



# Chesapeake Bay Program

A WATERSHED PARTNERSHIP  
FOR A WHOLE ECOSYSTEM

CBP partners and staff have expertise that is as  
broad and varied as the Bay watershed itself.  
They represent the best in



# Synergistic Chesapeake Bay Agreement Goals and Outcomes

March 22-23, 2022

Carin Bisland, EPA CBPO

# Definitions

- **Synergistic** – “Relating to the interaction or cooperation of two or more organizations, substances, or other agents to produce a combined effect **greater than the sum** of their separate effects.” (Oxford Languages)
- **Co-benefits** – Where one practice benefits multiple goals or outcomes (e.g. wetland re-establishment benefits water quality and habitat)
- **Ecosystem services** - “the **benefits humans obtain** from ecosystems that support (directly or indirectly) their survival and quality of life” (Millennium Ecosystem Assessment 2005).
- **Functional Uplift** - “Quantifiable environmental benefit or gain of the restoration and management actions taken.”

# Chesapeake Bay Study – 1976-1983

*“The Bay is an organic whole. If one part is damaged, all parts are affected. It is of little use to study one link in an environmental chain without relating it to the whole. If the Chesapeake Bay is to survive, it must be addressed as an entity, as a **total system** without duplication and without omission.”*



Charles McC. Mathias  
United States Senator, Maryland

## Chesapeake Bay Habitat Restoration: A Framework for Action

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October, 1995



Chesapeake Bay Program

Printed by the U.S. Environmental Protection Agency for the Chesapeake Bay Program

Four target habitat areas were selected to focus restoration efforts using selected indicator species:

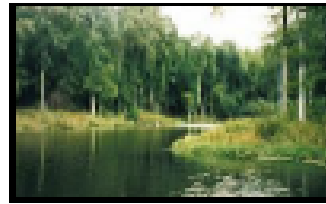
- 1) **freshwater tributaries and streams**, including nontidal wetlands, focus on the needs of anadromous fish for spawning and nursery areas;
- 2) **shallow water areas (tidal)**, including submerged aquatic vegetation beds, focus on the needs of juvenile fish and crabs for refuge and feeding areas for waterfowl;
- 3) **open water areas (tidal)** focus on both adult fish feeding and mobility and oyster reef communities; and
- 4) **islands and inlands**, including forested wetlands, focus on waterfowl and neotropical birds.

## Sustainable Fisheries Goal



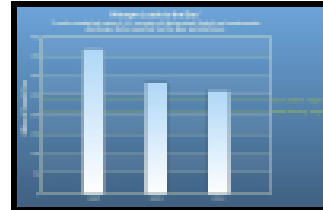
- *Blue Crab Abundance Outcome*
- *Blue Crab Management Outcome*
- *Oyster Outcome*
- *Forage Fish Outcome*
- *Fish Habitat Outcome*

## Vital Habitats Goal



- *Wetlands Outcome*
  - *Black Duck*
- *Stream Health Outcome*
  - *Brook Trout*
- *Fish Passage Outcome*
- *SAV Outcome*
- *Forest Buffer Outcome*
- *Tree Canopy Outcome*

## Water Quality Goal



- *2017 Watershed Implementation Plans (WIP) Outcome*
- *2025 WIP Outcome*
- *Water Quality Standards Attainment and Monitoring Outcome*

## Toxic Contaminants Goal



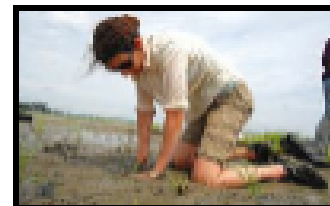
- *Toxic Contaminants Research Outcome*
- *Toxic Contaminants Policy and Prevention Outcome*

## Healthy Watersheds Goal



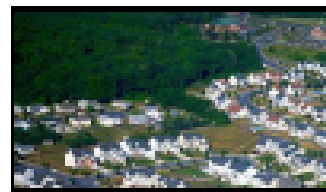
- *Healthy Waters Outcome*

## Stewardship Goal



- *Citizen Stewardship Outcome*
- *Local Leadership Outcome*
- *Diversity Outcome*

## Land Conservation



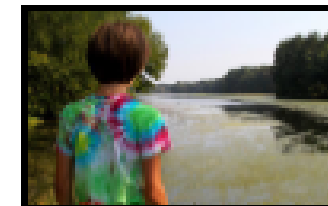
- *Protected Lands Outcome*
- *Land Use Methods and Metrics Development Outcome*
- *Land Use Options Evaluation Outcome*

## Public Access Goal



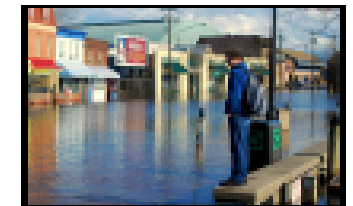
- *Public Access Site Development Outcome*

## Environmental Literacy Goal



- *Student Outcome*
- *Sustainable Schools Outcome*
- *Environmental Literacy Planning Outcome*

## Climate Resiliency Goal



- *Monitoring and Assessment Outcome*
- *Adaptation Outcome*

A close-up photograph of a blue crab on a muddy, wet shore. The crab's carapace is a pale, almost white color, contrasting with its bright blue legs and claws. The background is a blurred, reddish-brown mudflat. The text "Sustainable blue crab population" is overlaid in white on the upper left side of the image.

Sustainable blue  
crab population

and a stable and productive  
crab fishery



Restored native oyster  
habitats and  
population in 10  
tributaries

An underwater photograph showing a dense field of seagrass (SAV) in shades of green and yellow. The seagrass blades are long and thin, creating a textured, layered appearance. The water is slightly hazy, giving the scene a soft, ethereal quality. In the lower right quadrant, the text "130,000 acres of SAV" is overlaid in a clean, white, sans-serif font.

130,000 acres of SAV





8% increase in brook trout  
occupied habitat



900 miles per year of  
forest buffer restored



Urban tree canopy  
expanded by 2,400 acres



A man wearing a brown and tan baseball cap and a light blue t-shirt with a logo is working on a young tree in a field. He is holding a white mesh net around the base of the tree. The field is filled with tall grass and several other young trees planted in white plastic mulch. In the background, there are several farm buildings, including a large white barn and a silo, under a clear sky.

All practices in place  
to achieve Water  
Quality Standards

A photograph of a lush green field with a purple iris flower in the foreground. The field is filled with tall green plants, and a purple iris flower is in sharp focus in the lower right. The background shows a line of trees and hills under a clear sky. The text "2 million acres of lands protected" is overlaid in white on the left side of the image.

2 million acres of  
lands protected



Climate Adaptation

A photograph of a wetland with tall green grasses and a bird in flight in the foreground. The text is overlaid on the image.

85,000 acres of wetlands restored

150,000 of degraded wetlands enhanced



# Wetlands: The Uber-Outcome (aka Keystone)

- Water Quality
- Habitat
  - Black Duck
  - Brook Trout
  - Stream Health
  - Fish Habitat
  - Forage Fish
- Climate Adaptation
- Healthy Watersheds



# Interdependencies

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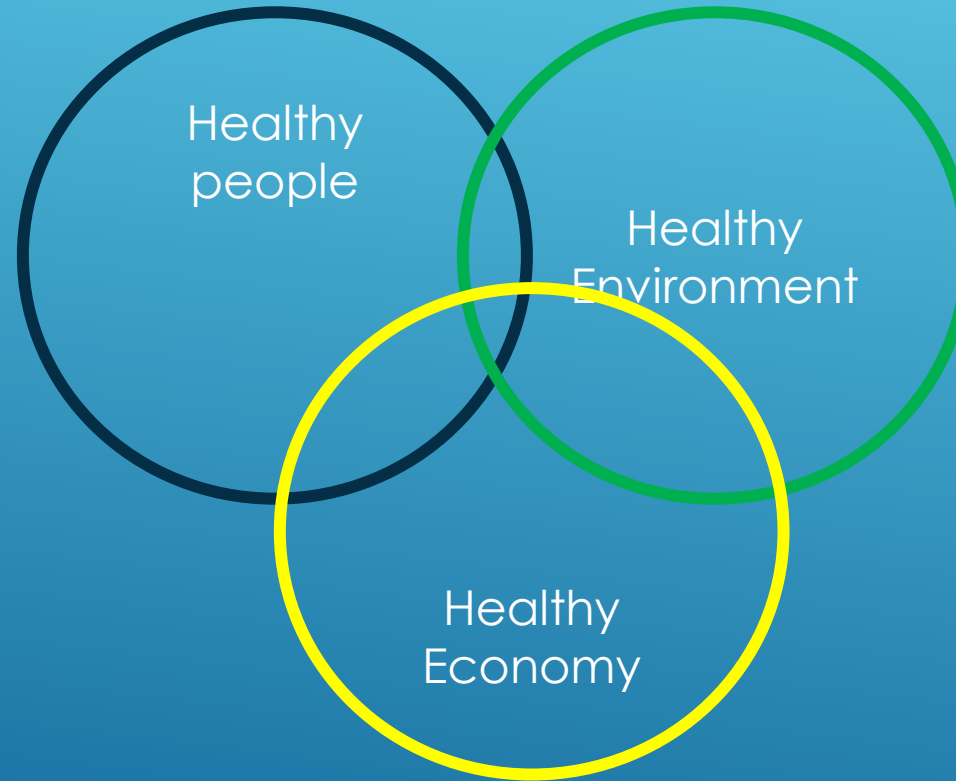
# Tidal Synergies

- Climate Resiliency
- Protected Lands
- Tidal Wetlands
- Submerged aquatic vegetation
- Oyster Restoration
- Black Duck
- Water Quality
  - Living Shorelines

# Nontidal or Watershed Synergies

- Nontidal Wetlands
- Forest Buffers
- Land Protection
- Stream Health
- Water Quality
  - Stream Restoration
  - Floodplain Reconnection

VISION: *“The Chesapeake Bay Program partners envision an environmentally and economically sustainable Chesapeake Bay watershed with clean water, abundant life, conserved lands and access to the water, a vibrant cultural heritage and a diversity of engaged citizens and stakeholders.”*



Road To Recovery



