Workshop Title:
Assessing the Chesapeake Bay Forage Base: Existing Data and Research Priorities

Submitted by:
Tom Ihde (STAC) and Sustainable Fisheries Goal Implementation Team (SFGIT)

Workshop Steering Committee:
Chris Bonzek – Fisheries Data Analyst at the Virginia Institute of Marine Science with extensive knowledge of the various Virginia and coastal surveys and leader of VIMS diet lab.
Nancy Butowski – Program Manager of Fishery Management Plans and Fish Passage at MD DNR; extensive knowledge and support of SFGIT work.
Pat Campfield – Director of the Fisheries Science Program at the Atlantic States Marine Fisheries Commission (ASMFC) and SFGIT member; knowledge of Chesapeake Bay fisheries science needs and application of science to management.
Jack Frye– Virginia Director of the Chesapeake Bay Commission leading policy development and legislative outreach and SFGIT member; experience in conservation, recreation and nutrient reduction.
Bill Goldsborough - Fisheries Director for the Chesapeake Bay Foundation and SFGIT member; extensive background policy and regional fisheries management.
Ed Houde– Fisheries Scientist at University of Maryland Chesapeake Biological Laboratory with extensive expertise in fisheries oceanography, recruitment, population dynamics and ecosystem management and a member of the Lenfest Forage Fish Task Force.
Tom Ihde – Member of STAC, fisheries ecosystem modeler; background in fisheries stock assessment.
Lee Karrh – Chief of Living Resource Assessment Division at MD DNR, Chair of Chesapeake Bay Program's SAV Workgroup, and Habitat GIT member; background in biology.
Rochelle Seitz – Runs the Community Ecology Laboratory at the Virginia Institute of Marine Science focused on benthic ecology; current research includes benthic predator-prey relationships and food web dynamics.
Bruce Vogt - Manages NOAA Chesapeake Bay Office's Ecosystem Science and Synthesis, Coordinator for the SFGIT; background in benthic ecology and resource management.
Emilie Franke – Staff; Chesapeake Research Consortium, SFGIT Staffer
Andrew Turner – Staff; SFGIT Support at NOAA Chesapeake Bay Office

Endorsed by:
Peyton Robertson (Chair, SFGIT) and Mike Slattery (Chair, Habitat GIT)

Description of Workshop
The SFGIT proposes a workshop to be held in late summer or early fall 2014. The workshop will identify: (1) forage groups of the Chesapeake Bay that are critical to assess for fisheries management; (2) existing data for these groups; (3) data gaps; and (4) strategies to improve the quantification of the forage base of this system. These strategies will both provide guidance in understanding and using current forage data, and allow for future integration of new research findings and enhanced approaches.

The outcomes of this workshop will be both timely and essential to fulfill a commitment by the SFGIT made in the current draft of the Chesapeake Bay Program's new Watershed Agreement: "*By 2016, develop a strategy for assessing the forage fish base available as food for predatory species in the Chesapeake Bay"*, enabling fishery management decisions to be made in an improved ecosystem context. Each of the products from this workshop will be an important resource as the SFGIT develops the Management Strategy to address this New Agreement forage outcome.

Workshop Products

- Literature review (pre-workshop)
- Data review (pre-workshop) - Identify and compile the current data sets and surveys for presentation and discussion at the workshop
- Clearly define "forage base"—a prioritized list of the species or species groups comprising it
- Recommendations of approaches to use existing data to develop a suite of Bay-specific indices or metrics to quantify the forage base, including specific strategies to adapt these metrics as new information becomes available.
- Identification of high priority research needs and monitoring gaps that would contribute to understanding the trophic transfer between forage species and their predators
- Recommendations on how to begin addressing the highest priority research needs

Justification for Workshop

Forage species play an integral role in the Chesapeake Bay food web by supporting higher trophic level production. Except for menhaden, many forage species are not directly managed by the ASMFC or Chesapeake Bay jurisdictions, but these species are critical to sustaining economically valuable commercial and recreational fish species in the Bay. Better understanding of the forage base and predator-prey interactions involving these valuable species would be an important step toward ecosystem-based fisheries management in the Chesapeake Bay.

The Fisheries Ecosystem Planning for the Chesapeake Bay report (2006), stresses the importance of the "complex of species," identifying predator-prey dynamics as a significant factor affecting the production of fisheries in the Chesapeake. The report stresses the need to not only identify key predator and prey relationships for target species, but to quantify those relationships as well. The products resulting from the proposed workshop will provide managers with the essential information to begin to accomplish both of these difficult tasks.

A forage workshop is especially relevant this year as the current draft of the Chesapeake Bay Program's new Watershed Agreement contains a specific forage outcome. Although the importance of the outcome was recognized by the SFGIT Executive Committee and the Chesapeake Bay Program leadership, it was also made clear at the December 2013 meeting of the full SFGIT that much uncertainty surrounds this topic moving forward. Specifically, there is no clear definition of what the forage base consists of, what data already exists, where there are data gaps, how we can begin to quantify Chesapeake forage and how that information can be used in management decisions. This workshop is designed to gather the necessary scientific expertise to address these uncertainties and to recommend feasible approaches to improve our collective understanding of the forage base, thereby improving the management of the valuable fisheries that depend on this forage base. Workshop products will be invaluable to the SFGIT in the months following the proposed workshop, since the SFGIT will be responsible for developing an accompanying forage fish Management Strategy by summer 2015.

There is significant interest in this workshop from a broad range of perspectives across the Bay as seen in the Steering Committee membership (see above). The Steering Committee assembled for this workshop ranges across jurisdictions and across disciplines, and includes species experts, researchers, modelers, managers, and data experts. The Steering Committee is an informed group aware of the New Agreement outcomes as well as the SFGIT involvement and discussion on the forage topic.

Workshop Synthesis

Workshop discussions and outcomes will be documented in a final workshop report that will be distributed to the Chesapeake Bay Program and interested parties. The final report will be released within 90 days following the workshop.

Products (see list above) will focus on the use of existing forage data, and strategies to provide estimates of forage where data are lacking. Where data are lacking the report will recommend research priorities. The final report will provide guidance on the development of forage-specific abundance indices and forage indicators for the Chesapeake system.

Pre-workshop Preparation

The Steering Committee will identify and reach out to appropriate scientists and data experts when designing the workshop, ensuring that the full scope of necessary expertise is available, that up-to-date and accurate information is presented efficiently and logically, and to ensure that fruitful discussion will result. The Steering Committee will have regular planning meetings in advance of the workshop.

All relevant background information (scientific literature) and current monitoring/survey data sets will be identified, compiled, and sent to the workshop participants in advance of the workshop. These preparatory steps will be compiled as additional products of the proposed workshop, and will be made available to both the Fisheries and Habitat GIT's, as well as to others working on forage, both within the Chesapeake and elsewhere.

Workshop Speakers and Attendees

The Steering Committee will identify and convene experts in forage species, predator-prey interactions, stock assessments, monitoring, and fisheries management to address the workshop objectives and significantly contribute to the workshop products. In addition to Chesapeake Bay region experts, the Committee will invite experts from other regions to offer outside perspectives and knowledge to the workshop.

The Steering Committee's broad range of expertise and experience will ensure the most relevant group of experts is assembled. The Committee themselves acknowledge the benefits of their diverse membership, and are looking to add one or two more Steering Committee members before the end of the workshop proposal process. These additions will further strengthen the current Committee's expertise by adding a jurisdiction fisheries manager and an expert on benthic species.

Budget Justification and Logistics

The workshop will be held over two days between August-October 2014. Workshop participation will be by invitation only and target 25-30 participants. A significant portion of the budget will be dedicated to cover travel expenses for key experts within and outside the Chesapeake Bay region. Possible workshop locations include academic institutions that conduct research and/or surveys of forage species in the Chesapeake Bay region.

Estimated Budget

Venue - $1,000	Catering - $2,500	Travel for participants - $6,500

Total requested from STAC - $10,000

Past STAC Workshop Proposals from the SFGIT

The SFGIT has previously submitted one workshop proposal to STAC titled "Initiating a Campaign for Land Conservation and Fisheries Health" in March 2013. This proposal was not accepted by STAC for FY13 funds.