

MEMORANDUM

DATE: October 31, 2014

TO: New England Fishery Management Council
Mid-Atlantic Fishery Management Council

FROM: Industry-funded Monitoring Plan Development Team/Fishery Management Action Team

SUBJECT: Industry-funded Monitoring Omnibus Amendment Development

1. The PDT/FMAT met via webinar on October 28, 2014 to continue development of alternatives for observer coverage in the herring and mackerel fisheries (Herring Alternatives and Mackerel Alternatives 1-2.4). Participants included Carrie Nordeen, Brant McAfee, Katie Richardson, and Aja Szumylo (NMFS GARFO), Susan Wigley, Kiersten Curti, Andrew Kitts, Sara Weeks (NMFS NEFSC), Jason Didden (MAFMC), Lori Steele (NEFMC), and several members of the public.

2. **River Herring and Shad Incidental Catch Analysis**

The PDT/FMAT reviewed an analysis of river herring and shad incidental catch conducted by NEFSC staff. The analysis was intended to assist in identifying CV/CI targets for the river herring/shad coverage level alternatives (Herring Alternatives and Mackerel Alternatives 2.3 and 2.4), as discussed at the March 7 and August 5 PDT/FMAT meetings. River herring and shad catch was analyzed by fishing fleet (area, gear, mesh size), consistent with the SBRM.

The PDT/FMAT discussed 3 components of the analysis:

Estimate of incidental catch of river herring and shad (all 4 species grouped) by fleet from 1989 -2013. Midwater trawl catch was only estimated after 2005, when a basket subsampling methodology was implemented for high volume fisheries. The analysis showed that the 3 fleets responsible for the majority of river herring and shad catch are midwater trawl (57%), small mesh bottom trawl (33%), and large mesh gillnet (7%). These estimates are consistent with the river herring and shad incidental catch analysis conducted for Mackerel/Squid/Butterfish Amendment 14, though the Amendment 14 analysis evaluated incidental catch separately for each species. Grouping the four species is consistent with monitoring of the river herring and shad caps for the herring and mackerel fisheries.

Proportion of river herring and shad discards by fleet. The analysis showed that, while a majority of river herring and shad catch is discarded on trips using small mesh bottom trawl (average 68% 2005-2013) and large mesh gillnet (75%), very little river herring and shad catch is discarded on trips using midwater trawl (<5%).

Estimated percent at-sea coverage needed for a range of CV values for river herring and shad for 2010-2013 by fishing fleet. This analysis was one step in illustrating the impacts of setting coverage targets for SBRM fleets vs permit categories vs fisheries (see Report Attachment 1, excerpt from August 15 PDT/FMAT discussion). The analysis estimated the percent at-sea coverage necessary to reach a 30% CV on river herring and shad catch for paired and single midwater trawl, and various mesh sizes for gillnet and bottom trawl, for both New England and the Mid-Atlantic. These fleets were found to be major fleets responsible for river herring and shad catch.

Following the meeting, NEFSC staff further reviewed the analysis and found that additional revisions are necessary to translate the target CVs into coverage levels. The revised results will be further discussed by the PDT and presented to the Committee/Councils at a later date as the EA is developed.

3. Revisions to Herring and Mackerel Coverage Alternatives

The PDT/FMAT understands the Council's desire to maintain the preferred coverage level alternatives from Herring Amendment 5 and MSB Amendment 14 (Herring/Mackerel alternatives 2.1 and 2.2; see attached tables). These alternatives set coverage levels by permit category for the herring (Category A + B) and mackerel (Tiers 1, 2, and 3) fisheries.

However, the group recommends refining the CV/CI targets for the river herring/shad coverage level alternatives (Herring/Mackerel Alternatives 2.3 and 2.4). The recommended alternatives would target both a 15% and 30% CV for river herring and shad catch on the midwater trawl fleet (both New England and Mid-Atlantic). The range in percent coverage results would vary depending on river herring and shad incidental catch between 2010 and 2013. One option the PDT/FMAT discussed for setting a coverage rate that evolves over time is to specify in the alternative that each year's coverage will be set based on the previous 12 months of data (similar to SBRM).

The NEFSC has been supportive of developing coverage alternatives focused at fishing fleets rather than at permit categories, or a specific trip definition. Drastically increasing coverage for a specific fishery or certain permit types (e.g., placing 100% observer coverage on Category A + B Atlantic herring trips) can bias discard estimates for a given SBRM fleet. If fishery/permit focused coverage levels are selected, the NEFSC must remove them from SBRM discard analyses to avoid bias. If fleet focused coverage levels are selected, the information can be included in SBRM discard analyses.

4. Additional Considerations

- Because such a low percentage of catch is discarded at sea by the midwater trawl fleet, electronic monitoring (to verify retention) combined with portside sampling may be a more cost effective and efficient way to monitor catch by the midwater trawl fleet than at-sea observer coverage.

- A large amount of river herring and shad catch occurs in gears other than midwater trawl (33% small mesh bottom trawl; 7% large mesh gillnet). If the Councils are interested in assessing river herring and shad catch across all of the region's fisheries, it may be worth exploring the addition of river herring and shad as driving species in SBRM. This idea was raised at the October MAFMC meeting. Significant development is needed to pursue this option. In a given year, there is a given number of sea days available. The total number of sea days will be distributed across fishing fleets using the penultimate approach. If adding river herring and shad to SBRM results in increased coverage in a particular fleet, sea day coverage will have to decrease in another fleet because in a particular year there are only a given number of sea days available.

Attachments

PDT/FMAT Report Attachment 1

Except from Item 6 of the August 15 PDT/FMAT Meeting Report

The PDT has struggled with how to approach the analysis for the coverage alternatives - by gear type or permit category or fishery (e.g., “mackerel trip”). The current alternatives adapted from the original amendments are developed around permit categories or a trip definition (e.g., “mackerel trip”), rather than gear type. However, the PDT is using NEFOP observer data from SBRM deployments, so stratifying incidental catch estimates by permit category or an FMP trip definition would violate the randomness of the SBRM sampling scheme and potentially bias estimates. Council staff indicated that the original alternatives were developed around the river herring/shad catch cap definition because the catch caps apply to the limited access fisheries, the IFM coverage would be targeted at the limited access fisheries. Yet the objectives and performance standard for the coverage is to achieve a certain CV/CI on the estimate of river herring and shad catch. This suggests targeting the coverage at the fleets responsible for the most incidental catch, which may not be the same as the permit category or FMP definitions under the catch cap. The analysis the PDT is developing will help to illustrate the impacts of defining the performance standard in these different ways. It may be possible to develop an alternative that addresses both the cap definition and the objectives for coverage. The PDT is also considering how to specify the coverage target in these alternatives as a desired CV? A confidence interval? A coverage level? The definition of a desired CV or CI allows for the coverage level to be calculated through the prioritization process, but these concepts can be difficult to understand. The Councils could also specify a target coverage level based on the desired CV or CI that would be maintained in the regulations until modified. However, this would not be robust to changes in incidental catch patterns. The PDT will continue work on the analysis for these alternatives and bring the refined alternatives to the Committee/Councils at a later meeting.

PDT/FMAT Report Attachment 2
 Current Herring/Mackerel Fishery Coverage Alternatives

Atlantic Herring Monitoring Alternatives	Target Coverage Level	Coverage Category	Effects on Fishing Effort	Comments
Herring Alternative 1: No Coverage Target	No additional coverage above SBRM, ESA, and MMPA	SBRM allocates observer coverage based on gear and area	No effect	No target level specified
Herring Alternative 2: Coverage Target Specified	Target coverage level specified for industry-funded monitoring above SBRM, ESA, and MMPA	Coverage target specified by permit and/or gear	Effects vary by alternative	Ability to target coverage level is variable
Herring Alternative 2.1: Up to 100% Coverage	<i>Up to</i> 100% coverage on Category A and B vessels	Category A and B vessels	Vessels fish under waivers when Federal funding limits observer coverage	Target coverage level is likely not met
Herring Alternative 2.2: 100% Coverage	100% coverage on Category A and B vessels	Category A and B vessels	Vessels cannot fish without an observer when Federal funding limits observer coverage; effort is reduced to match observer coverage	Target coverage level is met
Herring Alternative 2.3: Up to Specified Confidence Interval Coverage	<i>Up to</i> specified confidence interval around RH/S catch	Category A, B, C, and E vessels are subject to RH/S catch caps	Vessels fish under waivers when Federal funding limits observer coverage	Target coverage level is likely not met; aligns with Mackerel Alternative 2.3
Herring Alternative 2.4: Confidence Interval Coverage	Specified confidence interval around RH/S catch	Category A, B, C, and E vessels are subject to RH/S catch caps	Vessels cannot fish without an observer when Federal funding limits observer coverage; effort is reduced to match observer coverage	Target coverage level is met; aligns with Mackerel Alternative 2.4

Atlantic Mackerel Monitoring Alternatives	Target Coverage Level	Coverage Category	Effects on Fishing Effort	Comments
Mackerel Alternative 1: No Coverage Target	No additional coverage above SBRM, ESA, and MMPA	SBRM allocates observer coverage based on gear and area	No effect	No target level specified
Mackerel Alternative 2: Coverage Target Specified	Target coverage level specified for industry-funded monitoring above SBRM, ESA, and MMPA	Coverage target specified by permit and/or gear	Effects vary by alternative	Ability to target coverage level is variable
Mackerel Alternative 2.1: Up to Target Coverage Levels	<i>Up to 100%</i> coverage on limited access MWT & Tier 1 SMBT; 50% coverage on Tier 2 SMBT; 25% on Tier 3 SMBT	Limited access MWT and SMBT	Vessels fish under waivers when Federal funding limits observer coverage	Target coverage level is likely not met
Mackerel Alternative 2.2: Target Coverage Level	100% coverage on limited access MWT & Tier 1 SMBT; 50% coverage on Tier 2 SMBT; 25% on Tier 3 SMBT	Limited access MWT and SMBT	Vessels cannot fish without an observer when Federal funding limits observer coverage; effort is reduced to match observer coverage	Target coverage level is met
Mackerel Alternative 2.3: Up to Specified Confidence Interval Coverage	<i>Up to</i> specified confidence interval around RH/S catch	Limited access MWT and SMBT	Vessels fish under waivers when Federal funding limits observer coverage	Target coverage level is likely not met; aligns with Herring Alternative 2.3
Mackerel Alternative 2.4: Confidence Interval Coverage	Specified confidence interval around RH/S catch	Limited access MWT and SMBT	Vessels cannot fish without an observer when Federal funding limits observer coverage; effort is reduced to match observer coverage	Target coverage level is met; aligns with Herring Alternative 2.4