



New England Fishery Management Council

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MEETING SUMMARY HERRING PLAN DEVELOPMENT TEAM

April 14, 2016

The Herring Plan Development Team (PDT) met on April 14, 2016, via webinar, primarily to discuss Amendment 8 to the Atlantic Herring Fishery Management Plan (FMP).

MEETING ATTENDANCE: Dr. Rachel Feeney (Herring PDT Interim Chairman); Ms. Deirdre Boelke (Council staff); Peter Kendall (Herring Committee Chairman); Mr. Tim Cardiasmenos, Mr. Daniel Luers, Ms. Carrie Nordeen (NMFS GARFO staff); Dr. Jonathon Deroba, Dr. Min-Yang Lee, Ms. Sara Weeks (NEFSC staff); Ms. Renee Zobel (NHFG) Dr. Matthew Cieri (MEDMR); Mr. Micah Dean, (MADMF); Dr. Madeleine Hall-Arber (MIT Sea Grant); and Ms. Ashton Harp (ASMFC). At least one member of the public attended.

KEY OUTCOMES

- The PDT continued to develop analyses regarding localized depletion, in support of Amendment 8.

OPENING REMARKS AND AGENDA REVIEW

Interim PDT Chairman Dr. Feeney opened the meeting at 1:00 PM and reviewed the purpose of the meeting, to review outcomes of the March 30, 2016, Herring Committee (Committee) meeting and discuss tasks provided by the Committee regarding localized depletion. There were no changes to the agenda.

REVIEW MARCH 30, 2016 HERRING COMMITTEE MEETING OUTCOMES

The PDT reviewed the outcomes of the March 30, 2016 Herring Committee meeting. The Committee recommended initiating an action to consider amending the Georges Bank haddock catch cap accountability measures in the herring fishery, with the goal to incentivize the midwater trawl fleet to minimize the incidental catch of haddock in the herring fishery while providing the opportunity to fully harvest the sub-ACL of herring for Herring Management Areas 3 and 1B. For Amendment 8, the Committee, recommended a problem statement for the localized depletion aspect of the action, that the Council intends to address concerns that concentrated, intense commercial fishing of Atlantic herring in specific areas and at certain times have caused detrimental socioeconomic impacts on other user groups (commercial, recreational, ecotourism) who depend upon adequate local availability of Atlantic herring to support business and

recreational interests both at sea and on shore. The Committee also tasked the PDT with several analyses regarding localized depletion.

The PDT expressed some concern about its ability to measure the socioeconomic impact of localized depletion, given that localized depletion itself is difficult to measure. One approach could be to determine the catch rate of a predator before and after herring fishing in an area, alternatively it could be determined if in days or weeks of herring fishing, other fisheries have decrease revenue. In some respects, the existing data are better equipped to identify socioeconomic impacts, rather than the depletion of the predator population. However, correlations do not necessarily mean causality. The PDT can focus on people's perceptions of socioeconomic impacts. A PDT member asked if rescoping is needed, if user a conflict is the main concern. The Greater Atlantic Regional Fisheries Office (GARFO) staff affirmed that it is not, that the revised Notice of Intent was broad enough.

REVIEW 2016 TIMELINE FOR HERRING-RELATED COUNCIL/COMMITTEE/PDT WORK

The PDT reviewed the timeline for work in 2016. The PDT will meet in May to review the outcomes of the Management Strategy Evaluation workshop, work on the Herring Committee tasking on localized depletion, and develop an action regarding Georges Bank (GB) haddock cap accountability measures. The latter action is pending Council initiation on April 20, and direction from the Council of the range of measures that will be considered (revising the accountability measures and/or the cap). There will likely be another PDT meeting in late June/early July, in part, to finalize the localized depletion work prior to a Committee meeting in July. Discussion documents for Amendment 8 and the GB haddock action will be prepared this spring as well.

DISCUSS COMMITTEE TASKS

The PDT spent the majority of the meeting developing analyses regarding localized depletion, in response to tasking by the Herring Committee on March 30. Topics included describing herring effort inshore and within specific 30-min squares, mapping herring effort, discussing Study Fleet habitat suitability modeling and use of Marine Recreational Information Program striped bass data, and describing tuna fishery catch per unit effort.

TASK: Evaluate herring effort inshore

The PDT considered the following task:

March task: *Work on task #3 from the Committee's January task list, examining herring effort within both 6 miles and 12 miles from shore, including the amount of catch.*

January task #3: *Within the 12 nm territorial sea line, identify areas (e.g., Ipswich Bay, Nantucket Shoals) where herring fishing seasonally intensifies.*

a. Determine and compare midwater trawl trip catches over time in each area, considering variation in tow-specific catches (accounting for tow time, number of tows, and trip duration).

b. Determine if, over the time of intensified fishing, catches could only be maintained by longer tows, more tows and/or longer trips, thereby indicating local depletion (e.g., F much higher than F set for entire stock).

The PDT noted that the heat-maps developed by the NEFSC Social Sciences Branch would be useful here, for examining the spatial pattern and intensity of catch rates. The Vessel Trip Report

(VTR) records have tow hours for mid-water trawl that could be used to determine catch rates; the VTR tow hour data for the trawl fisheries is fairly reliable. That would better approximate time fishing. The analysis will require using observer data. There was a caution to ensure there are no data confidentiality issues with the data that is presented, though examining the spatial and temporal patterns of catch rates may be less of a concern.

Dr. Lee, Mr. Dean, and Dr. Cieri will lead this task.

TASK: Herring effort within specific 30-min squares

The PDT considered the following task:

March task: *Work on task #6 from the Committee's January task list, focusing on identifying herring catch from the specific 30 min squares, by season or month back to 2000.*

January task #6: *Examine potential impacts (biological, economic, social) to different fisheries (herring, tuna, striped bass, etc.) of closing the following 30-minute squares to midwater trawl gear year-round: 99, 100, 114, 115, and 123. Calculate the percent of the total Atlantic herring stock area that these 30-minute squares comprise.*

The PDT interpreted this task to mean that, rather than do a full impact analysis of closing the 30-minute squares in question, the near-term focus should be on describing the herring catch in those areas. The PDT already completed the last sentence of the January task. Dr. Lee showed draft figures of herring catch by midwater trawls and purse seines relative to total catch in each year (2000-2015) for each square area, which will be finalized. The PDT discussed whether it would be more appropriate to describe the catch in each square relative to total catch fishery-wide or catch in the Herring Management area, as the squares are not all with a particular management area (square 115 is in Areas 1A and 2, square 114 is in Areas 1B and 3).

Dr. Lee will lead this task.

TASK: Mapping herring effort

The PDT considered the following task:

March task: *Make more zoomed in heat maps of herring effort similar to the Herring AP consensus statement of March 29*

AP Consensus statement: *The AP recommends that the Committee task the PDT with develop "heat maps" showing herring effort overlaid with all current and proposed spatial regulations to better identify the importance of areas to the fishery and potential impacts of measures developed through Amendment 8, such as: groundfish closed areas (with 15 mi move along), distances 12, 30, 50 mi from shore, stat areas/30-min squares, herring management areas, bathymetry (100 fathom or 200 m depth), ASMFC spatial regulations (spawning closed areas), RH/S bycatch cap areas, and haddock AM areas.*

The PDT discussed various ways that maps could be produced, noting that the Committee found useful the large paper maps that Mr. Kaelin brought to their last meeting. Many of the necessary shape files already exist with the GIS servers accessible to PDT members. GARFO has created

an online story map¹ describing current management areas for the scallop fishery, and the PDT discussed whether a similar interactive map product would be helpful in support of Amendment 8 development. Adding bathymetry would be helpful to understand the areas where herring fishing is possible. The PDT's heat maps were produced using R, but the underlying data can be used in GIS. The PDT will discuss further the possibility of creating an interactive map.

Dr. Lee will provide the herring fishery heat map data/files to Mr. Luers, who will lead this task in collaboration with other GIS analysts at GARFO.

TASK: Study Fleet habitat suitability model

The PDT considered the following task:

March task: Determine if the Study Fleet habitat suitability model could be useful to understanding localized depletion.

The PDT discussed how Dr. John Manderson of the NEFSC has been working with the Study Fleet data and participants to develop models of suitable habitat for mackerel, butterfish, and perhaps a few other species. The PDT agreed to ask him to attend the next PDT meeting. The PDT discussed how identifying fields of preferred herring temperature habitats would inform analysis of localized depletion. The Committee had talked about if and how this tool might be useful in minimizing the spatial and temporal overlap between fisheries, and if it can be used for dynamic management. The PDT noted that the fishery may not necessarily mirror where the habitat is, though the industry could use it to better target the resource. The PDT cautioned that improving fishery efficiency is not a goal that has been identified for Amendment 8, and that the Committee should remain focused on what is most relevant for Amendment 8. A more direct approach to understanding where the fisheries operate would be to use the fishery data rather than models of temperature suitability. It may be useful in estimating where the fishery could go if they were closed out of an area. For the different predators, whether and how they may be impacted by the localized depletion of herring would depend, in part, on their reliance on herring, and their degree of tolerance for different thermal environments.

Dr. Feeney will ask Dr. Manderson to attend the next PDT meeting. Having an overview of Study Fleet may be helpful as well, perhaps by Christopher Sarro.

TASK: Marine Recreational Information Program striped bass data

The PDT considered the following task:

March task: The MRIP charter and private rental data include intercept site. Look at catch per trip for striped bass from private rental and charter intercept sites on Back side of Cape (0-3 mi from shore); compare to herring catches.

The PDT talked about the difficulty of correlating the port where a trip originated from with where striped bass fishing occurs at sea and relating that to herring fishing locations. It is akin to comparing herring catch locations with the homeport of commercial groundfish fishing. The PDT assumed that the Committee was interested in at least generally characterizing the season of

¹ <http://noaa.maps.arcgis.com/apps/MapJournal/index.html?appid=8fa56ac4829a400c9e67a530ce8399fc>

striped bass fishing relative to when herring are coming through, to help identify seasonal overlap. The PDT already provided information indicating that the timing of most of the herring fishing off the Cape does not coincide with the commercial striped bass fishery, and can provide a description of the recreational fishery, but it is likely not useful for evaluating localized depletion.

Mr. Dean will lead this task, to describe where and when the recreational striped bass fishery is relative the tuna fishery.

TASK: Tuna fishery catch per unit effort

The PDT considered the following task:

March task: Describe catch per unit effort in the tuna fishery over time.

The PDT may need to partner with the Highly Migratory Species office at GARFO. The Committee acknowledged the limitations of the tuna catch location data, but asked if the PDT could look at tuna catch per unit effort (pounds landed per fishing hours), like it did for striped bass.

Ms. Nordeen and Mr. McAfee will lead this task and contact the HMS staff.

OTHER BUSINESS, PLAN NEXT MEETING, ADJOURN

The next PDT meeting will be a full-day in-person meeting in the May 23-28 timeframe. The meeting adjourned at 3:00 pm.