June 2018 Meeting Summary

Smithsonian Environmental Research Center
June 20-21, 2018

The **Sustainable Fisheries Goal Implementation Team (SFGIT)** provides the forum to discuss fishery management issues that cross state and other jurisdictional boundaries. Institutions represented on the SFGIT include state management agencies, federal agencies, industry groups, non-profits and academic institutions that meet as the full team twice a year in June and December.

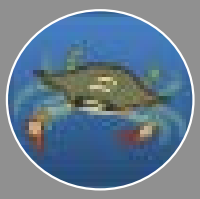
This meeting was unique because, for the first time, the SFGIT met jointly with the Habitat GIT to identify ways for both groups to work collaboratively on funded projects through a group breakout session divided up by geographic area. On the second day of the meeting, the SFGIT focused attention on blue crab advisory report recommendations and heard project updates from Chesapeake Bay Program (CBP) partners, before discussing future directions for the SFGIT.

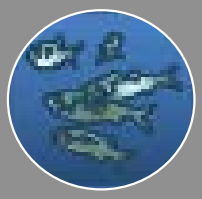
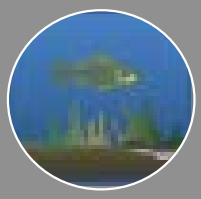
2014 Chesapeake Watershed Agreement

Goal: Protect, restore and enhance finfish, shellfish and other living resources, their habitats and ecological relationships to sustain all fisheries, provide for a balanced ecosystem in the watershed and Bay.

SFGIT Outcomes:

Blue Crab | Oysters | Forage | Fish Habitat



Meeting Topics


Smithsonian Environmental Research Center

- The Smithsonian Environmental Research Center (SERC) was well-situated to host this meeting as the largest site for environmental research, education, and public access on shorelines of the Chesapeake Bay. SERC is setting an example by taking on pressing environmental issues through the global partnerships and local programs that the applied science center leads.
- For more information about SERC, see Matt Ogburn's presentation.

Ariel view of SERC Campus. Photo from Matt Ogburn.

Goal Implementation Team Funding

- Chesapeake Bay Program (CBP) Funding is one way to finance potential projects that accomplish GIT goals. For FY2018, project proposals are due by **July 20**.
- Project proposals will be ranked based on the same criteria used last year, with particular emphasis on projects that accomplish cross-outcome benefits for multiple GITs. For example, a currently funded project is using citizen science for submerged aquatic vegetation (SAV) habitat monitoring (see presentation).
- To find out more about the FY2018 GIT funding process, see Kristin Saunders' presentation.

Fish Habitat Action Team Workshop

- The Fish Habitat Action Team (a workgroup under the SFGIT) recently hosted a workshop from April 25-26, 2018 in Richmond, VA with the goal of identifying factors that influence fish habitat condition and vulnerability in the Chesapeake Bay watershed.
- Regional experts worked together to narrow down a list of 88 variables, which will be used to produce a refined decision-making tool for restoration and management with a high enough resolution to use at a local level.
- Meeting participants gave strong positive feedback about the value of a regional fish habitat assessment specific to the Chesapeake Bay, with caution that the work must be easily compatible with the existing tools used by decision-makers.
- For more details about variable ranking and results, see Gina Hunt's presentation.

Word cloud of variables influential to fish habitat. Figure from Gina Hunt.

US Army Corps of Engineers Comprehensive Water Resources and Restoration Plan

- The US Army Corps of Engineers (USACE) delivered an update on the Chesapeake Bay Comprehensive Water Resources and Restoration Plan, which will be used to assist in implementation of the 2014 Agreement.
- Multi-scalar geospatial analyses were used at the bay-wide, state, and watershed levels to create a restoration roadmap. For each watershed, critical focus areas were identified along with opportunities recommended for restoration projects. This information is highly useful in guiding spatially-specific, high impact actions.
- To view priority area maps for each watershed, see Angie Sower's presentation.

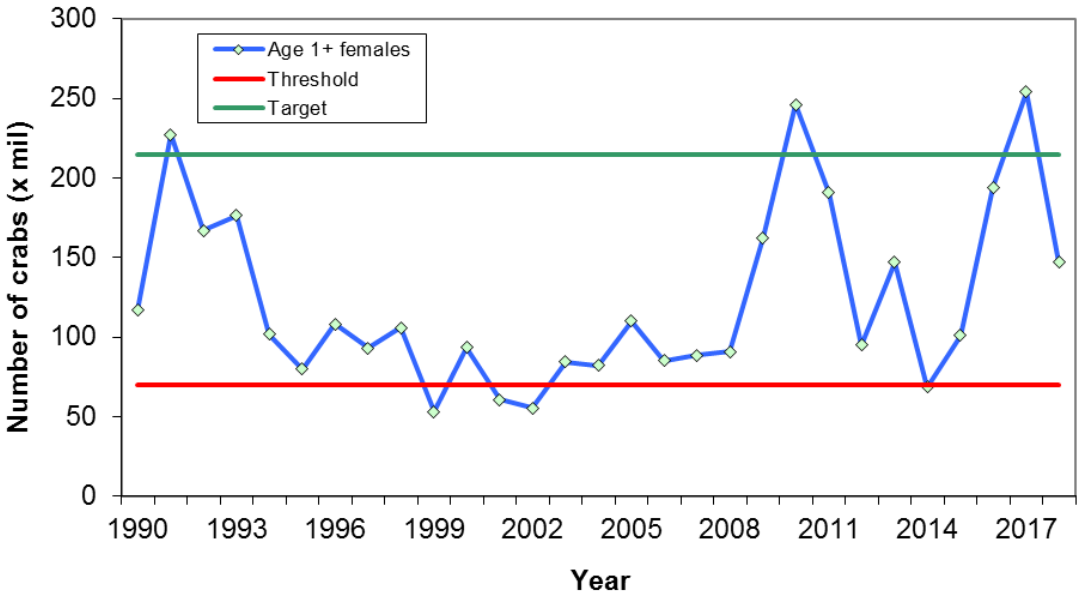
Group Breakout Session

Chesapeake Bay Watershed.

- During the afternoon group breakout session of the joint meeting, participants brainstormed potential project ideas that would deliver multiple co-benefits to both GITs outcomes. Participants were divided into the following groups based on their geographic expertise:
  - Choptank
  - Middle Peninsula
  - Upper Susquehanna/Opequon
  - Lower Susquehanna/Anacostia
- GIT leadership will prioritize proposals and submit for funding consideration by **July 20**.

Blue Crab Advisory Report

- Data from the 2017-18 annual Winter Dredge Survey collected by Maryland Department of Natural Resources (MD DNR) and Virginia Institute of Marine Science (VIMS) were analyzed by the Chesapeake Bay Stock Assessment Committee (CBSAC) and compiled in the 2018 Advisory Report.
- CBSAC reported that based on current estimates of abundance (below) and exploitation, the blue crab stock is not depleted and overfishing is not occurring.

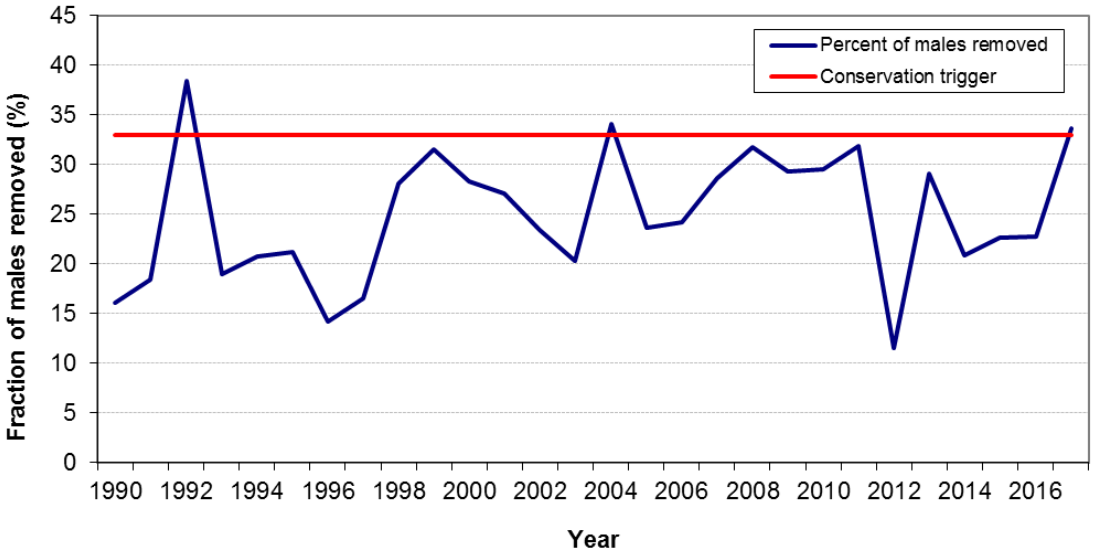


Adult (age 1+) female blue crab abundance based on results from 2017-18 Winter Dredge Survey. The 2018 spawning stock abundance was estimated at 147 million, a decrease from last year but above threshold level.

- After a brief discussion, the SFGIT officially endorsed the 2018 Advisory Report by CBSAC.
- Short-term management recommendations were to improve commercial catch data and estimates of recreational harvest, potentially using harvest reporting to increase accountability.

Blue Crab Male Reference Points

- The male blue crab exploitation rate increased to 33%, slightly above the current conservation trigger (see below), prompting discussion about whether male-specific management might be warranted if exploitation of males remains at current levels. However, no immediate action or change in management strategy was recommended.



The percentage of males removed from the population each year by fishing. Male exploitation rate (proportion removed) was estimated at 34% for 2017, exceeding the conservation trigger.

- Critical data gaps were identified to improve blue crab management, including estimates of recruitment, influence of male abundance on the overall population, environmental factors related to recruitment variability and other sources of mortality.
- For results from the 2017-18 Winter Dredge Survey, see Glenn Davis' presentation.

MARYLAND DEPARTMENT OF NATURAL RESOURCES

Striped Bass Forage Indicator

- Under the 2014 Agreement forage goal, partners agreed to develop a simple, inexpensive indicator for assessing forage base available as food to predatory species, including resident striped bass in Maryland, which will be meaningful information to fishery managers.
- Researchers at MD DNR found that proportion of visible body fat is a good metric to assess striped bass condition and used fall diet as an indicator of prey availability, with spot and menhaden found as influential forage species.
- See Jim Uphoff's presentation for more information on striped bass diet.

Striped bass (Morone saxatilis).

Climate Indicators

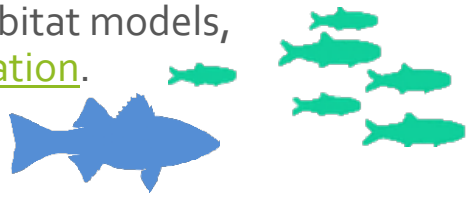
- Eastern Research Group is currently working in collaboration with the Bay Program to develop a suite of climate indicators that will help to accomplish the climate resiliency goal under the 2014 Agreement.
- Indicators were scored based on data quality with stakeholder input, and binned into 3 categories:
  - Physical climate trends
  - Ecological and societal impact
  - Programmatic progress towards resilience
- Meeting participants were helpful in sharing their thoughts on how the model could best incorporate fisheries information, including the possibility of considering a fish populations distribution indicator for species which have shown temperature-driven shifts to more northern latitudes (e.g. flounders).
- For progress to date on the development of climate indicators, see Chris Lamie's presentation.

ERG

The NOAA Chesapeake Bay Office (NCBO) Fisheries Research Program funded projects in 2017 to better understand forage habitat. Updates on the progress of these projects were delivered at the meeting by scientists from VIMS and SERC.

Virginia Institute of Marine Science Update

- Researchers at VIMS are using habitat suitability modeling to quantify fish-habitat relationships for 4 dominant forage species in the Bay:
  - bay anchovy, spot, weakfish, and spotted hake.
- Data will be incorporated from fishery surveys, a spatio-temporal model of dissolved oxygen, and a 3D hydrodynamic model. Initial results indicated seasonal variation in habitat suitability index.
- For more information on habitat models, see Mary Fabrizio's presentation.



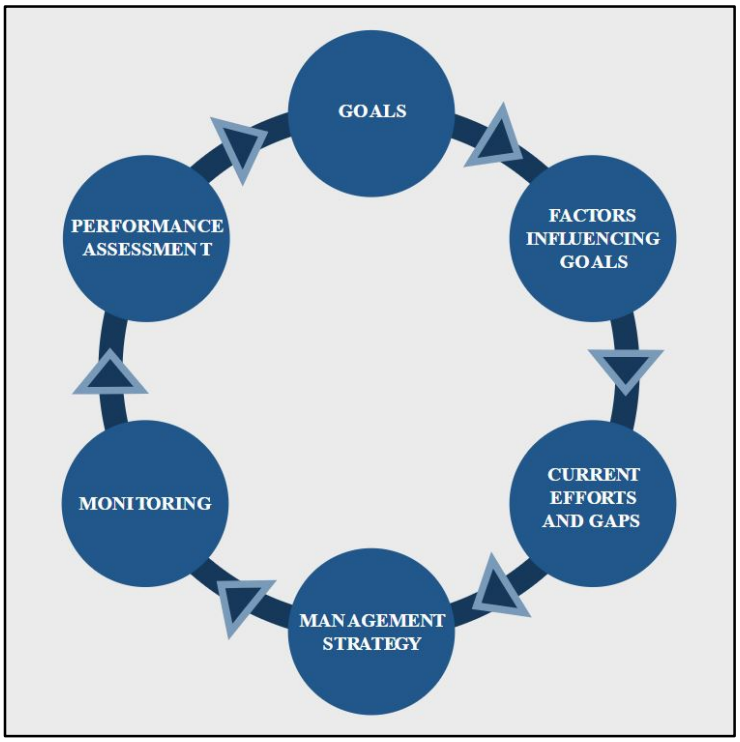
Smithsonian Environmental Research Center Update

- SERC researchers are using several approaches to quantify the quality of shallow tributary habitats in the Bay and to identify key prey species.
- Genetic barcoding methods will help to identify gut contents that were previously impossible to ID, leading to better understanding of key forage species for striped bass juveniles and sub-adults. This study will also provide data on parasite diversity in the striped bass food web.
- To learn more about the research methods used at SERC, see Matt Ogburn's presentation.

Both projects have application for informing ecosystem-based fisheries management, particularly for striped bass and other predator species in the Bay.

What's Next?

- Funding is available for FY2018 from the EPA to enhance the CBP's ability to achieve goals under the 2014 Agreement. For more information on previously funded projects, see Sara Coleman's presentation.

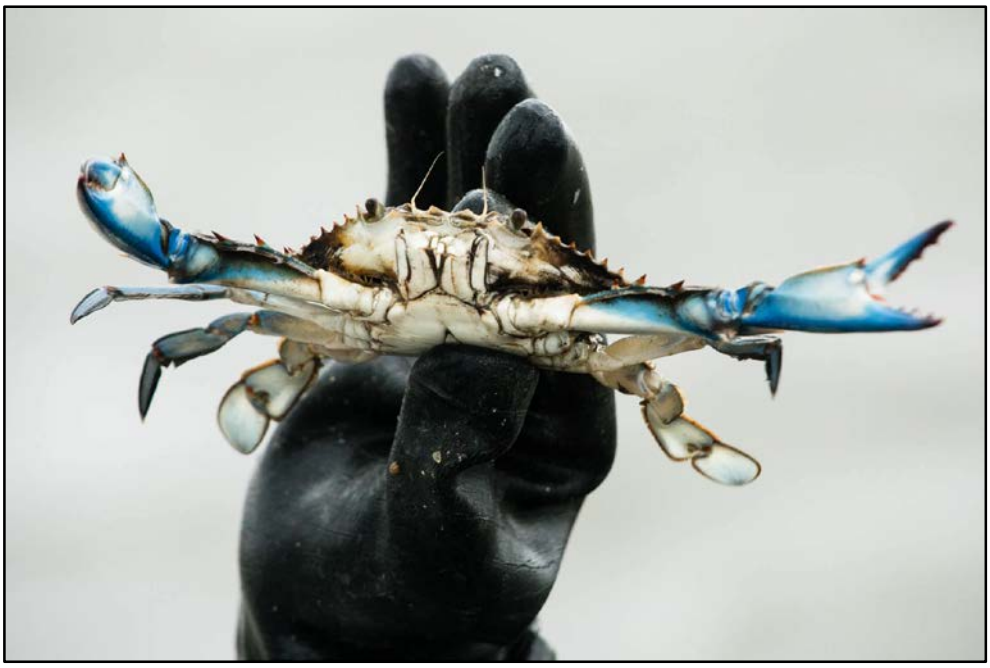


Adaptive management cycle (CBP).

- The meeting concluded with a discussion among members about how the SFGIT can continue to best serve Chesapeake Bay jurisdictions. Keeping in mind the process of adaptive management, members must continue to evaluate best practices and look for ways to improve cross-jurisdictional cooperation.
- Bruce Vogt reviewed language from the 2015 Charter and highlighted some of the areas where the SFGIT has been most impactful (examples).
- Most meeting participants agreed that the Fisheries GIT has done excellent work over the last several years, but there are always new issues to consider (e.g. male reference points for blue crabs).

Role of the Sustainable Fisheries Goal Implementation Team

The SFGIT focuses on advancing ecosystem-based fisheries management by using science to make informed fishery management decisions that cross state boundaries.



Blue crab caught in oyster dredge. Photo by Will Parson (CBP).

SFGIT has played a critical role in funding science to inform management and bringing together key decision makers in the Chesapeake Bay region. Some examples of major accomplishments in the past include bringing attention to the ecosystem damages caused by invasive catfish species and developing clear metrics for evaluating the success of oyster restoration efforts. Members of SFGIT will continue working towards greater collaboration among fisheries management jurisdictions and integrating more holistic methods of understanding ecosystem-level interactions to achieve outcomes.

Meeting details can be found at the CBP website.

Thank you to all meeting presenters and participants for contributing to the success of our biannual meeting!