



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

Scientific and Technical Advisory Committee Workshop  
November 12-13<sup>th</sup>, 2014  
Chesapeake Biological Lab, Solomons, MD

**Workshop Goals:** 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.

### **Wednesday, November 12<sup>th</sup>**

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| <b>9:00 am</b> | <b>Light breakfast</b>   |
| <b>9:30 am</b> | <b>Welcome – Tom Miller (UMCES), Tom Ihde (NOAA) and Ed Houde (UMCES)</b> <ul style="list-style-type: none"> <li>• Introductions</li> <li>• Review workshop agenda and objectives</li> <li>• Facilitator introduction and ground rules. <ul style="list-style-type: none"> <li>○ Alex Wiker – Pennsylvania State University, Sustainability Institute</li> </ul> </li> </ul>                                   |
| <b>9:45 am</b> | <b>Fisheries Management Panel</b> <ul style="list-style-type: none"> <li>• MD, VA, and PRFC managers will briefly discuss current efforts to manage, monitor, and protect forage species (5 min each)</li> <li>• Panel questions for each: What is important to your jurisdictions concerning forage? What do you hope to get out of this workshop?</li> <li>• Questions from workshop participants</li> </ul> |

### **Workshop Theme I: Chesapeake Bay Forage Base and Managed Predators**

Outcomes: Highlight pre-workshop products. Common understanding of the diets of managed predators and of the data currently available for Chesapeake Bay forage species.

Product: An organized list of Chesapeake Bay forage species/species groups to be considered throughout the workshop.

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| <b>10:15 am</b> | <b>Overview of Theme I</b>  |
| <b>10:20 am</b> | <b>What is considered “forage”? What managed predators do forage species support? - Chris Bonzek (VIMS) and Tom Ihde (NOAA)</b> <ul style="list-style-type: none"> <li>• Results of fish predator diet analyses based on fishery-independent survey data in the Chesapeake Bay.</li> <li>• Initial list of Chesapeake Bay forage species based on importance in fish</li> </ul> |

predator diets.

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| <b>10:50 am</b> | <b>Full group discussion – List of forage species to focus the workshop</b> <ul style="list-style-type: none"> <li>• New insights and questions from workshop participants</li> <li>• What are we missing from the list?</li> <li>• List, categorize, and prioritize species</li> </ul> |
| <b>11:05 am</b> | <b>Data Review and Literature Review – Emilie Franke (Chesapeake Research Consortium)</b> <ul style="list-style-type: none"> <li>• 20 min. each for literature and data review</li> <li>• Review of pre-workshop products and state of knowledge</li> </ul>                             |
| <b>11:45 am</b> | <b>Wrap-Up up discussion/questions</b>  |
| <b>12:00 pm</b> | <b>Lunch (provided)</b>   |

## Workshop Theme II: Limiting Factors for Forage Species

*Outcome: Identification and understanding of the most significant stressors for forage species in the Chesapeake Bay.*

*Product: Organized and prioritized list of limiting factors and proposed actions or monitoring recommendations.*

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| <b>12:30 pm</b> | <b>Overview of Theme II</b>  |
| <b>12:40 pm</b> | <b>Primary factors identified, current knowledge discussed<br/>(short presentations, 15 min each)</b> <ul style="list-style-type: none"> <li>• Habitat and Climate Change– Donna Bilkovic (VIMS)</li> <li>• Land use/water quality/multiple stressors– Rochelle Seitz (VIMS) and Denise Breitburg (SERC)</li> <li>• Seabird predation and trends – Diann Prosser (USGS)</li> <li>• Harvest – Ed Houde (UMCES)</li> </ul> |
| <b>1:40 pm</b>  | <b>Breakout groups</b> <ul style="list-style-type: none"> <li>• What are the most important limiting factors to consider?</li> <li>• Proposed research or actions to address limiting factors?</li> </ul>  |
| <b>2:40 pm</b>  | <b>Full group discussion – Discuss research or management recommendations from breakout groups</b>   |
| <b>3:20 pm</b>  | <b>Break (refreshments provided)</b>   |

## Workshop Theme III: Forage Metric/Indicator Development

*Outcome/Product: Proposed metrics to track the status of forage species in the Bay and strategies to develop those using currently available data.*

Chesapeake Bay Watershed Agreement Forage Outcome:

*“By 2016, develop a strategy for assessing the forage fish base available as food for predatory species in the Chesapeake Bay.”*

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| <b>3:40 pm</b> | <b>Overview of Theme III</b>  |
| <b>3:50 pm</b> | <b>Forage issues into management - tracking status, accounting for external forcings, and recognizing unknowns (15 min each):</b> <ul style="list-style-type: none"> <li>• North Atlantic – Sarah Gaichas (NOAA)</li> <li>• Pacific Ecosystem – Yvonne deReynier (NOAA)</li> <li>• Atlantic States Marine Fisheries Commission – Genny Nessler (ASMFC)</li> </ul> |
| <b>4:35 pm</b> | <b>Chesapeake Bay metric/indicator needs –Mike Wilberg (UMCES)</b> <ul style="list-style-type: none"> <li>• Introduction of example indicators and/or approaches for Chesapeake Bay species</li> </ul>  |
| <b>4:45 pm</b> | <b>Breakout groups</b> <ul style="list-style-type: none"> <li>• Proposals for Chesapeake Bay forage metrics/indicators</li> <li>• Unique focus for each breakout group</li> </ul>   |
| <b>5:30 pm</b> | <b>Recess</b>   |

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**Thursday, November 13<sup>th</sup>**

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| <b>8:00 am</b> | <b>Breakfast (provided)</b> |
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**Workshop Theme III Continued: Forage Metric/Indicator Development**

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| <b>8:30 am</b>  | <b>Breakout groups resume – Proposals for Chesapeake Bay forage metrics/indicators</b> <ul style="list-style-type: none"> <li>• Continue discussion (30 min) and summarize group ideas (10 min)</li> </ul> |
| <b>9:10 am</b>  | <b>Full group discussion – Forage metric/indicators</b> <ul style="list-style-type: none"> <li>• Product: list of proposed metrics/indicators</li> </ul>   |
| <b>10:10 am</b> | <b>Break (refreshments provided)</b>   |

**Workshop Theme IV: Research Needs and Management Recommendations**

*Outcome/Product: Prioritized list of research needs and management recommendations, including near-term actions to begin addressing the highest priority needs.*

- 10:25 am**      **Overview of Theme IV - Tom Ihde (Versar/NOAA) and Ed Houde (UMCES)**
- Summary of research needs, data gaps, and management recommendations that have been identified up to this point during the workshop
- 10:35 am**      **Breakout groups**
- Add to list of research needs - what has been missed so far?
  - Prioritize research needs
- 11:15 am**      **Full group discussion – Prioritize research needs**
- Have we made progress on any of these needs already?
  - Highest priority next steps?
- 12:00 pm**      **Lunch (provided)**
- 12:40 pm**      **Forage Management Needs**
- MD, VA, and PRFC fishery managers will briefly reflect on the workshop discussions and identify workshop outcomes that could address their jurisdictions' needs moving forward. (10 min for each jurisdiction)
  - Questions/comments from workshop participants
- 1:25 pm**      **Full group discussion – Refining prioritized management needs and actions**
- Refine indicator proposals and research & management recommendations for workshop report
- 2:00 pm**      **Break (refreshments provided)**

## Workshop Wrap-Up

- 2:15 pm**      **What have we learned? What do we recommend? Planning for the near-term? Long-term?**
- 4:00 pm**      **Workshop Adjourns**
- 4:00-4:30 pm**      **Steering Committee Wrap-Up**
- Assign roles and commitments to compile notes for final report
  - Report and summary for full Fisheries-GIT meeting in December