

River Herring Technical Expert Working Group (TEWG)
Species Interaction Subgroup Webinar/Conference Call
July 22, 2014
2:00 - 3:30pm

Draft Summary

I. Overview

The Species Interaction Subgroup of the River Herring Technical Expert Working Group was established to “consider issues surrounding the interactions between river herring and other components of the ecosystems they occupy rangewide (includes trophic interactions and ecosystem services in freshwater, estuarine and marine environments)” in order to help contribute to the expected products of the TEWG. Eric Schultz, chair of the Species Interaction Subgroup, convened a call on July 22, 2014, to discuss further steps for the review of scientific research. The draft agenda included reviewing the table which summarizes studies, identifying additional studies to be included, and hearing a presentation by Justin Davis of Connecticut Department of Energy and Environmental Protection and the University of Connecticut. Meeting materials included the most recent version of the Species Interaction Spreadsheet Evaluating Past Studies, and the presentation by Justin Davis. 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

The below includes a list of individual expert opinion provided by Fisheries Subgroup members or the public on various overarching topics:

- Speaker’s conclusions (full presentations available at the website below under “Meeting Materials”, which includes a completed list of authors) and individual comments include:
 - *Quantifying the impacts of striped bass predation on blueback herring in the Connecticut River*, presented by Justin Davis (University of Connecticut). Blueback herring and alewives in the Connecticut River have experienced a decline in mean size, a decrease by 2 years in mean age, and a loss of repeat spawning. Striped bass between the sizes of 600 and 900 mm prey heavily on herring, while larger striped bass (900 mm or larger) prey primarily on American shad.
- The subgroup will not focus as much on prey species of river herring. River herring are not such a specific predator that prey abundance would impact the species.
- The subgroup will not focus on landlocked species of river herring, but anadromous species instead.

- The subgroup is currently gathering information or studies that mention river herring. However, it is important to search for papers that focus on predators (striped bass, cormorants, seals) to ensure a well-rounded review.

III. Key Outcomes

The below includes 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). These outcomes are listed in no particular order, and those related to other subgroups are also included in the “Cross-Cutting Issues” section below).

a. Information To Be Considered (e.g., published papers)

- Davenport and Warmuth. 1965. Notes on the relationship between the freshwater mussel *Anodonta imbecilis* say and the alewife *Pomolobus pseudoharengus* (Wilson). *Limnology and Oceanography* 10, suppl.:R74-R78.
- Garman and Macko. 1998. Contribution of marine-derived organic matter to an Atlantic coast, freshwater, tidal stream by anadromous clupeid fishes. *Journal of the North American Benthological Society* 17:277-285.
- MacAvoy et al 2009. Anadromous fish as marine nutrient vectors. *Fishery Bulletin* 107:165-174.
- MacAvoy et al. 2000. Marine nutrient contributions to freshwater apex predators. *Oecologia* 122:568-573.
- Moring and Mink. 2002. Anadromous alewives, *Alosa pseudoharengus*, as prey for white perch, *Morone americana*. *Hydrobiologia* 479:125-130.
- Smith 1985. Recent Range Expansion of the Freshwater Mussel *Anodonta imbecilis* and Its Relationship to Clupeid Fish Restoration in the Connecticut River System. *Freshwater Invertebrate Biology* 4:105-108.
- Yako et al. 2000. Assessing the Contribution of Anadromous Herring to Largemouth Bass Growth. *Transactions of the American Fisheries Society* 129:77-88.

IV. Next Steps

The Species Interaction Subgroup discussed the following next steps:

- Marin will follow-up with Alan Weaver to discuss multi-year diet studies that he is involved with, and possibly invite individuals to present.
- Results of the spreadsheet need to be condensed further. Subgroup members will brainstorm.
- Marin and Eric will work to fill out the spreadsheet and additional papers. Further refinement of categories will occur.

V. Cross-Cutting Subgroup Issues

The following cross-cutting subgroup issues were discussed and will be further considered by the TEWG and its Ecosystem Integration Committee.

- Bycatch in fisheries was discussed. There is interest in the relative impact of predation and bycatch on river herring populations.

VI. Participants

a. Subgroup Members

The affiliation of each member can be found on the subgroup roster available at the TEWG Species Interactions Subgroup website:

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

Eric Schultz

Kim Damon-Randall

Dan Kircheis)

Jim Hawkes

Joseph Gordon

Jason Didden

Theo Willis (for Karen Wilson)

b. Public

Tim Huss (Environmental Conservation Officer; Long Island District)

Justin Davis (Connecticut Department of Energy and Environment)

c. Staff

Marin Hawk

Diane Borggaard

VII. Meeting Materials

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

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

a. Draft Agenda

b. Species Interactions Spreadsheet Evaluating Past Studies