Forage Outcome: Moving Forward

Sustainable Fisheries Goal Team

June 20, 2017

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Forage Outcome

Continually improve the Partnership's capacity to understand the role of forage fish populations in the Chesapeake Bay. By 2016, develop a strategy for assessing the forage fish base available as food for predatory species in the Chesapeake Bay.

Forage Action Team Accomplishments

- 2014 STAC Forage Workshop *(Chesapeake Research Consortium)*
- Management Strategy and Workplan
- GIT-funded research

  -Forage Indicator and Consumption Profiles Development (Baywide)

  -Environmental Drivers of Forage

  -Citizen Science Sampling for SAV/Forage
- Public Outreach--Bay 101 Video "Fish Food"

  (Chesapeake Bay Program http://www.chesapeakebay.net/videos/clip/bay_101_fish_food)

Chesapeake Bay Program
Science. Restoration. Partnership.

Broader Context

- Maryland DNR: Developing nutrition and forage availability indicators for striped bass
- Atlantic States Marine Fisheries Commission: Considering ecological reference points for menhaden
- Mid-Atlantic Fishery Management Council: Unmanaged Forage Amendment and Ecosystem Approach to Fisheries Management

December 2016 Fisheries Goal Team Feedback

Breakout groups emphasized the need to:

- Document the components of the "strategy" referenced in the outcome and explain how we will use the data/analysis/reports from the past few years to move forward.
- Identify regional differences in forage trends and predator consumption within the Bay.
- Evaluate water quality, habitat and other environmental drivers in addition to predation.

Continually improve the Partnership's capacity to understand the role of forage fish populations in the Chesapeake Bay. By 2016, develop a strategy for assessing the forage fish base available as food for predatory species in the Chesapeake Bay.

Forage Team Discussion

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

What should the "strategy" look like? How can the strategy effectively provide guidance moving forward?

Forage Team Discussion

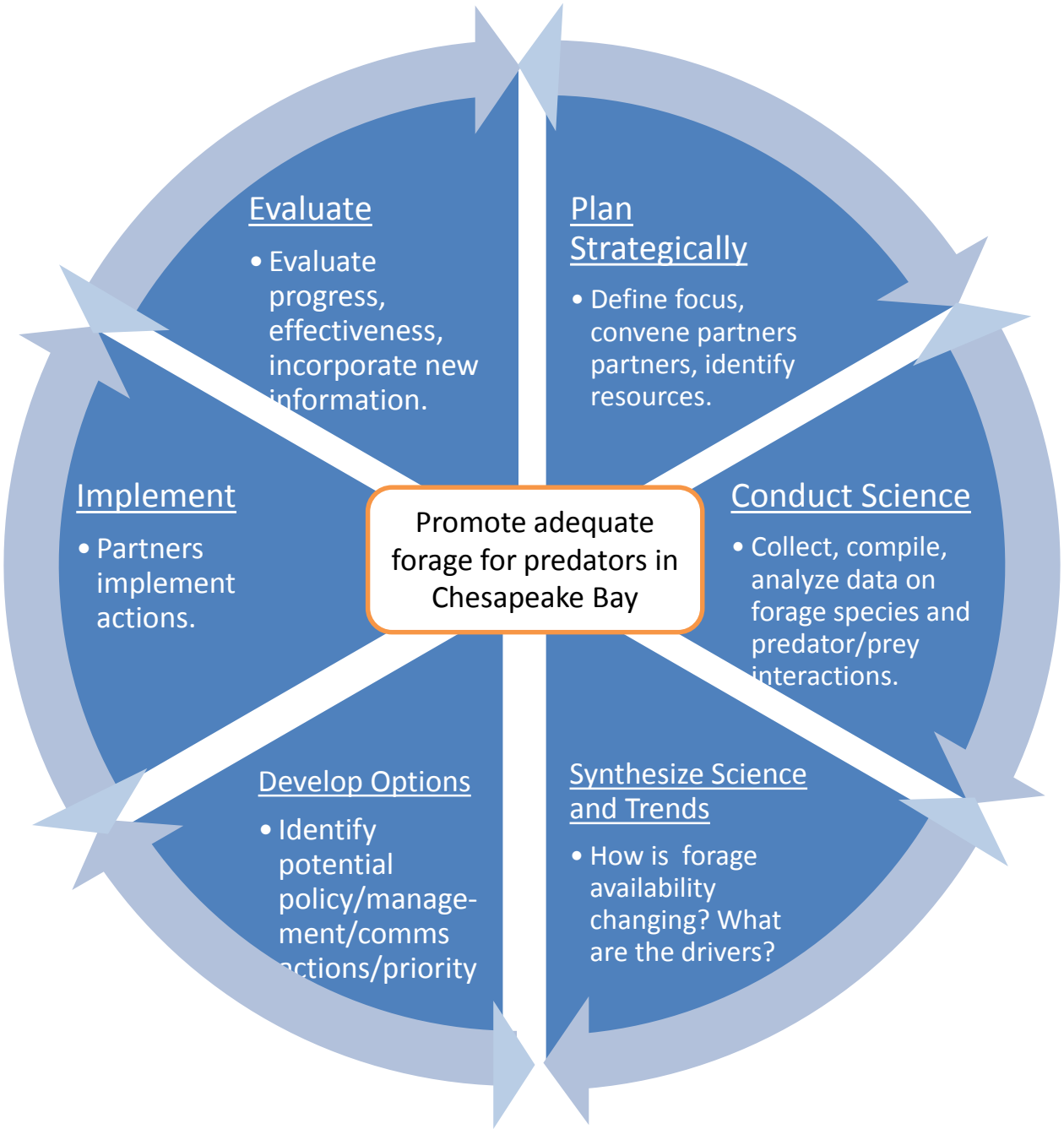
Strategy Components

- Two categories of "management"
  - fisheries management (managed species)
  - habitat/ecosystem management (restoration, water quality, shorelines, etc.)
- Need to involve managers in the process
  - What are the questions managers want answered?
  - What data/synthesis can the forage team deliver?
  - What are potential actions?
- Outreach/Communication
  - Synthesis
  - Public audience

Forage Action Team: Strategy Moving Forward

MANAGEMENT

- Fishery management
- Ecosystem management

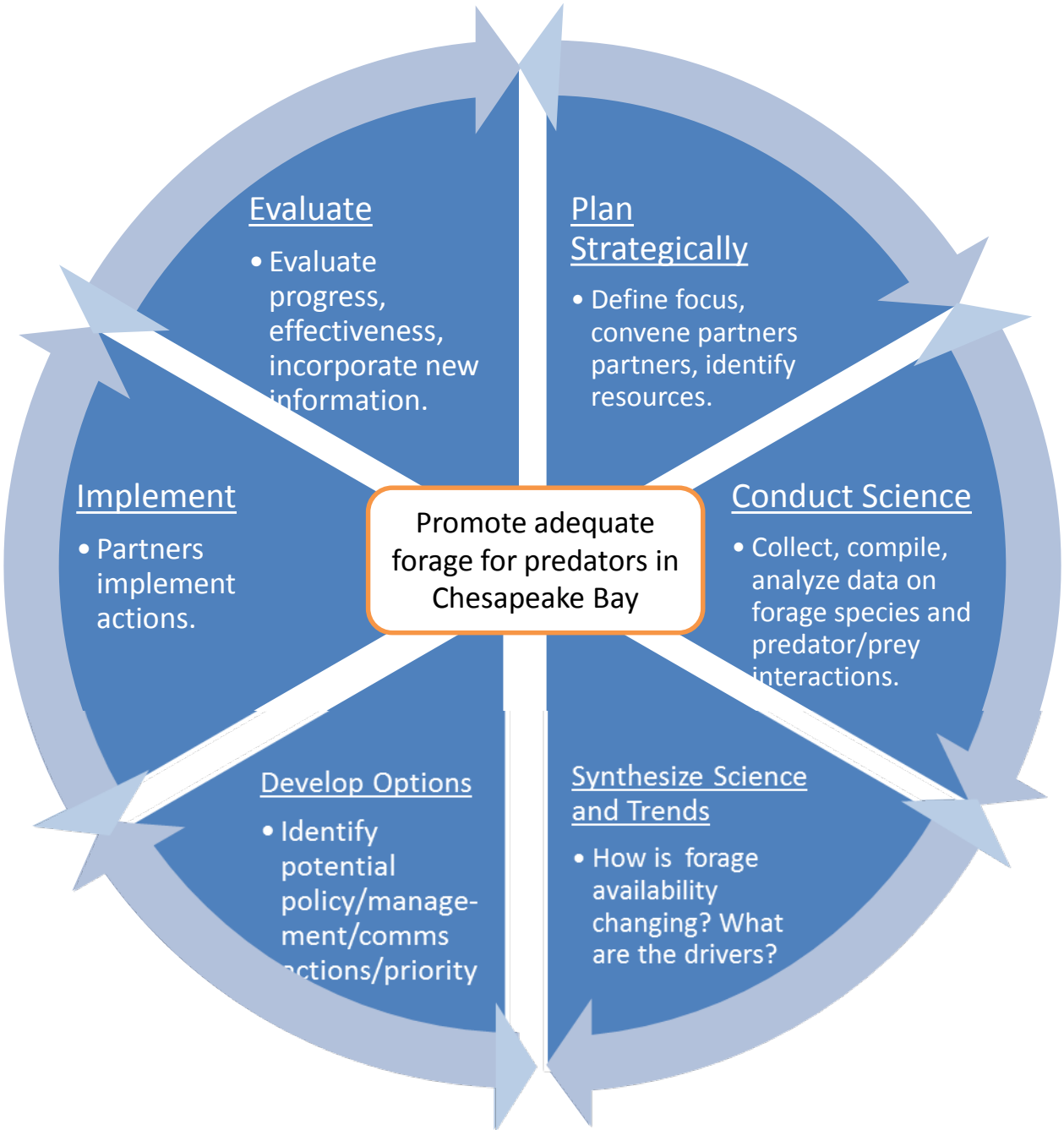


SCIENCE

Forage Action Team: Strategy Moving Forward

MANAGEMENT

- Fishery management
- Ecosystem management



SCIENCE

Next Steps

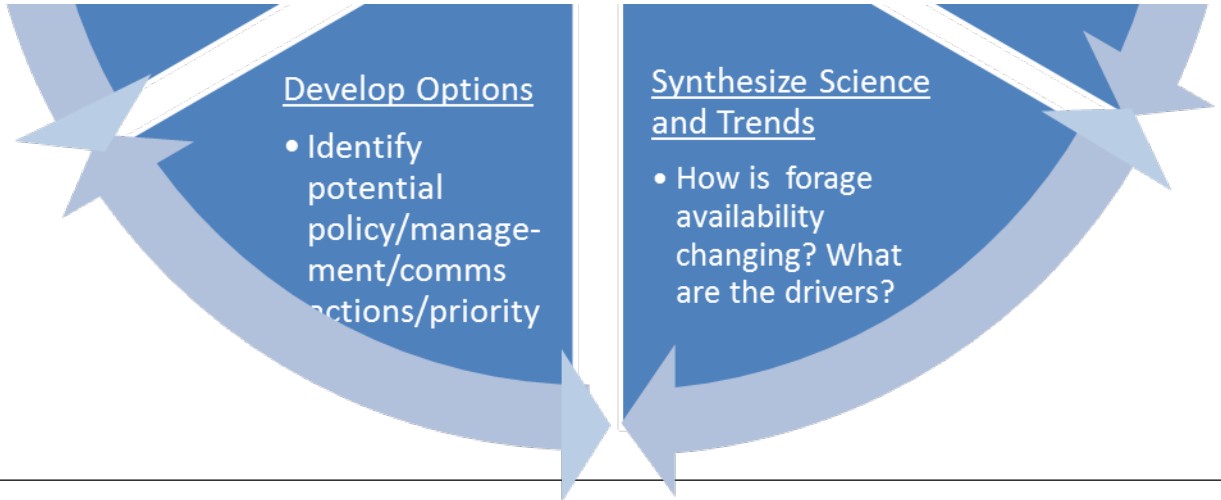
- Forage Action Team to synthesize science

  -Baywide Forage Indicator and Consumption Profiles

  -Environmental Drivers of Forage

  -MDDNR indicators

- And discuss with managers how to focus synthesis and deliver data to address priority questions



QUESTIONS?

UMCES

Forage Indicators Study Year 1

2015-16

4 Indicators of Forage Status & Trends:

- Relative prey abundance / biomass
- Diet-based indices
- Prey / Predator ratios
- Consumption / Prey ratios

Buchheister A. & E.D. Houde. 2016. Forage indicators and consumption profiles for Chesapeake Bay fishes.
http://www.chesapeakebay.net/publications/title/forage_indicators_and_consumption_profiles_for_chesapeake_bay_fishes_final

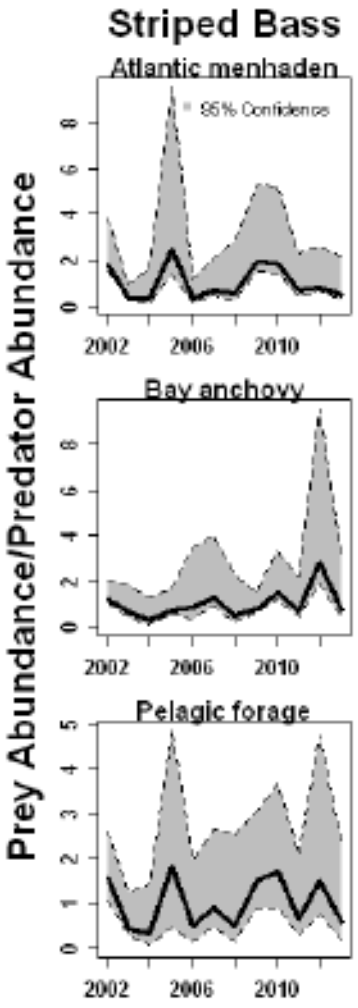
UMCES, Humboldt State, VIMS

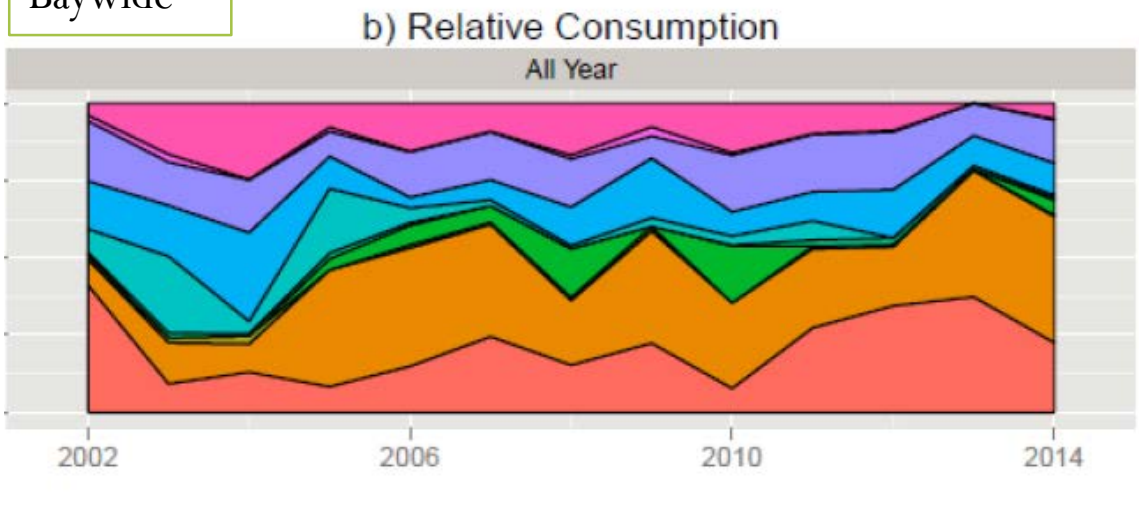
Forage Indicators Study Year 2

2016-17

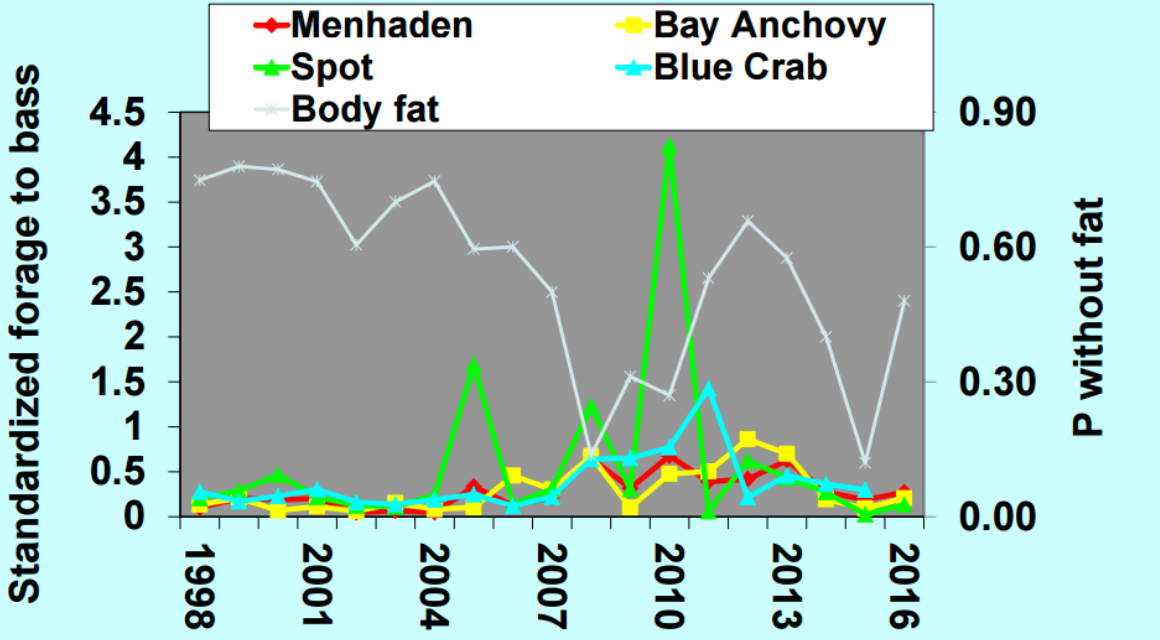
- Environmental drivers related to/causing variability of forage abundance and predator consumption

Baywide





Maryland



Buchheister A. & E.D. Houde. 2016. Forage indicators and consumption profiles for Chesapeake Bay fishes. Final report submitted to the Chesapeake Bay Trust. University of Maryland Center for Environmental Science, Chesapeake Biological Laboratory. Solomons, MD. 52pp.

Uphoff, J. H., Jr., and coauthors. 2016. Marine and estuarine finfish ecological and habitat investigations. Performance Report for Federal Aid Grant F-63-R, Segment 6, 2015. Maryland Department of Natural Resources, Annapolis, Maryland.