

**River Herring Technical Expert Working Group (TEWG)  
Ecosystem Integration Committee Webinar/Conference Call  
March 9, 2015  
1:00 p.m. – 2:30 p.m.**

**Summary**

**I. Overview**

The Ecosystem Integration Committee (EIC) of the River Herring Technical Expert Working Group was established to “ensure that the work of the subgroups is fully integrated to facilitate subgroup and TEWG discussions, as well as conservation planning development.” The EIC is comprised of chairs/co-chairs from the six river herring TEWG subgroups. Diane Borggaard and Jon Hare, co-chairs of the EIC, convened a call on March 9, 2014, to continue discussions with the committee. The draft agenda focused on providing updates on any cross-cutting and overlapping issues discussed in the subgroup meetings. The EIC also discussed ecosystem considerations. It was noted that Kirby Rootes-Murdy is the new ASMFC FMP Coordinator for shad and river herring, and will be replacing Marin Hawk’s role and responsibilities as ASMFC staff for the TEWG. This meeting summary includes the primary discussion topics and outcomes to contribute to future TEWG discussions. The information provided below reflects individual expert opinion and not consensus.

**II. Key Topics**

A list of individual expert opinion provided by EIC members or the public on various overarching topics is presented below:

- Ecosystem: The EIC met to have a discussion on ecosystem considerations based on Les Kaufman’s (TEWG member/Boston University) presentation and work. Les discussed some of his recent work on river herring, which has included efforts to construct approximate historic river herring catches. In conducting this work, Les and his group (Adrian Jordaan of UMass Amherst, historians at University of New Hampshire and researchers from Stony Brook University) have determined that catches of river herring were astronomically higher than today, possibly on an order of magnitude or more, indicating a significantly higher biomass than currently. In comparing the past to the present, Les offered that the whole ecosystem has dropped out in comparison to present times and it may be because of the reduction in river herring populations. Les has been working on a watershed study area with Massachusetts Audubon and they’re developing remote sensing algorithms to evaluate habitat change over time. Les proposed that a good thought experiment is to consider how much habitat is needed to produce enough river herring that could empty out to the Charles River and Massachusetts Bay, with the idea the ecosystem footprint of river herring is deeply entrenched in the watershed. Les brought up other species to consider as well, such as hickory and American shad, Smelt, and Sturgeon, stressing that they have to be reviewed as a whole piece.

The EIC and Les discussed the relevance of his work to the work areas the TEWG subgroups have delved into over the previous few months. All members were in agreement of the need to view river herring conservation on the watershed level to help consider the role of land use activities and their associated impacts on the ecosystems that river herring utilize. Among items that are in the works and related were the following:

*Dan Hasselman (Genetics subgroup chair):* The subgroup has recently submitted a paper for review on genetics on bycatch to stock of origin. This should be coming out in print by June.

*Alison Bowden (Habitat Co-Chair):* The habitat subgroup talked about land use and the linkages with water quality and the availability of water to get them through the summer. The subgroup identified water quality as a significant data gap. Dan mentioned the paper coming out also through this process, partnerships of Dan's group put in a proposal for this initiative's RFP and got money for bycatch research and new genetics techniques. The subgroup also has some NFWF funding to look at freshwater productivity all over New England. Alison also had a paper come out in August 2013 about life cycle approach after the California coho salmon plan.

*Eric Schultz (Species Interaction Chair):* The species interaction subgroup is interested in what other species may be affecting stronger river herring runs. The subgroup has scant data sets to work from. The stronger signals are the introduced catfishes in the Chesapeake. There are interested in looking at other species' impacts on their runs. Eric noted that the subgroup is trying to develop a means of quantifying those effects and interested in what historical analyses of what species have benefited from stronger river herring runs. It's not clear how under existing regulatory and conservation framework how their findings are going to be incorporated in the restoration of river herring.

The group members suggested that to further Les's work and interest in highlighting the need for a more ecosystem level approach for management, that he should consider the seeking to get his work published with the American Fisheries Society, as this may give it more exposure to others doing work and are interested in funding similar work. A few members of the TEWG agreed to follow up with Les offline on related areas of interest including Eric Schultz and Janet Nye.

- Chairs/co-chairs provided summaries of each of the subgroup's work to-date, including any larger considerations related to the subgroups for committee discussion.<sup>1</sup> Topics with broad implications related to the TEWG and its products included the following:
  - NOAA Fisheries and ASMFC are working on the conservation plan website. It will include the plan components with a brief summary and link back to the

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<sup>1</sup> See TEWG meeting and subgroup summaries for additional information on subgroup progress: <https://www.nero.noaa.gov/protected/riverherring/tewg/index.html>  
June 26, 2015

subgroup's website for meeting summaries and research needs. Every subgroup's white paper may be different. They hope have something available by March 31<sup>st</sup> but it will be an evolving conservation plan. NMFS acknowledged appreciation to the subgroups efforts to develop white papers to show progress and help support the River Herring Conservation Plan.

- *Jason Didden (Fisheries Co-Chair)*: Currently working on a white paper that will be distributed to the subgroup soon. The next step will be to distribute the white paper for subgroup comments. The Council is trying to get the SSC involved in river herring catch caps and is going to have an initial discussion of their needs. The Council is going to provide summaries of what the council has done related to river herring. Jason will share information as he prepares for the Council meeting.
- *Kevin Sullivan (Stock Status Co-Chair)*: The Stock Status Subgroup started on a white paper together. Progress so far has been to go over the identified research needs, discuss it as a subgroup and provide individual opinions. The main content of the white paper will be the completed list of research needs. Everyone has different ideas of what's most important but the subgroup is in the same direction.
- *Alison Bowden (Habitat Co-Chair)*: The Habitat Subgroup has not met since November. Alison did distribute a draft white paper to this subgroup. Alison has not received any comments yet but welcomes any. She will setup a future meeting. The subgroup has been focused on data needs, but can continue to discuss threats. For NFWF, Alison is writing a restoration plan to be delivered to NFWF on April 30<sup>th</sup>.
- *Dan Hasselman (Genetics Co-Chair)*: The Genetics Subgroup last met in October, and talked about potential impacts of landlocked populations and hybrids. Some presentations were presented at the larger TEWG. The subgroup's white paper is a table of research recommendations. Some of the needs that were identified as high priority have received some funding.
- *Janet Nye (Climate Change Co-Chair)*: The Climate Change subgroup was doing a series of conference calls with experts related to climate change. The last of those calls was in December where the subgroup looked to the future on how to project the effects of climate change. After that series, they put together a list of potential research priorities including comments and costs. Janet is in the process of summarizing those results which would be the basis of the white paper. In terms of research priorities, there was agreement of the first top 5 and bottom 3. The higher priorities included understanding what variables river herring are sensitive to, and river run data and juvenile data from a few river systems along the latitudinal gradient. Ocean acidification was thought are not as important, and other research needs were ranked low because some preliminary data is needed first.

### III. Key Outcomes

A list of individual expert opinions provided by participants related to specific threats, data gaps, research projects, conservation actions, information to be considered and/or monitoring (i.e., the identified research projects and/or conservation actions) is provided below. These outcomes are listed in no particular order and are related to cross-cutting and/or overlapping subgroup issues. See the background document and table for the full list of cross-cutting and overlapping issues at <https://www.nero.noaa.gov/protected/riverherring/tewg/ecosystem/index.html>

- Information To Be Considered (e.g., published papers)
  - A. Bowden. (2014) Towards a comprehensive strategy to recover river herring on the Atlantic seaboard: lessons from Pacific salmon. ICES Journal of Marine Science, 71(3), 666–671. doi:10.1093/icesjms/fst130
  - N. David Bethoney, Kevin D. E. Stokesbury, Bradley P. Schondelmeier, William S. Hoffman & Michael P. Armstrong (2014) Characterization of River Herring Bycatch in the Northwest Atlantic Midwater Trawl Fisheries, North American Journal of Fisheries Management, 34:4, 828-838

### IV. Next Steps

The EIC discussed the following next steps:

- The EIC will provide any comments on the overlapping issues documents to Diane and Kirby. The EIC will continue to think about how to address the overlapping issues to avoid duplication and facilitate coordination.
- The EIC and its subgroups will continue to discuss and/or think about ecosystem issues.
- NOAA Fisheries and ASMFC will follow-up on the EIC's ideas for possible speakers for a future TEWG meeting to discuss ocean migration via the incidental catch studies that can inform these efforts (e.g., S Mast and MADMF, Cornell).
- The next TEWG call is on March 19<sup>th</sup>, with a focus on tribal issues.

### V. Participants

- Committee Members

The affiliation of each member can be found on the TEWG EIC website (see below):

Alison Bowden  
Eric Shultz  
Jason Didden  
Mike Bailey  
Kevin Sullivan  
Dan Kircheis  
Dan Hasselman  
Mary Beth Tooley

- Speaker  
Les Kaufman
- Staff  
Diane Borggaard  
Kirby Rootes-Murdy  
Edith Carson

## **VI. Meeting Materials**

The following materials were provided to support the meeting. Additional information can be found at the TEWG EIC website:

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

- Draft Agenda
- Draft Word Document and Table of Overarching Issues