milligan, Revere, MA
 Maine Association of Charter Captains, Captain Dave Pecci, Bath, ME
 Massachusetts Striped Bass Association, President Chris Lincoln, Braintree, MA
 Rhode Island Saltwater Anglers Association, President Steve Medeiros, Coventry, RI
 Massachusetts Beach Buggy Association, President George Cairns, North Reading, MA
 Coastal Conservation Association-New England
 New Inlet Boating Association, President Skip Cornell

Charter, Guide and Party Boat Fishing Companies

Bunny Clark Deep Sea Fishing, Capt. Tim Tower, Ogunquit, ME
 Saco Bay Guide Service, Capt. Cal Robinson, Biddeford, ME
 Lady J Sportfishing Charters, Capt. Adam Littell, Kennebunk, ME
 Pritnear Heaven Charters, Capt. Dave Johnson, Biddeford, ME

Bass I Charters, Capt. Dean Krah, Newcastle, ME
 Super Fly Charters, Capt. George Harris, Warren, ME
 Marsh River Charters, Capt. Hank DeRuiter, Newcastle, ME
 Capt Doug Jowett Charters, Capt. Doug Jowett, Brunswick, ME
 Portland Guide Service, Capt. John Ford, Portland, ME
 Lethal Weapon Charters, Capt. Bob Liston, Wells Harbor, ME
 Mainely Fishing Charter Service, Capt. Dick Witham, York, ME
 Lady Diane Charters, Capt. George Lemieux, Wells, ME
 Obsession Sportfishing Charters, Capt. Dave Pecci, Bath, ME
 Asticou Charters, Capt. Rick Savage, Northeast Harbor, ME
 Rip Tide Charters, Capt. Dave Guerard, York, ME
 Offshore Adventures Sportfishing, Capt. John Pappas, Cape Elizabeth, ME
 Bigger N' Better Charters, Capt. Michael Sosik, York, ME
 Shark Five Charters, Capt. Barry Gibson, Boothbay Harbor, ME
 Reel Jerk Sportfishing Co., Capt. Rich Albert, Hampton, NH
 Sushi Hunter Sportfishing, Capt. Doug Anderson, Newcastle, NH
 Joppa Tern Charters, Capt. Dan Brown, Newbury, MA
 Captain Jim's Cape Charters, James Shannon, Provincetown, MA
 Sandy B Fishing Charters, Capt. Bruce Bornstein, Gloucester, MA
 Capeshores Charters, Capt. Bruce Peters, East Orleans, MA
 Kelly Ann Charters, Capt. Mauro DiBacco, Newburyport, MA
 Miss Ashley Charters, Capt. Bob Simmons, Newburyport, MA
 Rod's Delight Charters, Capt. Rodney Ratcliffe, Newburyport, MA
 Atlantis Charters, Capt. Norm Boucher, Newburyport, MA
 Outer Cape Sportfishing, Capt. Jeff Duncan, Provincetown, MA
 North Coast Angler, Capts. Skip Montello, Dave Beshara, Al Montello, Allan Smith and
 Instructor Stephen Papows, Gloucester, MA, Rockport, MA, Newbury, MA and Salem, NH
 Rings Island Charters, Capt. Gary Morin, Salisbury, MA
 F/V Erica Lee Charters, Capt. Rob & Kate Yeomans, Newbury, MA
 Massachusetts Bay Guides, Capts. Greg Sears, Dave Newell, Rob Green, Jay Berggren, Don
 Campbell, Joe Marino, Mike Evensen, Gene Bernard, Greenbush, MA
 White Cap Charters LLC, President Brad White, Scituate, MA
 Goosebay Charters, Inc., Capt. Carl Mahlstedt, Lynn, MA
 Kayman Charters, Capt. Kevin Twombly, Gloucester, MA
 The Reel Fish Tales Sportfishing, Capt. Rich Milligan, Revere, MA
 Striper-Charters, Capt. Gary Swanson, South Yarmouth, MA
 Tailrope Charter Fishing, Capt. Mike Famiglette, Danvers, MA
 Shadowcaster Charters, Capt. James Goodhart, Newburyport, MA
 GoFish Sportfishing Charters, Capt. Patrick Helsingius, Boston, MA
 Cape Cod Charter Fishing, Capt. Art Brosnan, South Orleans, MA
 Black Rose Fishing Charters, Capt. Rich Antonino, Green Harbor, MA
 Fish Finder Charters, Capt. Frank O'Connor, Newburyport, MA/Salisbury, MA
 Tide Hunter Charters, Capt. Scott Bradley, Buzzards Bay, MA
 Captain Bob's New Horizons Fishing Charters, Capt. Bob Beloff, Rockport, MA
 F/V Fortuna, Capt Greg Sears, Scituate Harbor, MA
 Fin Addiction Charters, Capt. Jeff Smith, Wellfleet, MA
 Rocky Point Fishing Charters, Capt Bill Jarman, Newburyport, MA
 Maverick Charters, Ltd., Capt. Jack Riley, Harwich Port, MA
 CJ Victoria Charters & Rod Builders, Capt. Rob Savino, Boston, MA
 Can-Do Charters, Capt. Chuck Cassela, Winthrop, MA
 Amanda Marie Fishing Charters, Capt. Mike Parisi, Gloucester, MA
 Cape Cod Angler, Capt. Dave Steeves, Brewster, MA

Bluefin Charters, Capt. Brian Courville, East Falmouth, MA
Big Fish II Charters, Capt. Tom Depersia, Marshfield, MA
Cape Ann Tuna Charter, Capt. Jules, Gloucester, MA
Summer Job Charters, Capt. Scott Maguire, Newbury, MA
North Shore Charters, Capt. Dave Pelletier, Beverly, MA
Boston Fishstix Guide Service, Capts. John Mendelson and Jim Armstrong, Boston, MA
Fishy Bizness Sportfishing, Capt. Ed Cloutier, Newburyport, MA
Striped Tease Fishing Charters, Capt. Jeff Walther, Orleans, MA
Banshee Sportfishing, Capt. Ron McVickar, West Chatham, MA
HeadHunter Sportfishing, Capt. Bob Miller, Chatham, MA
Harpoonist Charters, Capt. Dave Auger, Newburyport, MA
Cape Cod Bay Charters, Capt. John Carty, Barnstable Harbor, MA
Sue-Z Sportfishing, Capt. Tom Traina, Harwich, MA
Bass River Charters, Capt. Ray Ransom, Yarmouth, MA
Southside Charters, Capt. Todd Bialas, Bourne, MA
Fishtale Sportfishing, Capt. Mort Terry, Harwich Port, MA
Reel Crazy Sportfishing, LLC., Captain Pat Juliano, West Haven, CT
Good Company II Charters, Capt. Joseph Garafano, Jr., Waterford, CT
After You, Too Sportfishing Charters, Capt. Frank Blume, New London, CT
Lauren B Charters, Capt. Steve Burnett, Stonington, CT
Right Hook Fishing Charters, Capt. Bob Veach, New London, CT
White Ghost Guide Services, Ltd., Capt. Jim White, East Greenwich, RI
Double Diamond Charters, Capt. Manuel Canales, Neptune, NJ

Whale Watch Companies

Bar Harbor Whale Watch Co., Naturalist Zack Klyver, Bar Harbor, ME
Newburyport Whale Watch, Capt. Bill Neelon, Newburyport, MA
Atlantic Fleet Whale Watch, Capt Brad Cook, Rye Harbor, NH
Portuguese Princess Whale Watch & Excursions, Provincetown, MA
Granite State Whale Watch, Naturalist Pete Reynolds, Rye Harbor, NH
Boothbay Whale Watch, Naturalist Mechele Vanderlaan, Boothbay Harbor, ME
Yankee Fleet Whale Watching and Fishing, Tom Conley, Gloucester, MA

Marine Ecotourism Businesses:

Acadian Nature & New Horizons Tour Company, Capt. Gary Fagan, Bar Harbor, ME
Ardea Ecoexpeditions, President Darrin Kelly, Gouldsboro, ME
Bar Harbor Ferry Service, Capt. Steve Pagels, Bar Harbor, ME
Aquaterra Adventures Sea Kayaking, President Dave Legere, Bar Harbor, ME
Camp Ocean Adventures, Doug Anderson, Newcastle, NH
Downeast Windjammer Cruises, Capt. Steve Pagels, Cherryfield, ME
Old Quarry Ocean Adventures, Capt Bill Baker, Stonington, ME

Marine Research, Education and Conservation Organizations:

Penobscot East Resource Center, Director Robin Alden, Stonington, ME
Provincetown Center for Coastal Studies, Executive Director Rich Delaney, Provincetown, MA
Whale Center of New England, Executive Director & Chief Scientist Mason Weinrich, Gloucester, MA
Friends of Maine Seabird Islands, President Jane Hopwood, Rockport, ME
National Audubon Society Seabird Restoration Program, Sr. Researcher Scott Hall, Belfast, ME
Allied Whale, Director Sean Todd, Bar Harbor, ME

CETOS Research Organization, Executive Director Ann Zoidis, Bar Harbor, ME
Bar Harbor Whale Museum, Curator Toby Stephenson, Bar Harbor, ME
Blue Ocean Society, Director Jen Kennedy, Portsmouth, NH
Whale and Dolphin Conservation Society, Regina Asmutis-Silvia, Plymouth, MA & UK

Tackle shops, boat yards and shore support

Hiltons Sport Dock, George Hilton, Newburyport, MA
Tightlines Tackle, Dave Mason, Walpole, ME
First Light Anglers, Nat Moody & Derek Spingler, Rowley, MA
Fisherman's Outfitter, John White, Gloucester, MA
Offshore Pursuits Premium Tackle, David Dodsworth, MA
White Anchor Tackle Shop, Carl Jordan, Boothbay, ME
Bucko's Parts & Tackle, Michael J. Bucko, Fall River, MA
Goose Hummock Shops, Michael MacAskill, Orleans, MA
Saco Bay Tackle Peter Mourmouras, Saco, ME
Oyster River Boat Yard, Keagan Berner, General Manager
Outermost Harbor Marine/Outermost Adventures, Frank Facchetti, Chatham, MA
Sportsman's Landing, Carl Coppenrath, Dennis, MA
The Hook-Up!, LLC. Orleans, MA
Nor'Easter Marine, Proprietor Tim Dow, Chatham, MA

Companies, vessels, and others

Dysart's Great Harbor Marina, Ed Dysart, Southwest Harbor, ME
Viking Yacht Company, CEO Robert T. Healey, New Gretna, NJ
On The Water Magazine, Publisher Chris Megan, East Falmouth, MA
Rock On Products, Richard Burgess, Manchester, MA
Barnacle Billy's Inc., Bill Tower, Ogunquit, ME
Marine Systems Custom Boats, Eric Clark, Southwest Harbor, ME
Blunas, Inc., Chris and Ben Weiner, Ogunquit, ME
Maguro America, Inc., Robert Fitzpatrick, Chatham, MA
Elsam, Inc., Andover, MA
F/V Belly Filla, Captain Alex Notis
F/V Haywire, Chris Pistel, Harwich, MA
EcoFish, Inc., Dover, NH
Gawron Turgeon Architects, Stan Gawron, Scarborough, ME
Sea Change Investment Fund, Matt Elliot, San Francisco, CA
Blue Sea Fisheries, Inc. Dave Pelletier, Beverly, MA
Offshore Pursuits, LLC, David Dodsworth, MA
Look's Gourmet Food Co., Mike Cote, Whiting, ME
Flyfishinginmaine.com, Dan Tarkinson, Portland, ME
Stripersonline.com, Tim Surgent, Wall, NJ



The Commonwealth of Massachusetts

HOUSE OF REPRESENTATIVES
STATE HOUSE, BOSTON 02133-1054

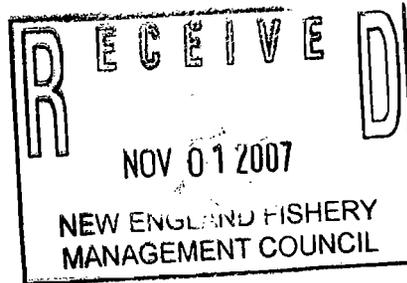
ERIC T. TURKINGTON
STATE REPRESENTATIVE
BARNSTABLE, DUKES &
NANTUCKET DISTRICT

AQUINNAH, CHILMARK, EDGARTOWN
FALMOUTH, GOSNOLD
NANTUCKET, OAK BLUFFS, TISBURY
& WEST TISBURY

CHAIRMAN
Committee on Tourism, Arts
and Cultural Development

ROOM 195, STATE HOUSE
TEL. (617) 722-2015
FAX (617) 722-2160

E-Mail: Rep.EricTurkington@hou.state.ma.us



October 25, 2007

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

Dear Captain Howard:

We write to encourage the New England Fishery Management Council (NEFMC) to make Atlantic herring a management priority in 2008. The management of our herring resource is of critical importance to the future of our fishing communities. Our constituents in the commercial and recreational fisheries have been clear and vocal about the need for NEFMC to act in the swiftest possible manner on this issue.

Herring are a keystone species and the key to a healthy marine ecosystem in New England. Many species of marine animals, sea birds, and fish depend on abundant populations of herring for their health and survival.

Currently, herring management and monitoring is inadequate to:

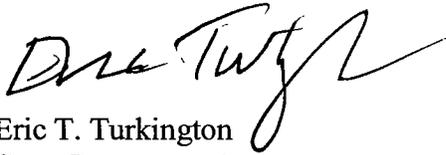
- (1) access bycatch in the industrial midwater trawl fishery
- (2) account for the needs of predators that feed on herring
- (3) determine the catch and discards of herring

To fix the herring fishery, NEFMC should initiate action in 2008 that includes:

- (1) Requirements to bring all fish aboard for sampling (no dumping of bags at sea)
- (2) A system of setting annual catch limits that accounts for the growing needs of predators
- (3) A mandatory weightmaster system that reports each catch and bycatch on a real-time basis

Herring is the backbone of the ocean ecosystem. We urge you and the NEFMC to put herring on the priority list for 2008 so that management of this vital resource can be addressed in the coming year.

Sincerely,



Eric T. Turkington
State Representative
Barnstable, Dukes and Nantucket District

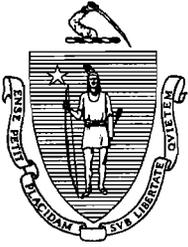


Matthew Patrick
State Representative
Third Barnstable District



Cleon Turner
State Representative
First Barnstable District

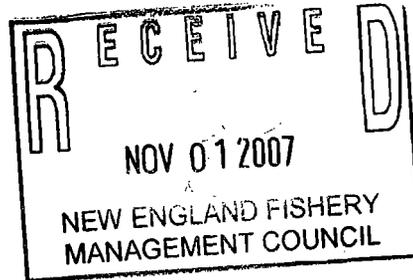
cc: John Pappalardo, Chairman, NEFMC



The Commonwealth of Massachusetts

HOUSE OF REPRESENTATIVES
STATE HOUSE, BOSTON 02133-1054

JOHN D. KEENAN
REPRESENTATIVE
7TH ESSEX DISTRICT
SALEM



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ROOM 136, STATE HOUSE

TEL (617) 722-2396

FAX (617) 722-2596

Rep. JohnDKeenan@hou.state.ma.us

October 30, 2007

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

Patricia Kurkul, Regional Administrator
NOAA/NMFS
One Blackburn Drive
Gloucester, MA 01930

Dear Captain Howard and Ms. Kurkul,

I write to encourage the New England Fishery Management Council (NEFMC) to make Atlantic herring a management priority in 2008. The management of our herring resource is of critical importance to the future of our fishing communities. My constituents in the commercial and recreational fisheries have been clear and vocal about the need for NEFMC to act in the swiftest possible manner on this issue.

Herring are a keystone species and the key to a healthy marine ecosystem in New England. Many species of marine mammals, sea birds, and fish depend on abundant populations of herring for their health and survival.

Currently, herring management and monitoring is inadequate to:

- (1) assess bycatch in the industrial midwater trawl fishery
- (2) account for the needs of predators that feed on herring
- (3) determine the catch and discards of herring

To fix the herring fishery, NEFMC should initiate action in 2008. Herring are the backbone of the ocean ecosystem. I urge you and the NEFMC to put herring on the priority list for 2008 so that management of this vital resource can be addressed in the coming year.

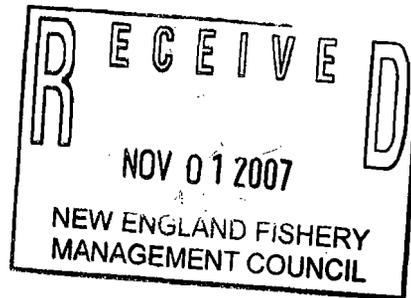
Sincerely,

John D. Keenan
State Representative
7th Essex - Salem

CC: Bill Hogarth

October 29, 2007

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



Dear Captain Howard:

RE: Please Make Herring a Priority in 2008

I am writing to encourage the New England Fishery Management Council (NEFMC) to make Atlantic herring a priority in 2008.

Herring are the key to a healthy marine ecosystem in New England, with many species of fish, marine mammals, and sea birds dependent on abundant populations of herring for their health and survival.

Industrial midwater herring trawlers, towing huge small-mesh nets, currently fish with inadequate regulatory oversight.

These ships are allowed fish in waters that have been closed to many other fishermen in order to reduce overfishing and protect vital spawning grounds.

These waters should not remain open to midwater trawlers.

More on-board observers and improved monitoring protocols are needed to make sure they are not capturing non-target species and to accurately account for what is being caught.

The current lack of oversight surrounding the herring midwater trawl fleet is unacceptable and completely against the spirit of the Sustainable Fisheries Act and the recent amendments to that act which demand greater accountability in U.S. fisheries.

Herring are the backbone of the ocean ecosystem.

We need to make sure there are enough herring left in the sea to support predators and that the herring fishery does not destroy efforts to restore the health of our fisheries and other ocean resources. The current level of oversight in this fishery is unacceptable.

I urgently ask you and the NEFMC to put herring on the priority list for 2008 so that management of this vital resource can be addressed in the coming year.

Thank you for your help on behalf of a healthy marine ecosystem.

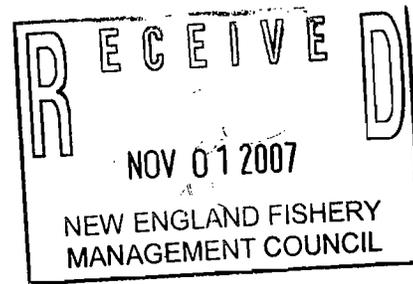
Respectfully,

A handwritten signature in dark ink, appearing to be "J. Capozzelli".

J. Capozzelli
315 West 90th Street
New York, NY 10024

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

Patricia Kurkul, Regional Administrator
Northeast Region, NOAA Fisheries
One Blackburn Drive
Gloucester, MA 01930-2298



October 10, 2007

Dear Captain Howard and Regional Administrator Kurkul,

I'm writing today because I am a Massachusetts River Herring advocate and I am extremely concerned about the health of the Gulf of Maine ecosystem and the traditional fisheries and communities it supports. My concern arises from the inadequate management of New England's industrial herring fleet.

The Atlantic Herring fishery has problems that need to be addressed and action must be taken in 2008. Currently, midwater trawlers are operating without proper monitoring and insufficient observer coverage levels. We lack the most basic information on this fishery, taking educated guesses at best about what is caught. Midwater trawl ships also operate near shore, creating substantial gear conflicts and potentially posing a threat to important near shore species such as River Herring and Striped Bass. It's time for management to do something about this problem and act accordingly.

The fleet of 150+ foot midwater trawl ships currently operating in New England poses a grave threat to the future of New England's healthy fisheries and the rebuilding of Herring runs, groundfish and Whiting stocks. By taking immediate action altering the Sea Herring Fishery Management Plan in 2008 to instituting more rigorous monitoring and other accountability measures, the NEFMC will protect the viability of our traditional fishing, charter, and whalewatch fleets, along with our marine ecosystem.

Signed,

CHATHAM, MASS.

No address

Cc: The Honorable Deval Patrick, Bill Hogarth, NMFS; John Pappalardo, NEFMC; David Pierce, NEFMC/MA DMF; Daniel Furlong, MAFMC; W. Peter Jensen, MAFMC;