

River Herring Technical Expert Working Group (TEWG)
Conference Call Summary
September 3, 2014
9:00 a.m. - 12:00 p.m.

The River Herring Technical Expert Working Group (TEWG) held its third conference call on September 3, 2014 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) will be using products from the TEWG for the development of a conservation plan to be made available on the TEWG website by March 2015. As noted on the last TEWG call, NOAA Fisheries had provided ASMFC with \$95,000 to support projects to help fill in data gaps and implement conservation actions for river herring, and we were planning to supplement these funds with up to \$100,000 to further support these efforts. NOAA Fisheries now intends to supplement this with an additional \$100,000 for an expanded joint conservation planning initiative (\$295,000 total). NOAA Fisheries and ASMFC intend to publicly announce an open and competitive request for proposals for identified research projects or conservation actions. This request will be formulated based on individual expert opinion received through the TEWG and its subgroups, public comment/input provided at the TEWG meetings, and factoring in specific river herring management and science needs. Additional specifics can be found in the request for proposals (e.g., Federal entities can be collaborators). Once the request for proposals is available, NOAA Fisheries will notify the TEWG along with the public.

There were reports provided on five initiatives related to the TEWG. An overview is provided below and additional information, including the full presentation can be found on the TEWG website (<https://www.nero.noaa.gov/protected/riverherring/tewg/index.html>):

- NOAA Habitat Blueprint Overview: The Habitat Blueprint is NOAA's strategy to integrate habitat conservation throughout the agency, focus efforts in priority areas, and leverage internal and external collaborations to achieve measurable benefits within key habitats such as rivers, coral reefs, and wetlands. Within each of the NOAA regions, there has been effort to form habitat focus areas. There were a series of nominations made for the Greater Atlantic Region (GAR) that were reviewed and scored based on NOAA's goals for this initiative. The Penobscot River in Maine and the Choptank River in Maryland were selected to be the focus areas for the GAR (visit <http://www.habitat.noaa.gov/habitatblueprint/> for more information).
 - Choptank River Habitat Focus Area: The Choptank River is the largest river in the Delmarva Peninsula. Due to its agriculturally-based land use, the water quality

has been degraded and is affecting the socioeconomic conditions. NOAA, the U.S. Army Corp of Engineers (ACOE), and the state have reached out to their partners to do some restoration activities.

The four major objectives for this focus area are:

1. Restoration and protection which includes the building of oyster reefs, surveying bottom areas, monitoring, wetland restoration, dam removal, and fish passage,
2. Building and sustaining important fish populations (including striped bass, shad, herring, American eel, and other species),
3. Documenting and quantifying the benefits oyster reefs and associated habitat provide,
4. Long-term community engagement.

(Contact Peyton Roberston and Paul Orlando for more information, including thoughts on opportunities to work together. Matt Ogburn, Smithsonian Environmental Research Center, is working in the Choptank river and noted data gaps such as what habitats river herring larvae and juveniles are using, as well as potential productivity and how restoration might enhance productivity.)

- Penobscot River Habitat Focus Area: The Penobscot River is the second largest river system in New England other than the Connecticut River. This habitat is important to multiple diadromous species including river herring (particularly alewife).

The four major objectives for this focus area are:

1. Restoring multiple diadromous species including river herring,
2. Improvement in recreational opportunities,
3. Dam removal,
4. Improvement in water quality.

- Currently, the two lower dams of the Penobscot River (Great Works Dam and the Veazie Dam) were removed in 2012 and 2013. Fishways have been built in the other dams, but there are still many barriers in the watershed. NOAA Fisheries' 2014-2016 funding for this area includes planning, communication, restoration and monitoring through partnerships with the Nature Conservancy, Maine Sea Grant, and Penobscot River Restoration Trust. The strategy includes identifying projects in three parts of the watershed such as alewife lakes. Monitoring is being incorporated and impacts/results include increased populations of river herring and other diadromous species. If the habitat is restored, it will exceed the

historical available habitat. Increased diadromous fish populations will improve the prey base, increase recreational opportunities, and restore the cultural heritage to the Penobscot Indian Nation.

(Contact Matt Bernier for more information, including thoughts on opportunities to work together.)

- National Fish and Wildlife's (NFWF) River Herring Initiative: NFWF is an independent working foundation that raises money for the U.S. Fish and Wildlife Service (USFWS) and NOAA. NFWF is working to restore the health of the marine and coastal environment through conservation initiatives such as the River Herring Initiative. River herring has been identified by the foundation as a focal species for their fish initiative, and is part of their ten year investment plan. This initiative seeks to support a 300% increase in abundance in key rivers on the east coast by:
 1. Promoting sustainable directed in-river
 2. Implementing incentives for fishing fleets to avoid bycatch in ocean fisheries
 3. Establishing population benchmarks to measure success of conservation actions
 4. Restoring access to key spawning nursery habitats

The ten year goal is to return to run counts seen in the mid 1980's at specific index sites (from Maine through South Carolina). NFWF has come up with different strategies to achieve this such as filling in river herring data gaps, tracking run counts, and restoring access to spawning and nursery habitats. The results of these initiatives are reported to the grantees. Due to the lack of run counts and low river herring population numbers, NFWF has shifted their emphasis for funding towards the mid-Atlantic and southern range of river herring.

For next steps, NFWF is waiting for the prioritization results by the Atlantic Coastal Fish Habitat Partnership (ACFHP) and the ASMFC. They are planning to support the implementation of a monitoring plan and restoration actions in the Chesapeake Bay region. NFWF will continue to announce two RFPs per year and will likely exit in 2018. Although there is a stronger tendency to support actual conservation projects (e.g., restoration), science is also important and has been funded by NFWF. (Contact Anthony Chatwin for more information.)

- Potential U.S. Fish and Wildlife Service funding for river herring: The USFWS has potential funding from a variety of different programs and grants. This include the Wildlife and Sport Fish Restoration Program (Sport Fish Restoration and State Wildlife Grants), Fisheries Program (National Fish Passage and National Fish Habitat), as well as other programs (North Atlantic Landscape Conservation Cooperative, Partners for Fish and Wildlife, and Coastal Program). The funding is very competitive, but some

suggestions included establishing relationships with the state and USFWS partners. Additionally, the State Wildlife Grant Program, Regional Conservation Needs Grants (e.g., Topic 7 originally designed for river herring work, but none has ever been funded) and National Fish Passage Program may be the most promising opportunities for USFWS funding for new river herring work. (Contact Ron Essig for more information, as well as review his presentation which provides important links.)

2). TEWG Updates (More detailed summaries of the subgroup calls and progress are available on the TEWG website¹)

General TEWG Updates (Coordinators: Diane Borggaard and Marin Hawk)

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 in these. The next full TEWG call is scheduled for December 16 from 1pm – 4pm. NOAA Fisheries and ASMFC will be distributing Doodle polls for meetings in 2015 around already established river herring meetings, and is interested in knowing of any other potential meeting conflicts. The TEWG calendar is an important resource for information on TEWG and subgroup meetings:

<https://www.nero.noaa.gov/protected/riverherring/tewg/calendar/index.html>).

Fisheries Subgroup (Co-chairs: Jason Didden and Mary Beth Tooley)

The subgroup looked at research needs identified through various forums and drafted a list of data gaps and conservation ideas. The focus included looking forward to what would need to be done to establish a good record of catch (targeted or non-targeted/incidental). A draft document on data gaps and conservation actions is available on the Fisheries Subgroup website and it would be helpful to consider any TEWG comments. The subgroup will consider providing individual opinion on priorities. The subgroup welcomes any feedback from the rest of the TEWG.

Individual expert opinion and comments made during the discussions include:

- A topic that needs to be integrated between the Fisheries and the Stock Status subgroups is interpreting how important the catch of river herring is as an overall threat to the species.
- The Genetics Subgroup research needs list is a good model to further the progress of the subgroup to incorporate estimated costs, etc.

Climate Change Subgroup (Co-chairs: Janet Nye and Mike Alexander)

The subgroup heard from several of its members as well as the community on the current climate change studies that are related to river herring. This occurred over the course of two subgroup

¹ <https://www.nero.noaa.gov/protected/riverherring/tewg/index.html>

meetings, and included a discussion of the data gaps and climate models that could apply to river herring. The presentations and summaries are available on the subgroup's website (<http://www.greateratlantic.fisheries.noaa.gov/protected/riverherring/tewg/climate/index.html>).

Stock Status Subgroup (Co-chairs: Kevin Sullivan and Michael Bailey)

The subgroup reviewed the identified research needs identified from various sources including the ASMFC's river herring stock assessment and NOAA Fisheries' Endangered Species Act listing determination. The subgroup has not been able to identify any data sources or models that have not already been identified so their products are going to be looking forward on what they believe is important for a better assessment in the future. To do this, the subgroup will provide a review of what is available and give their individual expert opinions on how it ranks with the other methods. The subgroup will provide input on their individual opinion on the importance of the projects in respect to time frames and costs. The subgroup has discussed ecosystem-based modeling, but most members have noted that the data is not yet available for this. This subgroup is a catch-all as most of the subgroups will be providing products for consideration. The subgroup welcomes any feedback from the rest of the TEWG.

Genetics/Hybrids/Landlocked Subgroup (Chair: Dan Hasselman; Eric Palkovacs provided an update on behalf of Dan)

The subgroup discussed tools that can be used to learn more about river herring stock structure, with a focus on genetics. West Coast participants who have experience with Pacific salmon genetics were invited to the subgroup to provide insight. A list of research needs is available on the subgroup's website (<https://www.nero.noaa.gov/protected/riverherring/tewg/genetics/index.html>). For example, a large topic of the subgroup was developing markers for river herring. Microsatellite markers are currently being used, but there are limitations on that method and other methods are being explored (e.g., polymorphism snips). There have been some cross-cutting issues that have been discussed (e.g., predation effects and the tools to look at their stomach contents would be of interest to the Species Interaction Subgroup). Some of the subgroup's next steps includes further engaging with scientists working on Pacific salmon (e.g., integration of otolith chemistry). Individual expert opinion and comments made during the discussions included the following:

- Roger Rulifson and Tom Schultz have samples of fish to support otolith chemistry. Anthony Overton also has samples. Roger and Eric will coordinate more after the TEWG call.

Habitat Subgroup (Co-chairs: Alison Bowden and Jeff Pierce)

Roger Rulifson created a spreadsheet to compile the existing research information since 2009. It revealed that there has been a lot of effort for habitat restoration. The spreadsheet is currently being refined and will soon be posted on the Habitat subgroup's website (<http://www.greateratlantic.fisheries.noaa.gov/protected/riverherring/tewg/habitat/index.html>). The subgroup welcomes any feedback from the rest of the TEWG on the spreadsheet.

The subgroup has also looked at the research priorities and data gaps that have been identified by ASMFC, NOAA and others. Some data needs discussed by the subgroup to-date include better monitoring in the mid-Atlantic, which is linked to Stock Status Subgroup, and habitat-related needs, which are linked to Climate Change Subgroup.

Species Interactions Subgroup (Chair: Eric Schultz)

The subgroup has been reviewing appropriate literature with a focus on predation, but information on parasites and diseases is also being reviewed. For example, there are species that rely on river herring populations in other respects (i.e a mussel that uses river herring as a secondary host). There is greatest interest and concern on the potential impact of predators in a top-down control (i.e. seals, striped bass, and catfish). The subgroup is compiling a spreadsheet that outlines the referenced studies (and others) in order to identify data gaps along the coast, as well as conservation projects. There has been some consideration into condensing this information into a database format. A main point that was discussed included the lack of understanding on how species interactions change with different geography, seasons, and genetics. Going forward, the subgroup would like to develop a way to know when an interaction is most likely to impact river herring (e.g., genetically and seasonally). The subgroup would like to consult with the Fisheries subgroup on crosscutting bycatch issues.

Individual expert opinion and comments made during the discussions included:

- There are few realistic things to do about predation. However, the subgroup can point out the other species in the ecosystem that depend on river herring.

Ecosystem Integration Committee (Co-chairs: Kim Damon-Randall and Jon Hare)

The EIC realized that a couple of the subgroups did not have a chance to meet before they had their meeting, so the chairs and co-chairs will try to make sure to schedule future meetings one week before the TEWG meetings. Each subgroup should meet before then.

One of the topics that was discussed was whether or not the conference calls were effective as compared to a face-to-face meeting. NOAA Fisheries and the ASMFC would rather put the money available towards research and conservation. A potential idea is that the TEWG could hold satellite location meetings which would allow members to attend a meeting that was close to them geographically. **The EIC would appreciate any feedback on this topic.**

The committee looked at the table they compiled that outlines the overlapping issues and which subgroups are relevant to those issues. The table will be updated on a routine basis, and the EIC welcomes feedback on this. The table will be a useful resource for future subgroup discussions.

3). General River Herring Updates and/or Initiatives

There were reports provided on three updates and/or initiatives related to the TEWG:

- Electronic monitoring (EM) and observer coverage – Overview and status: There is national interest to use electronic monitoring to monitor the fisheries. It is defined as the use of technologies – such as vessel monitoring systems or video cameras – to passively monitor fishing operations through observing or tracking. The EM website (<http://www.eminformation.com/>) has a lot of useful information. There have been a couple of workshops to discuss how to move forward with this technology. It has been recommended for the Georges Bank Cod Fixed Gear Sector to try out EM in 2015 and develop a cost assessment for EM in the groundfish and Atlantic herring fisheries. In the GAR, the planning for EM will continue at an upcoming New England Council meeting in the fall.

There has been interest from the New England and Mid-Atlantic Fishery Management Councils in increasing observer coverage in the mackerel and Atlantic herring fisheries, because of their interaction with river herring. Without additional money to put towards monitoring, NOAA Fisheries has been unable to approve and implement higher observer coverage levels recommended by the Councils. NOAA Fisheries is working with the Councils to develop an omnibus action to allow industry-funding as a monitoring tool for all fisheries managed by the New England and Mid-Atlantic Councils. This action would specify how to allocate the available Federal funding toward increased monitoring in Northeast Region fisheries. While this action focuses on observer coverage, the intent is to also allow for dockside monitoring and, perhaps, electronic monitoring to also be industry-funded. Both the New England and Mid-Atlantic Councils approved a draft range of alternatives for this action this past January. After the Councils make their recommendations, NOAA Fisheries will go through the ruling process for the action. The intent is to have industry-funded monitoring available as a tool for Northeast Region fisheries in 2015. (go to <http://www.mafmc.org/council-events/201412observer-funding-omnibus-pdftmat-meeting> for more information)

- Outreach
 - Coordination: There will be link added to the GARFO website (<http://www.greateratlantic.fisheries.noaa.gov/>) in the future to find out about NOAA funding opportunities. The GARFO is looking for opportunities for collaboration on press releases and web stories related to river herring. The intent is to publicize the work of the TEWG and the members' individual efforts (e.g., research activities). The press releases are sent to over 800 constituents and they are publicized on Twitter ([@NOAANERfish](https://twitter.com/NOAANERfish)). NOAA Headquarters will also sometimes run the stories. If there are any events or research projects that are focused on river herring, please contact Maggie Mooney-Seus (Marjorie.Mooney-Seus@noaa.gov; 978-281-9175).

- Diadromous Species Restoration Research Network (DSRRN): DSRRN was a National Science Foundation Research Coordination Network with the University of Maine, the University of Southern Maine, and several partners including individuals from state and federal agencies. The grant funded portion of the project began in 2008 and ended in 2014. Although there is currently no funding the Network itself still exists through use of the website, Listserve, and sponsored meetings.
- The goal of the Network is to maximize opportunities for science, networking, and developing communication tools related to all diadromous species (not just Atlantic salmon).
- DSRRN has managed databases including Knowledgebase (which pools several databases together) and the Penobscot River Science Exchange. The Network has also held and supported six workshops, two conferences, and a sponsored symposium (i.e., American Fisheries Society River Herring Symposium). Five articles have been published from the Network and more are expected. (Contact Barbara Arter for more information, as well as review her presentations.)
 - Those interested in publishing their findings presented at the American Fisheries Society River Herring Symposium in Quebec should contact Barbara Arter or Adrian Jordaan. Barbara will reach-out to Karin Limburg and Anthony Chatwin about funding ideas for publication.

4). Other Items

None

5). Public Comment

None

6). Next Steps

1. Future speakers include Carrie Nordeen (NMFS GARFO), the Department of Fisheries and Oceans Canada, and Carlos Garza (NMFS SWFSC). If anyone has other suggestions, including speakers from the American Fisheries Society meeting, please let Diane Borggaard or Marin Hawk know.
2. Once the presenters give their consent, the presentations will be available on the TEWG website.
3. A confirmation email regarding the TEWG's December meeting will be sent shortly.
4. Doodle polls for 2015 meetings will be sent in the future and TEWG members should identify any meeting conflicts.
5. Subgroup chairs/co-chairs appreciated feedback from the TEWG on the products produced by the subgroups to date (e.g., Fisheries Subgroup list of data gaps and

conservation ideas). Diane and Marin will also e-mail the TEWG about this, with a deadline to help subgroup's progress.

6. TEWG coordinators, as well as subgroup/committee chairs/co-chairs, will consider any suggestions noted above to inform future meetings.

Note: Draft Agenda and background materials can be found at:

<https://www.nero.noaa.gov/protected/riverherring/tewg/index.html>

TEWG Members

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Karin Limburg

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Matthew Ogburn

Eric Palkovacs

Fritz Rohde

Roger Rulifson

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