

TEWG Stock Status Subgroup White Paper
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Stock Status Subgroup Charge: Consider and test appropriate methodologies to quantitatively assess river herring populations rangewide (e.g., consider data poor approaches, identify data needs).

Members: Seventeen experts in the area of river herring and the assessment of their stocks status representing US Atlantic coastal states, federal government, academia, Canadian commercial fishing industry, and regional fishery management councils, participate in the subgroup. The information provided below reflects individual expert opinion and not consensus of the subgroup.

http://www.greateratlantic.fisheries.noaa.gov/protected/riverherring/tewg/stocks/river_herring_stock_status_subgroup_060414.pdf

Summary of Process and Outcomes: To date the Stock Status Subgroup has met 3 times, in May and August of 2014 and February 2015. All meetings were open to the public. Discussions and efforts of the subgroup have focused on refinement of threats, development of priorities for applied research, and methods of monitoring to fill key data gaps. These efforts have been deemed necessary for a more robust assessment of the species stock than has been possible to date.

Research Priorities: The Stock Status Subgroup recognizes that the extensive work and data collection that was required for both the ASMFC Benchmark River Herring Stock Assessment and the Endangered Species Act listing determination (e.g., NEFSC trend analysis) has incorporated much of the existing datasets. To that end, the subgroup believes that much of the vision of the subgroup review will be “forward looking”. The focus is to identify areas where gaps existed in the needed data for recent efforts. The subgroup is also aware of newer methods and has solicited recommendations of data elements that could be included in current and future data collection programs as a way to help move away from data poor assessment models for future assessments.

The subgroup identified data gaps and research suggestions by drawing from the recent ASMFC stock assessment, Council documents, the ESA status review process, the input of the full TEWG, and the input and advice of Stock Status Subgroup members. All subgroup members were asked to provide their individual opinion on ranking for each of the suggestions, including the relative cost (1-9K, 10-99K, 100-199K, >200K), time frame (Exists Already, Short-term, and Long-term), and comments. Below is a summary from the eight subgroup members who provided their expert opinions.

During subgroup discussions of ideas and methods of filling identified gaps, a repeated emphasis was put on an identified need of an effort to standardize data collection efforts as much as possible across the species ranges of river herring, both in the data elements collected and in the methods used wherever possible. Not surprisingly, the ranking exercise returned that need for standardization as the top group summarized opinion. The other research priorities that ranked high in the expert opinions of subgroup members were assessment and validation of current aging techniques, development of biological benchmarks (e.g., fecundity-at-age, mean weight-at-age, mortality schedules), and methods to determine better estimates of mortality. As much of the subgroup discussion and focus has been on the identification of datasets needed to better assess river herring population levels through alternate modeling techniques, it logically follows that subgroup members ranked investigating the use of MARSS and DBSRA models among the lowest priorities, as they are not likely able to provide better assessment until the gaps in available datasets are filled.

The full list of identified research recommendations and the summarized results from Stock Status Subgroup members can be found at:

http://www.greateratlantic.fisheries.noaa.gov/protected/riverherring/tewg/stocks/stock_status_subgroup_research_needs_spreadsheet_responses-ordered.pdf

Cross-Cutting Subgroup Issues: Most of the topics of discussion by other subgroups in the areas of connectivity, data, funding, habitats, policy, population structure, predation, and reproduction have been identified as cross-cutting issues with the Stock Status subgroup. It is an opinion of the Stock Status Subgroup members that many of the issues and hopeful outcomes of each of the other subgroups (Climate Change, Fisheries, Habitat, Species Interactions, and Genetics/Hybrids/Landlocked) will be valuable for use in future assessments and stock status classifications of river herring. However, these datasets would not become available immediately and would require at least a short time series of collection (i.e., 5 to 10 years) to be incorporated into modeling with sufficient confidence of the stock assessment scientists.

Future Focus: Subgroup discussions have noted other species considered to be data poor, which could serve as examples or provide tools to benefit the characterization of river herring stock status. Other species of conservation concern, such as the suite of diadromous fishes that occurs along the Atlantic Coast, and Federally listed Pacific salmon species, offer helpful models and tools to consider. The subgroup is planning to invite experts on these topics to share their experience with similar data poor species assessment and management approaches to help inform river herring stock status discussions. Additionally, the subgroup will monitor progress of its identified research projects and revisit its list as needed.