## Forage Strategy

Forage Action Team

February 16, 2017

## Forage Outcome

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

## 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.

\*past reports/data analysis/indicator options, background information, process for moving forward

## Question for today

...By 2016, <u>develop a strategy</u> 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 pull together progress so far and provide guidance moving forward?

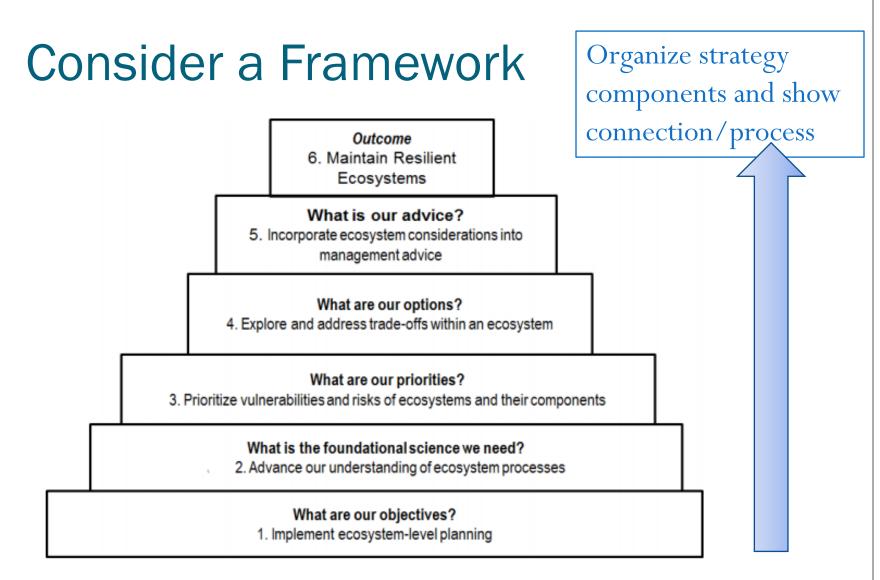


Figure 1. Illustration of the interconnected and interdependent nature of the major EBFM guiding principles.

NOAA NMFS Ecosystem-Based Fisheries Management Policy (May 2016)

https://www.st.nmfs.noaa.gov/ecosystems/ebfm/creating-an-ebfm-management-policy

## Apply to Forage Outcome

Outcome • Adequate forage to support predators in the Bay.

#### Advice

(to mgmt)

• Establish, reference points, thresholds, monitoring protocols, etc.

#### **Options**

(tradeoffs)

• Identify management objectives and potential policy and management levers.

#### **Priorities**

(investigate vulnerabilities and risk)

• Trends in data and proposed indicators; identify red flags; discuss drivers of forage and predation trends.

#### Foundational Science

(understand ecosystem processes)

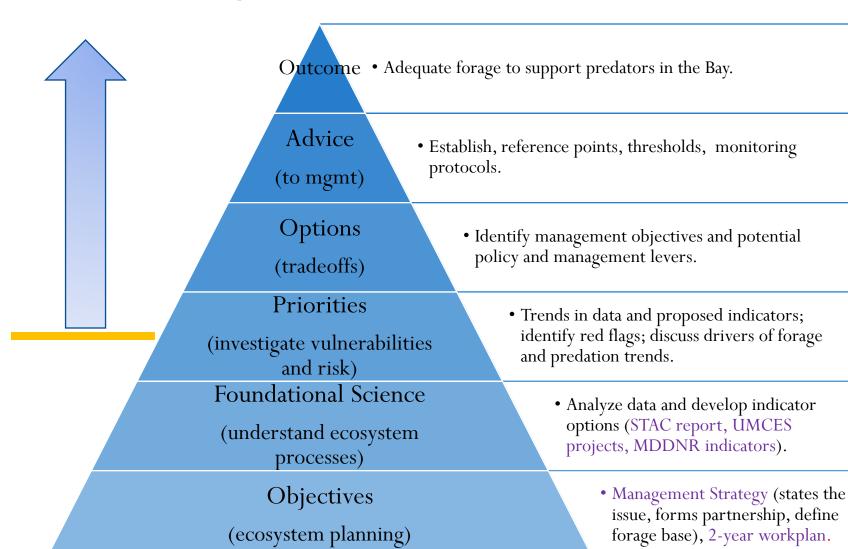
 Analyze data and develop indicator options (STAC report, UMCES projects, MDDNR indicators).

#### Objectives

(ecosystem planning)

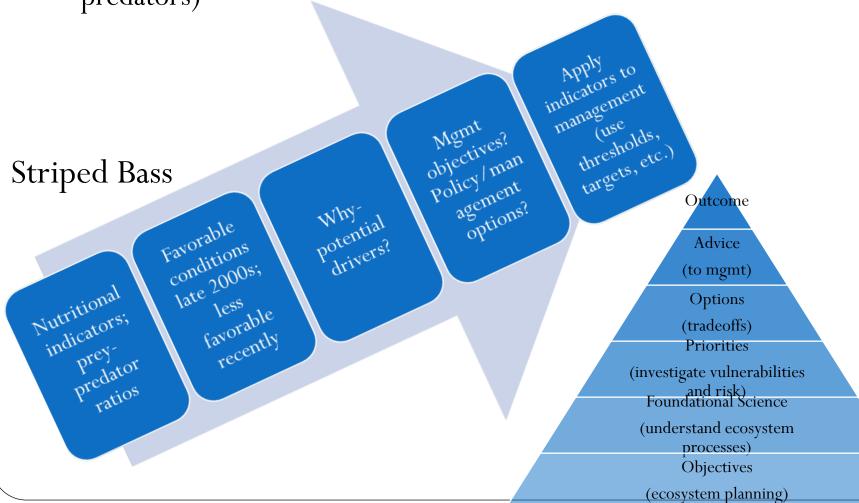
• Management Strategy (states the issue, forms partnership, define forage base), 2-year workplan.

# Progress to date: Foundational science and some priorities



## Species-specific component?

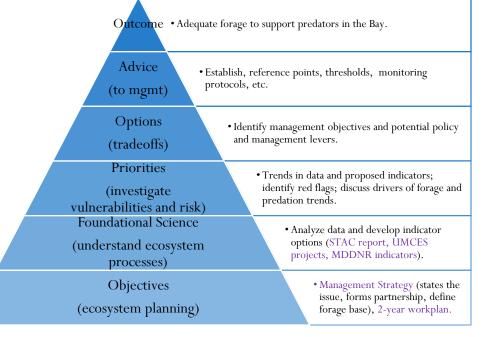
• Move up the pyramid for each species/species groups (forage and predators)

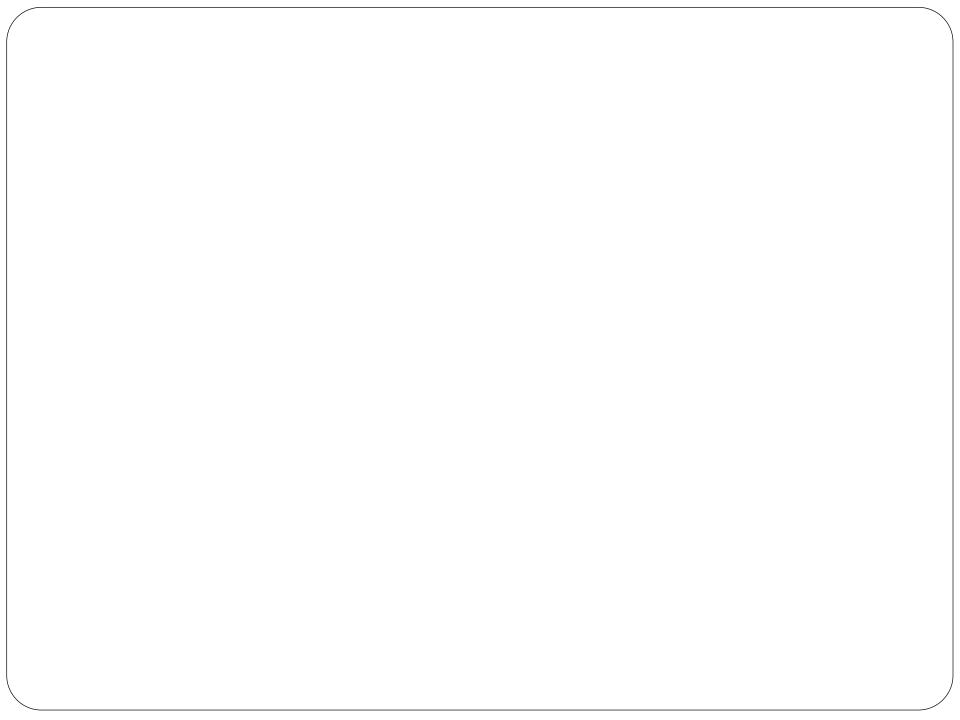


### **Decision Today**

Do you support using the proposed framework (pyramid) to generally frame the forage strategy?

- 1. Yes.
- 2. Yes, but with modifications to the proposed framework.
- 3. No.





Nutritional indicators; prey-predator ratios

Favorable conditions late 2000s; less favorable recently

Whypotential drivers? Mgmt objectives? Policy/man agement options? Apply indicators to management (use thresholds, targets, etc.)