Indicators to Assess and Manage Progress towards the Chesapeake Bay Watershed Agreement

THE CHESAPEAKE BAY PROGRAM INDICATORS FRAMEWORK

NATIONAL CONFERENCE ON RESTORATION | DOREEN VETTER | APRIL 19, 2016
Today’s talk

I. New CBP Indicators Framework – why, what & how
II. Adaptive Management & Collaboration
III. Communicating our Work: Transparent and Accountable
IV. Next Steps
New Directions

1. New Goals
2. New Outcomes
THE ADAPTIVE MANAGEMENT DECISION FRAMEWORK

NEW guiding principle of the Watershed Agreement.
Reflecting the Need

Outdated Indicators Framework
Indicator Framework Goals

1. Align indicators to the CBP Agreement.
2. Support adaptive management.
3. Communicate progress.
Chesapeake Bay Decision Framework

For each outcome:

1. Set goals.
2. Adaptively manage.
3. Identify factors influencing work toward goals.
5. Identify gaps or overlaps in existing management efforts.
6. Develop a monitoring program.
7. Develop a management strategy.
Information Needs

- What KEY factors impact achievement?
  → INFLUENCING FACTORS
- Are we doing what we said we would do?
  → OUTPUTS
- Are we achieving the outcome?
  → PERFORMANCE
Chesapeake Bay is a well-studied ecosystem
What's DIFFERENT?
Support CONNECTIONS between outcomes
Performance Indicators

Blue Crab Abundance <Performance>

Blue Crab Abundance = 215M Female Crabs
Simplified Decision Framework

1. **Set Desired Outcome**
   - Consider long-term trends and futures assessment

2. **Consider Influencing FACTORS**
   - Which key factors can you control?

3. **Establish Strategy & Produce OUTPUTS**
   - Did we do what we said we would?

4. **Assess PERFORMANCE & Examine Trends**
   - Did our outputs have the desired effect?

5. **Test Key Assumptions**
   - Does new information require change?

6. **Refine**

7. **Revisit**
How does it work in practice?

Blue Crab Abundance = 215M Female Crabs

SAV Abundance <Infl. Factor>

Blue Crab Mgmt. <Output>

Blue Crab Abundance <Performance>
Cross-outcome connections are vital!

SAV Abundance = 90K Acres by 2017

- Water Clarity (Infl. Factor)
- Forest Buffers (Output)
- SAV Abundance (Performance)
Cross-outcome collaboration vital to achieving goals
...and necessary with limited resources.
Communicating Our Work
TRANSPARENT AND ACCOUNTABLE
Managing Watershed Restoration

ChesapeakeStat improves information-sharing and decision-making at the Chesapeake Bay Program. As we work toward the goals of the Chesapeake Bay Watershed Agreement, we invite you to access reliable, results-oriented data and information about our progress and hold us accountable for our work.

The Evolution of Accountability at the Chesapeake Bay Program

Since its formation, the Chesapeake Bay Program has been guided by science-based goals. To assess our progress toward these goals, we track a range of environmental indicators. Accurate data and open assessments ensure our work is transparent and allow our partners, stakeholders, and oversight groups to hold us accountable for the work that we do.

This timeline highlights important moments in our history of sharing information and making strategic decisions to protect and restore the watershed.

ChesapeakeStat is a landmark accountability tool designed to help federal, state, and local governments track progress toward the Chesapeake Bay Watershed Agreement. It includes current, up-to-date and accessible data and information on environmental health, habitat restoration and funding.
**Goals**

**Sustainable Fisheries**

Habitat loss, poor water quality, and harvest pressure threaten the sustainability of the Chesapeake Bay's recreational and commercial fisheries. Sustaining fish and shellfish populations supports a maritime culture, a strong economy, and a healthy ecosystem.

**Goal**

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

**Progress Increased**

**Outcomes**

- Blue Crab Abundance
- Blue Crab Management
- Fish Habitat
- Forage Fish
- Oysters

**Blue Crab Abundance**

Maintain a sustainable blue crab population based on a target of 215 million adult females. Use the best available science to refine population targets through 2025.

**Progress**

Between 2016 and 2020, the abundance of adult (age 1+) female blue crabs in the Chesapeake Bay increased 82 percent from 101 million to 184 million. This number is above the 70 million threshold but below the 215 million target.

**Vital Habitats**

- Black Duck
- Brook Trout
This outcome's technical-specific reference points were recommended by the 2011 blue crab benchmark stock assessment and adopted in 2012. Where adult female blue crab abundance fails to improve, management decisions for the blue crab fishery are expected to improve.

Blue crabs support commercial and recreational fisheries across the region. Because there is natural variability in annual blue crab populations, blue crab abundance is expected to fluctuate from year to year. A number of environmental factors can affect blue crab abundance, including water temperature, coastal current, weather patterns and natural predation. Since data collection began in 1900, the abundance of adult female blue crabs has peaked twice: first in 1967 when abundance reached 277 million, and second in 2010 when abundance reached 548 million.

Management Strategy

To achieve the blue crab abundance outcome, participating partners have committed to:

- Planning and implementing a benchmark stock assessment; and
- Continuing to support the Chesapeake Bay Stock Assessment Committee’s annual review of the status of the blue crab population.

Participating partners will also collaborate with the work being done to achieve the climate adaptation, climate monitoring and assessment, fish habitat, storage fish, submerged aquatic vegetation, and water quality standards attainment and monitoring outcomes.

Monitoring and assessing progress toward the outcome will occur through the Chesapeake Bay Stock Assessment Committee’s (CBSAC) annual review of blue crab survey data and determination of population status relative to biological reference points. The continuation of the annual May–June Blue Crab Winter Bridge survey will be essential in estimating the blue crab population and monitoring the stock.

Participating Partners

The Sustainable Fisheries Goal Implementation Team leads the effort to achieve this outcome.

Participating partners include:

- Maryland Department of Natural Resources (State of Maryland)
- Virginia Marine Resources Commission (Commonwealth of Virginia)
- Potomac River Fisheries Commission
- Chesapeake Bay Commission
- National Marine Fisheries Service (National Oceanic and Atmospheric Administration)

Maryland, Virginia, and the District of Columbia also engage commercial and recreational blue crab harvesters through committees and advisory groups, which include the Maryland Blue Crab Industry Advisory Committee, Blue Crab Industry Design Team, Sport Fisheries Advisory Commission and Tidal Fishery Advisory Commission, the Virginia Blue Crab Industry Panel and Marine Resources Commission Crab Management Advisory Committee; and the Potomac River Crab Advisory Committee.
Indicators Framework: Next Steps
Evaluating outcomes, data, and priorities
Accountability & Performance Indicators

Monitoring for Adaptive Management
Monitoring to support multiple benefits
Important progress...

...much remains to be done!!