River Herring Technical Expert Working Group (TEWG)
Conference Call Summary
September 24, 2015
1:00 p.m. - 4:00 p.m.

The River Herring Technical Expert Working Group (TEWG) held its sixth conference call on September 24, 2015 to discuss the following: 1) the status of the river herring conservation planning initiative; 2) updates on TEWG-related activities; and 3) updates on TEWG subgroups and committee efforts. Below is a summary of the discussions.

1). River Herring Conservation Planning

NOAA Fisheries and Atlantic States Marine Fisheries Commission (ASMFC) noted that these larger calls are important to maintain coastwide consideration and obtain broad feedback. Products from the TEWG were used for the development of the River Herring Conservation Plan which is now available online. The conservation plan is intended to provide updates on the implementation of research and conservation activities, and links to various efforts underway. It is also an evolving plan and updates will be included over time. Listed goals for the Conservation Plan include increasing coordination among agencies, identifying research, etc. The products from the TEWG subgroups are also included. There has been important progress made on many of the goals, and NOAA Fisheries and ASMFC have noted a number of commitments (e.g., river herring data meeting to be discussed). An end of year executive summary is being considered to highlight and capture progress as the web-based plan evolves. Progress reports have also been discussed with the Ecosystem Integration Committee, the frequency of which will continue to be discussed.

ASMFC discussed the future River Herring Data Collection Standardization Meeting to review current surveys and data collection methods specific to river herring, and develop standardized approaches and standardized data collection across different survey types for the future. Attendees include those involved in long-term data collection and include states and federal agencies, as well as federally-recognized tribes. The meeting is planned for November 18- 20, 2015, and will be open to the public. One comment included that there are people who could contribute to the data standardization meeting but that might not be able to attend. The meeting will be available via Webinar and there will opportunities for public comment. Additionally, a suggestion was made that juvenile identification be discussed at the meeting

2). General River Herring Updates and/or Initiatives

There were reports provided on two large initiatives related to the TEWG. An overview is provided below and additional information, including the full presentations, can be found on the

TEWG website (http://www.greateratlantic.fisheries.noaa.gov/protected/riverherring/tewg/index.html):

- Cultural Importance of River Herring to the Passamaquoddy People: Ed Bassett provided an overview of his paper on river herring's cultural importance to the Passamaquoddy People. The paper is available on the River Herring Conservation Plan's website under "Traditional Ecological Knowledge" (http://www.greateratlantic.fisheries.noaa.gov/protected/riverherring/conserv/plancomp/traditional/index.html). Ed mentioned various highlights from the paper such as river herring are a part of the indigenous economy and an important keystone species, and that restoration of the environment is key. He emphasized that continued science, monitoring and cooperation is key. It was noted that tribal coordination in the Northeast was presented and discussed at the March 19, 2014 TEWG meeting.
- River Herring Avoidance Programs and/or Research
    - Avoidance in the Atlantic herring and mackerel fisheries. Massachusetts Division of Marine Fisheries (Bill Hoffman) provided an overview of the portside sampling including background on the fleet and fishery (Atlantic herring/Mackerel mid-water trawl and small-mesh bottom trawl), sampling design (e.g., 2012-2015 using only subsampling of unsorted offloads), data gathered (e.g, species composition, length frequencies) and data utility (i.e., inform management, advance fisheries research. and inform river herring bycatch avoidance programs). University of Massachusetts Dartmouth School for Marine Science and Technology (Dave Bethoney) provided an overview of river herring bycatch avoidance including overview of methods (e.g., rapid communication of high bycatch events, bycatch classification and advisories), preliminary evaluation results (e.g., increased communication/awareness) and future direction (e.g., continue the river herring avoidance program with mid-water trawlers). Comments included an interest in getting otoliths and requests can be sent to Bill Hoffman. Also, there will be a future paper on the genetic makeup of river herring bycatch.
    - Avoidance in the longfin squid fishery: Cornell Cooperative Extension's Fisheries Program (Tara A. Froehlich and John Nicholas Scotti) provided an overview of the program which includes coordination with the squid vessels to form a communication network to reduce bycatch encounters of river herring and butterfish. Participating bycatch avoidance network vessels (i.e., 52 currently receiving and transmitting hotspot reports via VMS), river herring bycatch report levels (e.g., over 80% of river herring reports have been negative declarations), and outcomes (e.g., 38% reduction in river herring species in longfin squid fishery observed, data transfer of river herring and butterfish hotspots). The following website was also referenced: http://squidtrawlnetwork.squarespace.com/ In

response to a question, the benefits to industry to reduce river herring catch was noted even with a voluntary program.

- Forecast Tool: NMFS Northeast Fisheries Science Center (Sara Turner; now with Massachusetts Division of Marine Fisheries) provided an overview of a study using habitat preference models ocean forecasts and cooperative research to reduce river herring incidental catch. Environmental data is being used to develop spatial and/or temporal habitat association models. Model summaries include information such as alewife are associated with deeper habitat and blueback herring more shallow (<50m) habitat, river herring are observed in lower salinity, and forecasted distributions are consistent with what was observed. Next steps include efforts such as directed sampling with cooperative research fleet, refine/evaluate models with cooperative fleet/observer data, and obtain input from industry and other researchers. Directed sampling with NOAA Cooperative Research commercial small-mesh bottom trawl vessels will occur during the winter of 2015/2016.

3). TEWG Updates (More detailed summaries of the subgroup calls and progress are available on the TEWG website[1])

General TEWG Updates (Coordinators: Diane Borggaard and Kirby Rootes-Murdy)
There are some membership changes: Lori Steele with the New England Fishery Management Council is moving and Deirdre Boelke will take her place. These full meetings are an important opportunity to provide thoughts on larger issues, as well as provide feedback to subgroups and the Ecosystem Integration Committee for individuals not already involved. As noted to the TEWG previously, NOAA Fisheries and the ASMFC will be convening the TEWG two times per year to enable greater participation from members, as well as provide meaningful updates and progress. The TEWG will meet in March 2016 and requested a Doodle poll be distributed the end of December or beginning of January to allow time for other scheduling to occur.

Fisheries Subgroup (Co-chairs: Jason Didden and Mary Beth Tooley)
The subgroup has finished a draft update on the data gaps and conservation ideas identified by the Fisheries Subgroup. The document has been distributed to the TEWG and they are seeking input to help fill out where it needs additional updating. The weakest part of the document is that there isn't much information from Canada.

Climate Change Subgroup (Co-chairs: Janet Nye and Mike Alexander)
The subgroup has been putting together individual research recommendations and they are now available on the Climate Change Subgroup's website

[1] http://www.greateratlantic.fisheries.noaa.gov/protected/riverherring/tewg/index.html

(http://www.greateratlantic.fisheries.noaa.gov/protected/riverherring/tewg/climate/index.html). Janet discussed the top three recommendations during the last TEWG meeting. Of the research related to making climate projections for river herring the top three were: 1. Continuous climatologies for marine estuarine and freshwater habitat ; 2. Development of models and methods to project effects of climate change into the future; and 3. Downscaled temperature, snow pack, and stream flow climate projections in both marine and freshwater systems at a high spatial resolution. It is important to note that all of the recommendations are important.

Stock Status Subgroup (Co-chairs: Kevin Sullivan and Michael Bailey)
The subgroup completed a list of stock status research needs based on individual expert opinions. The document is available on the Stock Status Subgroup's website (http://www.greateratlantic.fisheries.noaa.gov/protected/riverherring/tewg/stocks/index.html). The number one priority is "Creation of a Standardized Sampling Guidance Document for the species population range" so is the subgroup excited to hear the outcomes and report from the River Herring Data Collection Standardization Meeting. Future plans including having a meeting with invited speaker(s), and possibly with the Fisheries Subgroup, to discuss data poor stock assessments.

Genetics/Hybrids/Landlocked Subgroup (Chair: Dan Hasselman)
A ranked list of research needs is available on the Stock Status Subgroup's website (http://www.greateratlantic.fisheries.noaa.gov/protected/riverherring/tewg/genetics/index.html). The ranking exercise revealed there were broad agreements concerning which of the research needs ranked lowest and highest. The subgroup is in a holding pattern waiting until current genetic research comes out to help guide and inform the group's discussions. Thanks to field collectors, there were 20 populations of alewife from Maine to North Carolina and 20 populations of blueback from Maine to Florida, and now the baseline has increased to 112 for alewife and 66 for blueback numbers. Dan Hasselman is moving on from his current position and Diana Baetscher (SWFSC) will be continuing the genetic work (panels have been developed; in midst of genotyping samples from east coast). Samples can still be sent to Dan. Dan will continue to be a member of the TEWG and lead the Genetic Subgroup.

Habitat Subgroup (Co-chairs: Alison Bowden and Jeff Pierce)
The subgroup is considering ocean energy to ensure discussions of sources of mortality at sea beyond fishing and bycatch. Erik Martin (The Nature Conservancy) presented to the subgroup on the draft River Herring Habitat Prioritization and National Fish and Wildlife Foundation's habitat restoration final report. The Atlantic Coast Whole System Diadromous fish prioritization project uses habitat information and run count data to identify important areas to focus investment to protect and restore river herring. The Atlantic Coast Fish Habitat Fish Habitat Partnership (ACFHP) and The Nature Conservancy received funding from the National Fish and Wildlife Foundation to develop habitat restoration priorities for river herring in select watersheds along the Atlantic Coast. This initiative has been completed and is noted in the Habitat

Subgroup's white paper available on the subgroups's website (http://www.greateratlantic.fisheries.noaa.gov/protected/riverherring/tewg/habitat/index.html). There are efforts to assess aquatic habitats and threats through a Fish Habitat Decision Support Tool being developed by various partners. The subgroup will convene later in the year to discuss research on river herring habitat use in the Penobscot estuary.

Species Interactions Subgroup (Chair: Eric Schultz; Kirby Rootes-Murdy provided an update on behalf of Eric)
Eric Schultz has been involved in a study on alewife reproduction and he would like the paper distributed to the group for discussion. He believes this could inform the TEWG's list of research topics (i.e., "analysis of latitudinal variability in functional traits, including seasonal fecundity, in order to better characterize the vulnerability of the populations to stressors at different points in the life cycle"). A call will be scheduled with the subgroup later in the year.

Ecosystem Integration Committee (Co-chairs: Diane Borggaard and Jon Hare)
The committee met last week to coordinate across the subgroups and discuss overlapping issues. There was a suggestion made that NMFS and ASMFC produce quarterly updates (or at some other frequency) to let the TEWG know of updates between meetings. Ideas for future presentations were discussed such as an update from Carlos Garza.

Individual expert opinion and comments made during the discussions include:

- Information on the status of each watershed is important. There is information on river herring monitoring sites (www.riverherring.com) but it is not completely updated yet.
- NMFS' Climate Science Strategy is available and a link will be distributed. Jon Hare, TEWG Member, from the NEFSC noted that this is a national 5-year plan which will provide a framework for the agency moving forward on incorporating climate change into science and management decisions.
- The update that the Fisheries Subgroup is producing is a good model for other subgroups to consider.

4). Other Items

- Individual expert opinion and comments made during the discussions on other items or those with broad applicability included:
    - In response to a question on how the 2015 spawning runs and subsequent young of year indices appear to be in your backyard: Spawning runs throughout Connecticut consistently were the worst ever (data collection since 2000 or farther) and there are similar reports in Long Island. Rhode Island runs decreased. Small tributaries of Potomac River were one of the best runs ever seen. Potomac River is an exception in the Chesapeake Bay watershed as most rivers were low runs. Maryland saw a great spawning

run in the Northeast River. Antecdotal report that Susquehanna had a good run as well.

- Les Kaufman is making progress on model to get information on water and land coverage to model riving herring production. He is also talking to others about ways to model historic data.

5). Public Comment

- None

6). Next Steps

1. Doodle polls for March 2016 meeting will be distributed end of December or beginning of January.
2. The NMFS Climate Science Strategy link will be distributed: http://www.st.nmfs.noaa.gov/ecosystems/climate/national-climate-strategy
3. Comments on the draft update on the data gaps and conservation ideas identified by the Fisheries Subgroup should be sent to Jason Didden.
4. Eric Schultz's paper will be distributed to the TEWG for consideration in identifying research priorities.
5. The TEWG members are encouraged to provide feedback to the chairs, co-chairs, Diane, and Kirby on how to improve this process, the conservation plan and suggest any future speakers that we should have.

Note: Draft Agenda and background materials can be found at: http://www.greateratlantic.fisheries.noaa.gov/protected/riverherring/tewg/index.html

TEWG Members

Trevor Avery
Mike Bailey
Dave Bethoney
Diane Borggaard
Alison Bowden
Kristen Byler
Hugh Carberry
Kiersten Curti
Kim de Mutsert
Gregory DiDomenico
Jason Didden
Phil Edwards
Ben Gahagan
Stephen Gephard
Eric Hilton
Paul Jacobson
Jeff Kaelin
Wilson Laney
Ben Lenz
Genine Lipkey
Dennis Logan
Eric Nelson
Janet Nye
Matt Ogburn
Fritz Rohde
Kirby Rootes-Murdy
Roger Rulifson
Lori Steele

Joseph Gordon
Ruth Haas-Castro
Carolyn Hall
Jon Hare
Daniel Hasselman
Lisa Havel
Pingguo He
Kevin Sullivan
Rob Vincent
Alan Weaver
Theodore Willis
Kim de Mutsert

Other Participants

Mary Andrews
Diana Baetscher
Purcie Bennett-Nickerson
Glenn Chamberlain
Heather Coll
Heather Corbett
Tara Froehlich
William Hoffman
Chad Holbrook
Andrew Jones
Aaron Kornbluth
Tara Lake
Derek Orner
Eric Palkovacs
Brad Schondelmeier
Sara Turner