



# Adaptive Management and the Chesapeake Bay Watershed Agreement

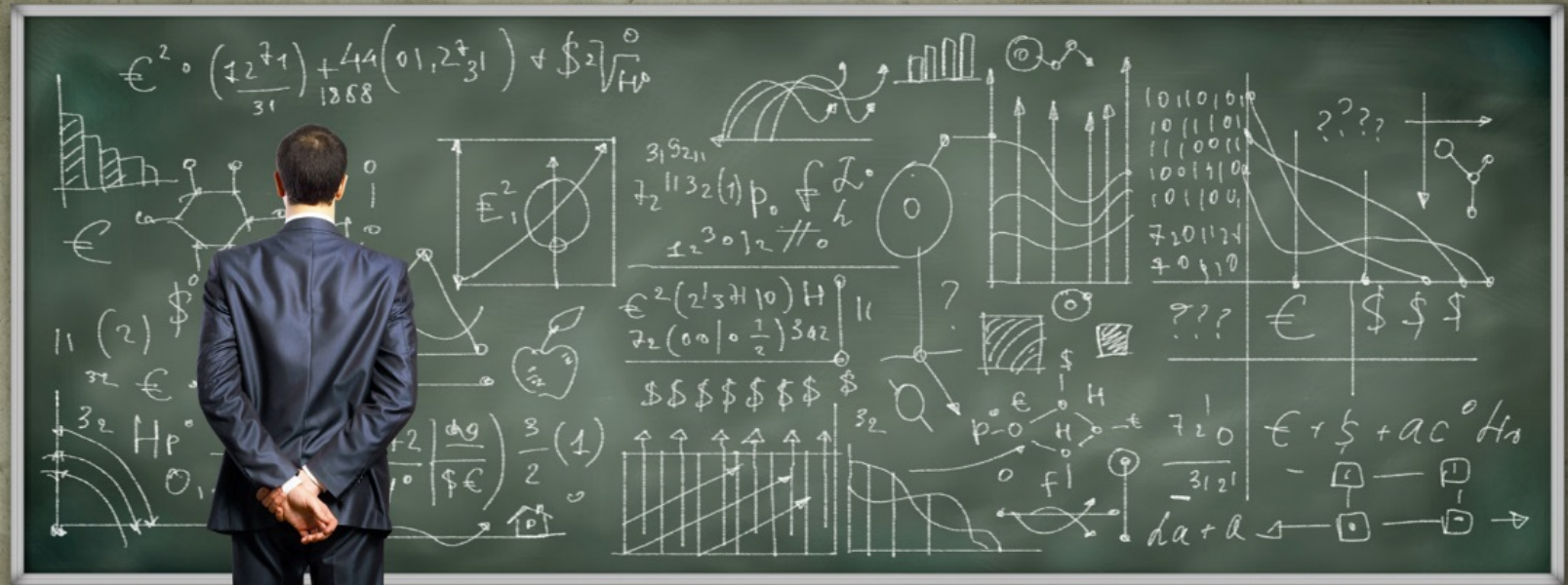
April 19, 2016

Carin Bisland, Associate Director  
Chesapeake Bay Program Office  
U.S. EPA



Buffalo

Syracuse



Syracuse

Federburg

North

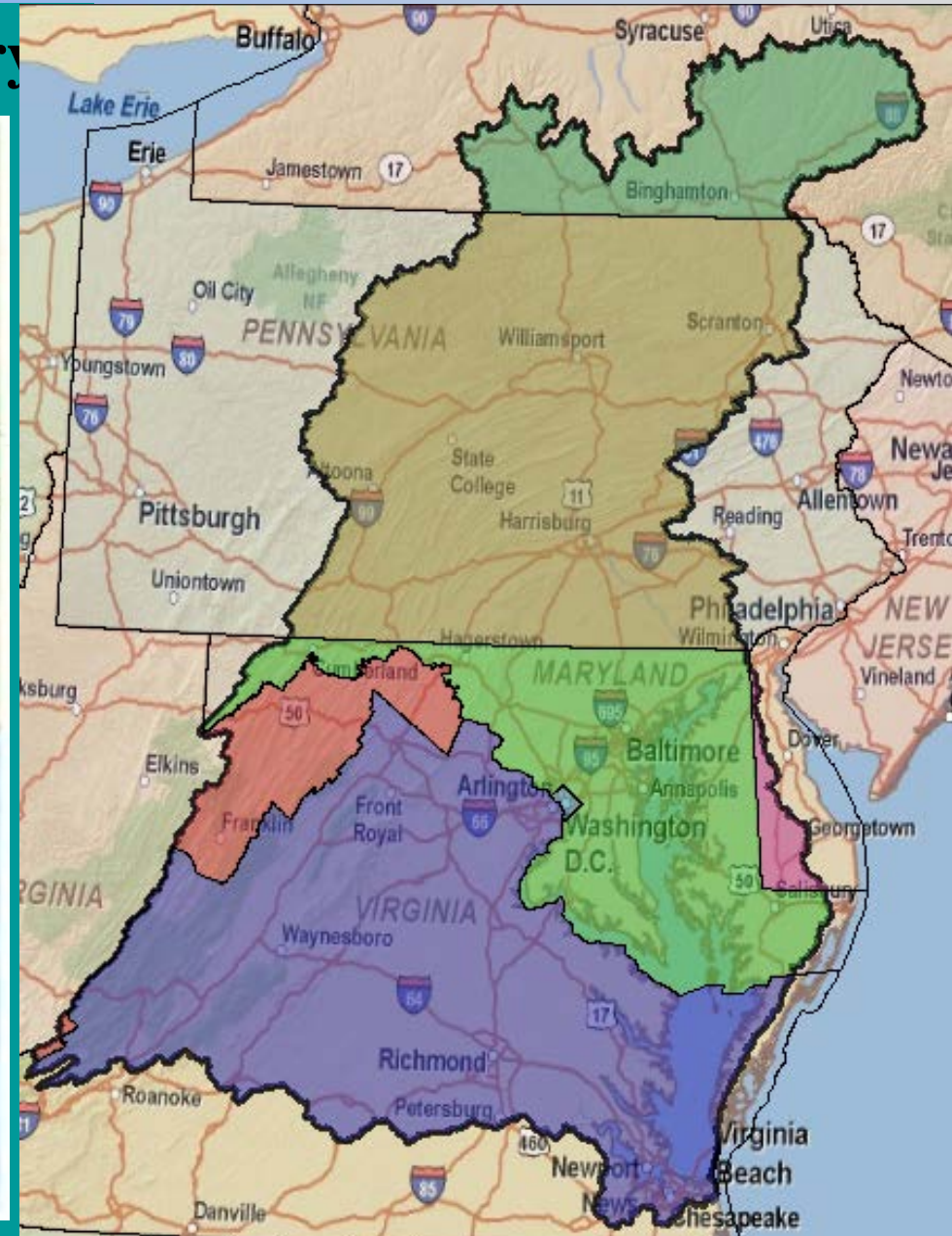
Virginia Beach


Chesapeake

# 1. The Chesapeake Bay and Watershed



## North America's Largest Estuary





2. Since the Chesapeake Bay Program's creation in 1983, its partners have used written agreements to guide the restoration of the nation's largest estuary.

1983 Chesapeake Bay Agreement

1987 Chesapeake Bay Agreement

1992 Amendments to the Chesapeake Bay Agreement

2000 Chesapeake Bay Agreement

2014 Chesapeake Bay Watershed Agreement



### 3. The Partnership



NY



DC



VA



MD



PA



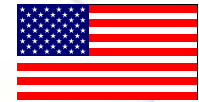
DE



WV



Bay  
Commission

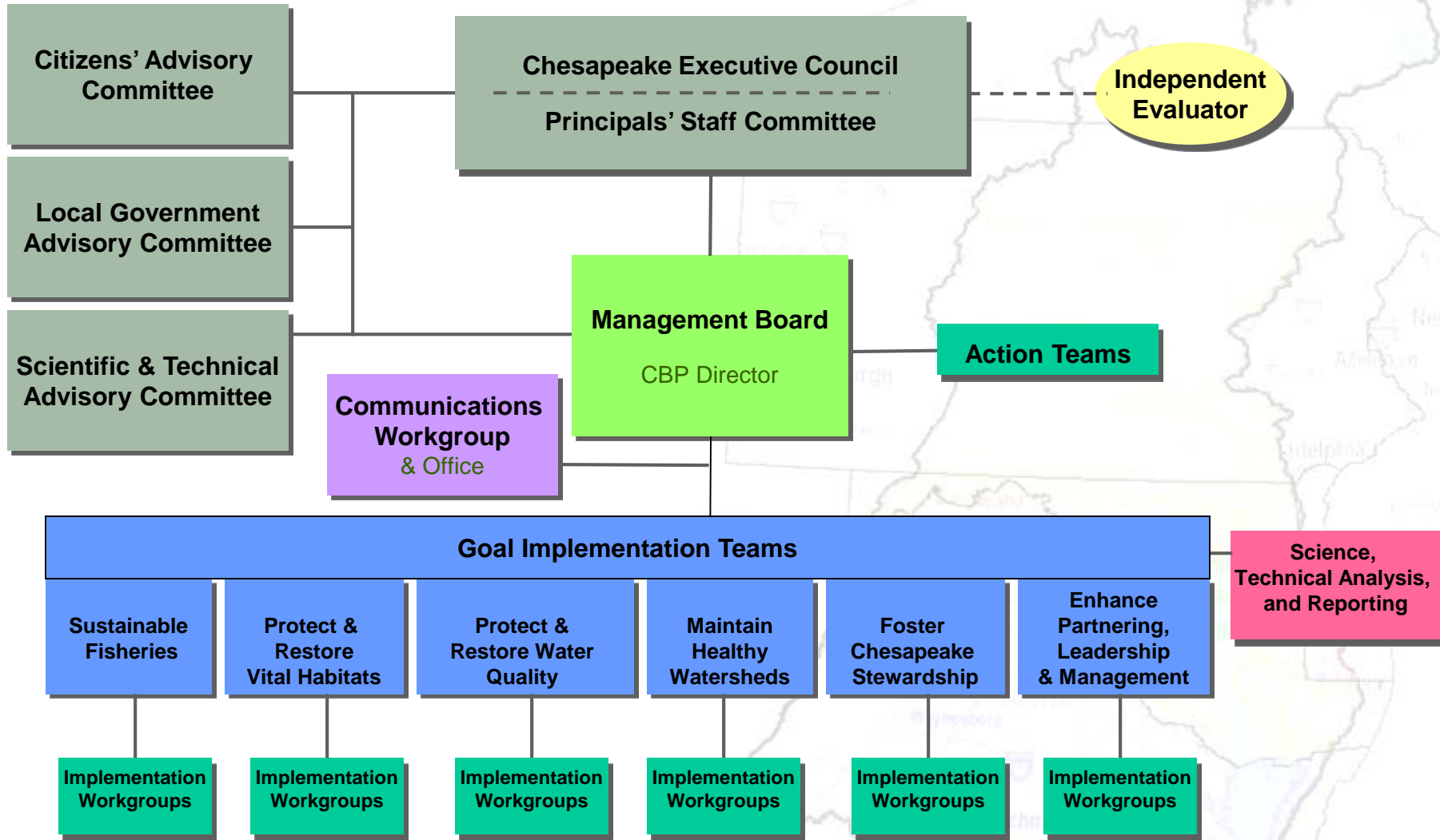


Federal govt

## Chesapeake Bay Program

A vast partnership of all the major players in the Chesapeake region,  
working collaboratively on science, policy and restoration efforts

# CBP Organizational Structure and Leadership





# 4. The Balance

Accountability



Flexibility

Politics/public

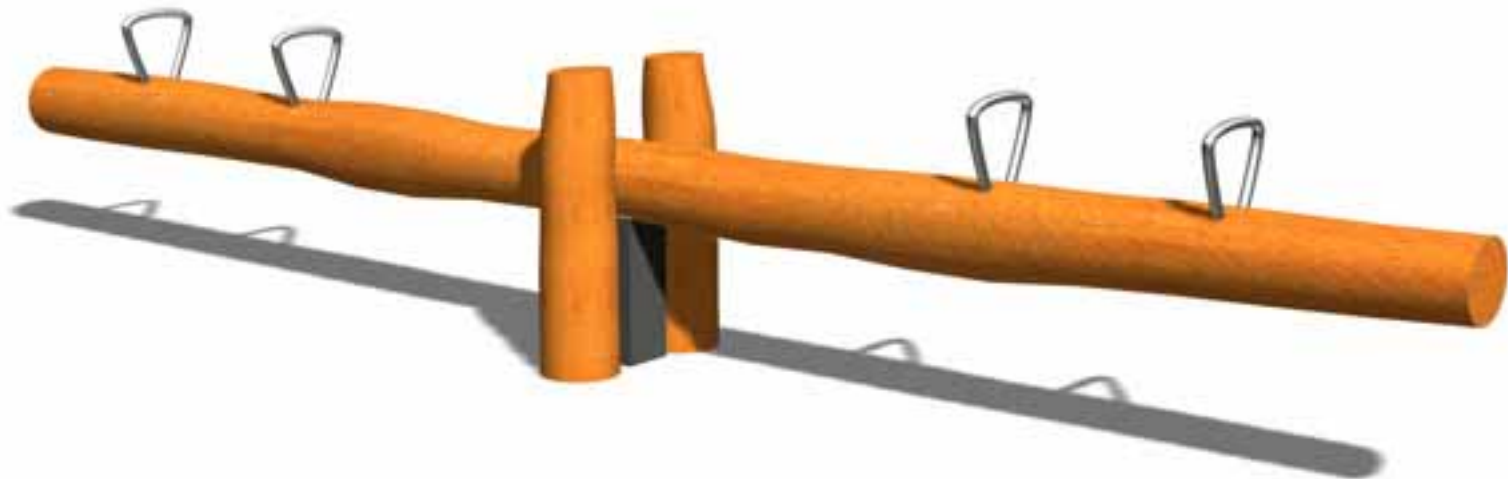


Science

Implementation



Monitoring



# Adaptive Management and the Chesapeake Bay



LEARN  
to  
ADAPT

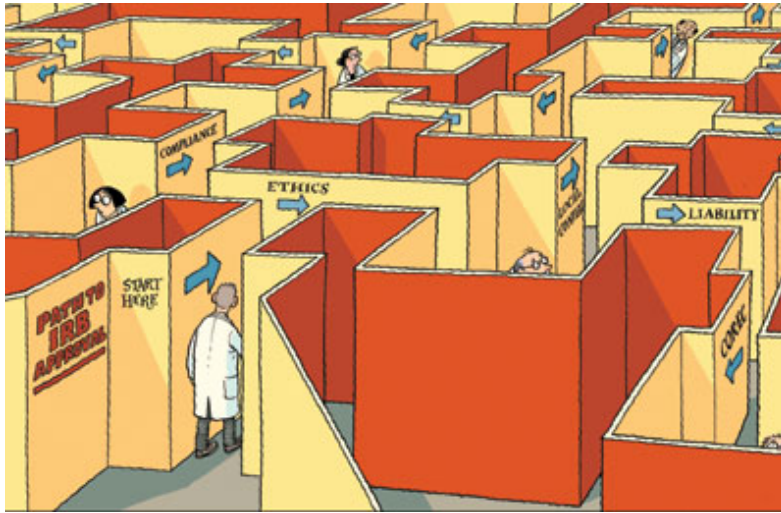






# Adaptive Processes

## 1. Trial and Error



2. Passive Adaptive Management

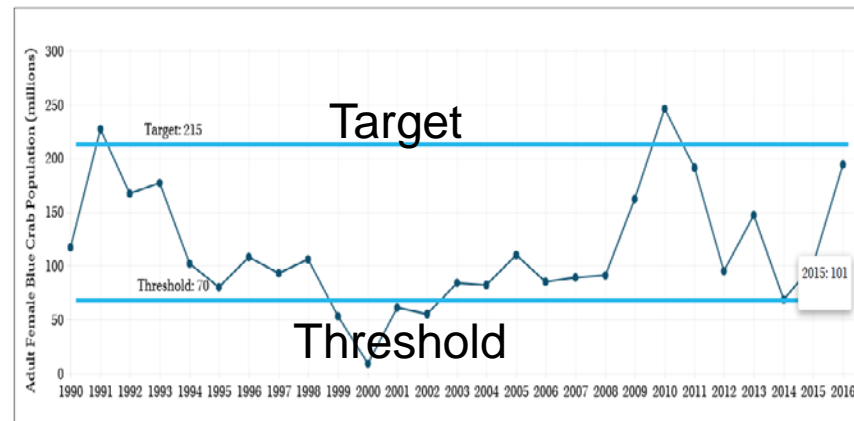
3. Active Adaptive Management



# Blue Crab Management

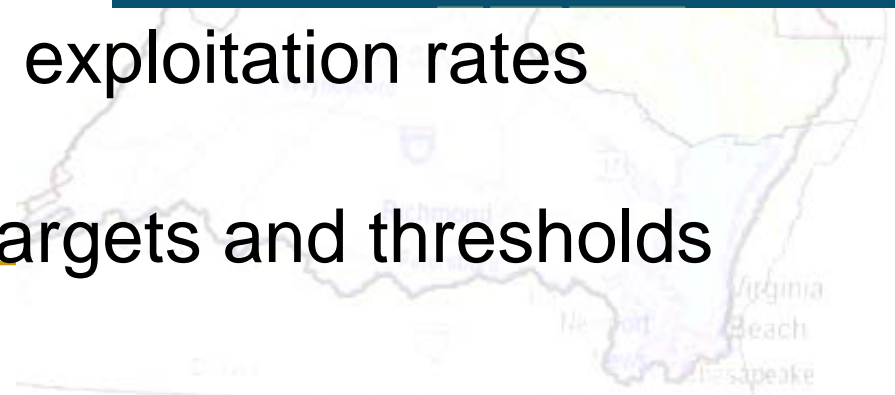


Adult Female Blue Crab Population

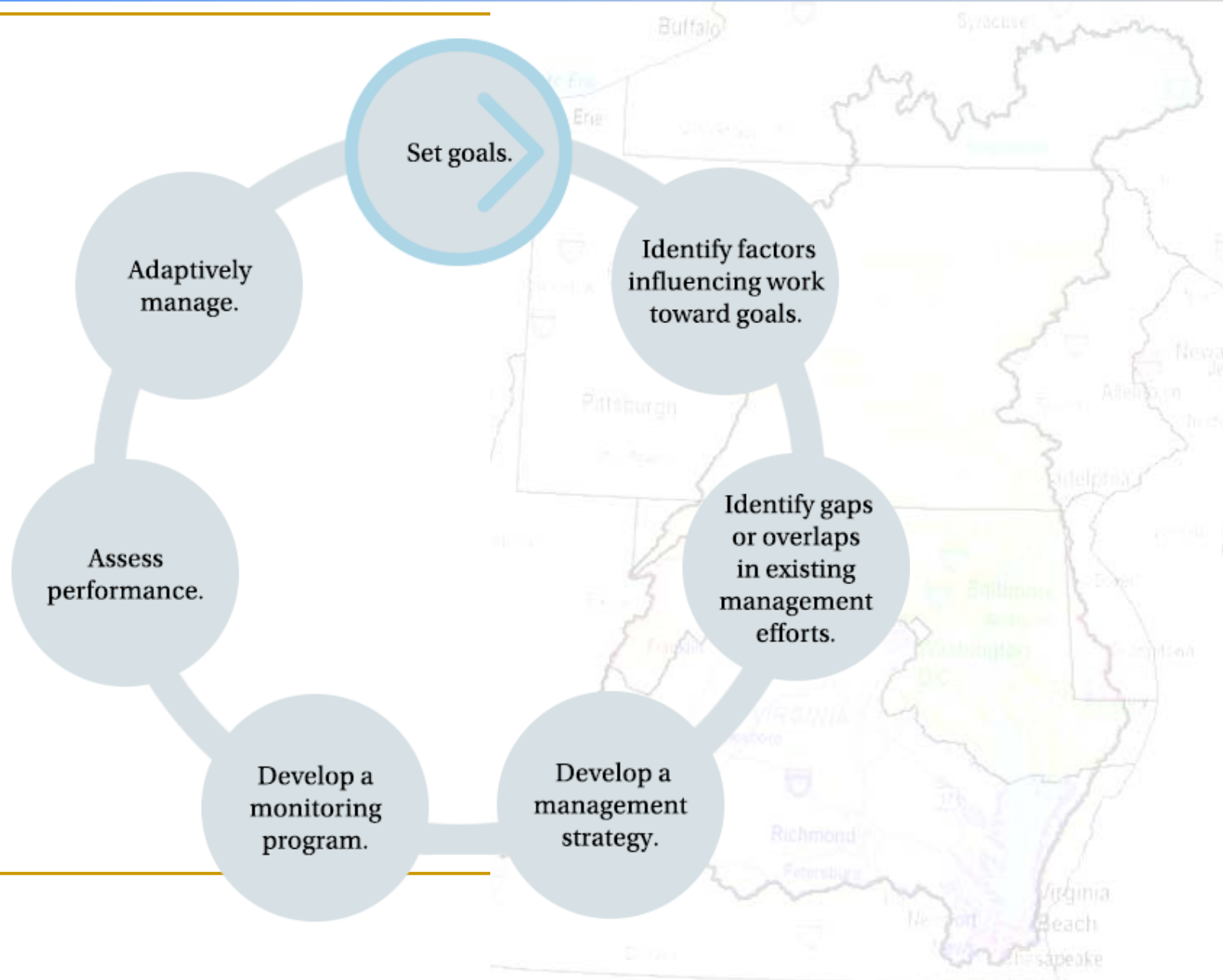


Adult Female Blue Crab Population

- Set targets and thresholds
- Measure population and exploitation rates
- Adjust catch regulations
- Periodically reconsider targets and thresholds



# Decision Framework



Developing new agreements over time ensures our goals are aligned with the best available science to attain restoration success.

Setting goals and tracking progress holds partners accountable for their work.

In 2009, it became clear that we needed a new agreement that would accelerate the pace of restoration and align federal directives with state and local goals to create a healthy Bay watershed.





The *Chesapeake Bay Watershed Agreement*  
was signed June 16, 2014

[www.chesapeakebay.net/watershedagreement](http://www.chesapeakebay.net/watershedagreement)

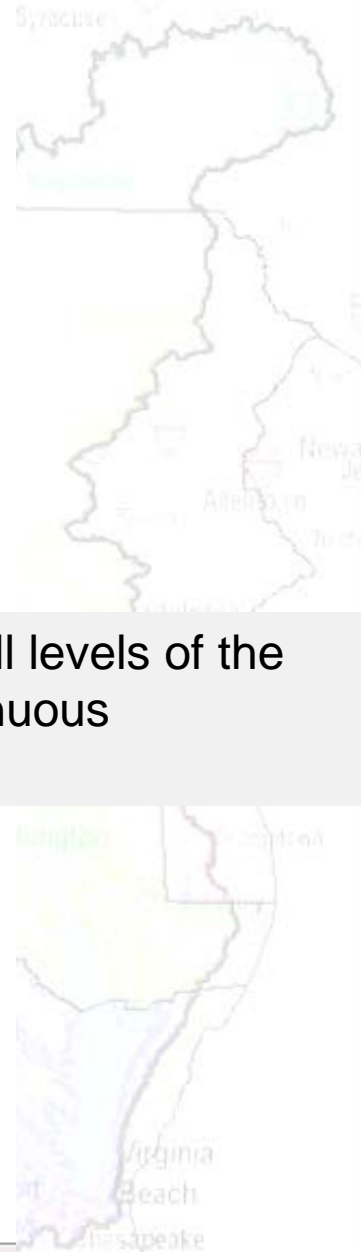


# PRINCIPLES

The following principles are an overarching framework by which the Chesapeake Bay Program commits to operate. They encompass the partners' collective, core values and are intended to help guide us in our work as the Partnership develops policy and takes actions to achieve this Agreement's Goals and Outcomes.

## THE PARTNERSHIP WILL:

- **Collaborate** to achieve the Goals and Outcomes of this Agreement.
- **Achieve Goals and Outcomes** in a timely way and at the least possible cost to our citizens.
- **Represent the interests of people** throughout the watershed fairly and effectively, including a broad diversity of cultures, demographics and ages.
- **Operate with transparency** in program decisions, policies, actions and reporting on progress to strengthen public confidence in our efforts.
- **Use science-based decision-making and seek out innovative technologies and approaches** to support sound management decisions in a changing system.
- **Maintain a coordinated watershed-wide monitoring and research program** to support decision-making and track progress and the effectiveness of management actions.
- **Acknowledge, support and embrace local governments** and other local entities in watershed restoration and protection activities.
- **Anticipate changing conditions**, including long-term trends in sea level, temperature, precipitation, land use and other variables.
- **Adaptively manage** at all levels of the Partnership to foster continuous improvement.
- **Engage citizens** to increase the number and diversity of people who support and carry out the conservation and restoration activities necessary to achieve the Goals and Outcomes of the Agreement.
- **Explore using social science** to better understand and measure how human behavior can drive natural resource use, management and decision-making.
- **Promote environmental justice** through the meaningful involvement and fair treatment of all people, regardless of race, color, national origin or income, in the implementation of this Agreement.





# 4. The Balance

Accountability



Flexibility

Politics/public

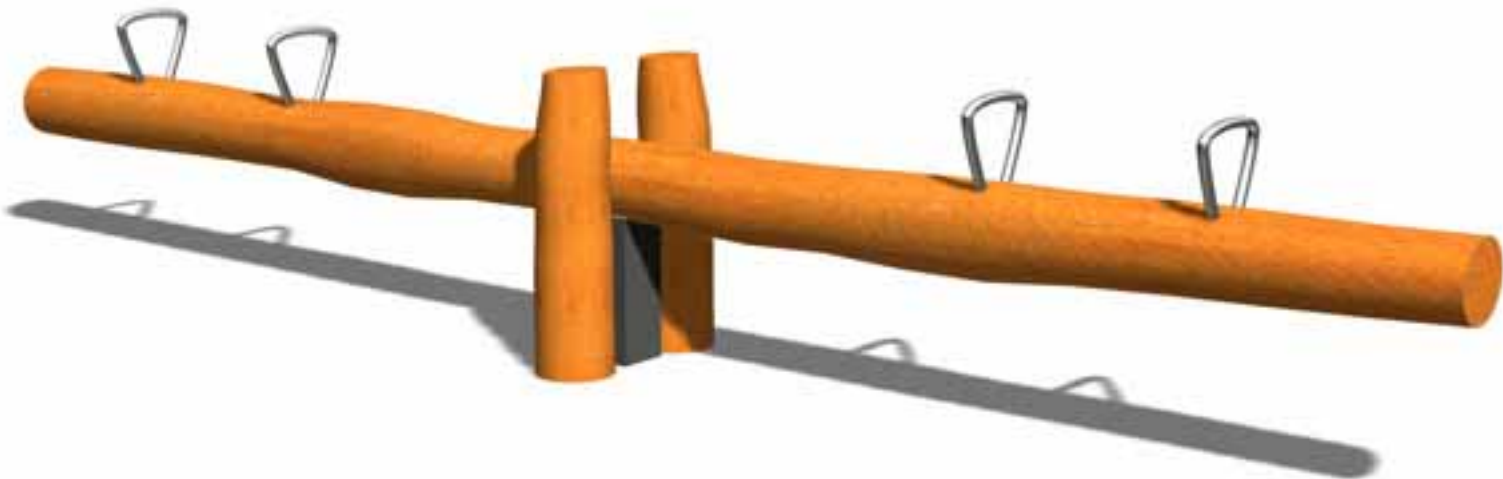


Science

Implementation



Monitoring





# How partners are working. . .



ALL goals, outcomes and strategies derived from the CBP Goal Teams – issue experts & stakeholders from across the jurisdictions / watershed.

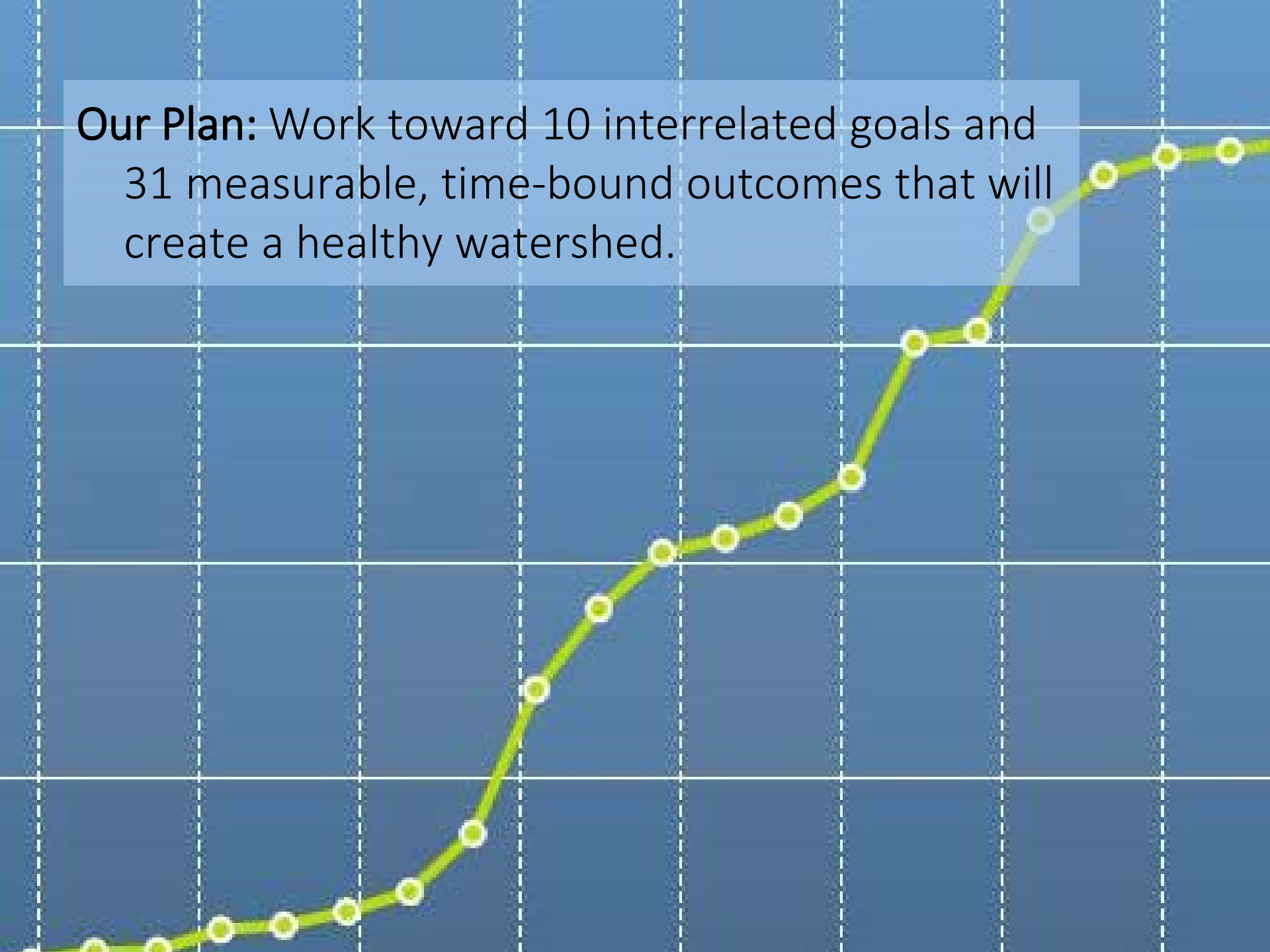


*CBP's Executive Council (EC) agreed to Watershed Agreement GOALS & initial OUTCOMES*

*CBP's Principals' Staff Committee (PSC) tracks **OUTCOMES**, ensuring they are measureable & achievable; adapting as needed*

*CBP's Management Board (MB) to manage and track the **STRATEGIES**, adapting them as necessary over time for success*

**Our Plan:** Work toward 10 interrelated goals and 31 measurable, time-bound outcomes that will create a healthy watershed.





# Our Goals:

- Lower pollution
- Sustain blue crabs, oysters and forage fish
- Restore water quality and land and water habitats
- Conserve farmland and forests
- Boost access to and education about the Bay
- Increase the climate resiliency of the watershed's resources, habitats and communities

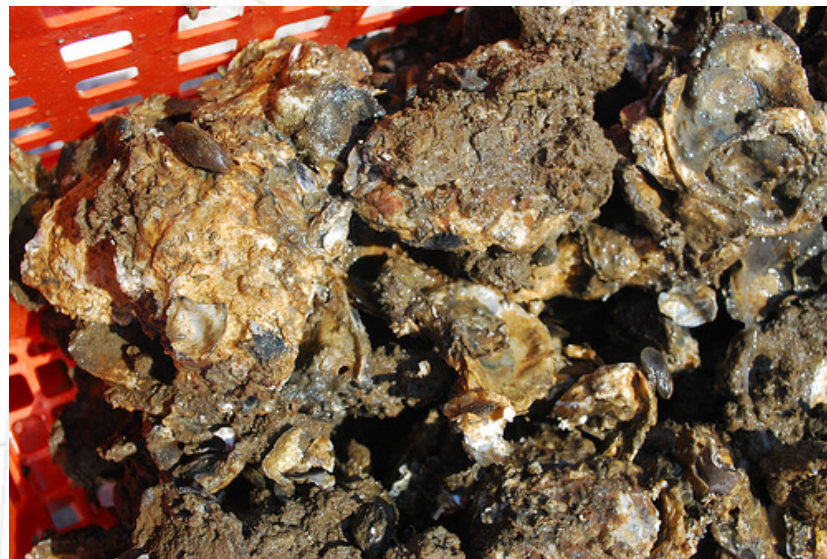
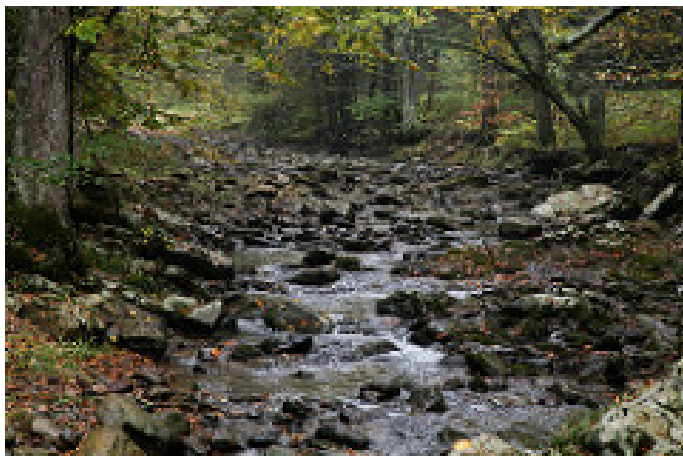


# Example Outcomes



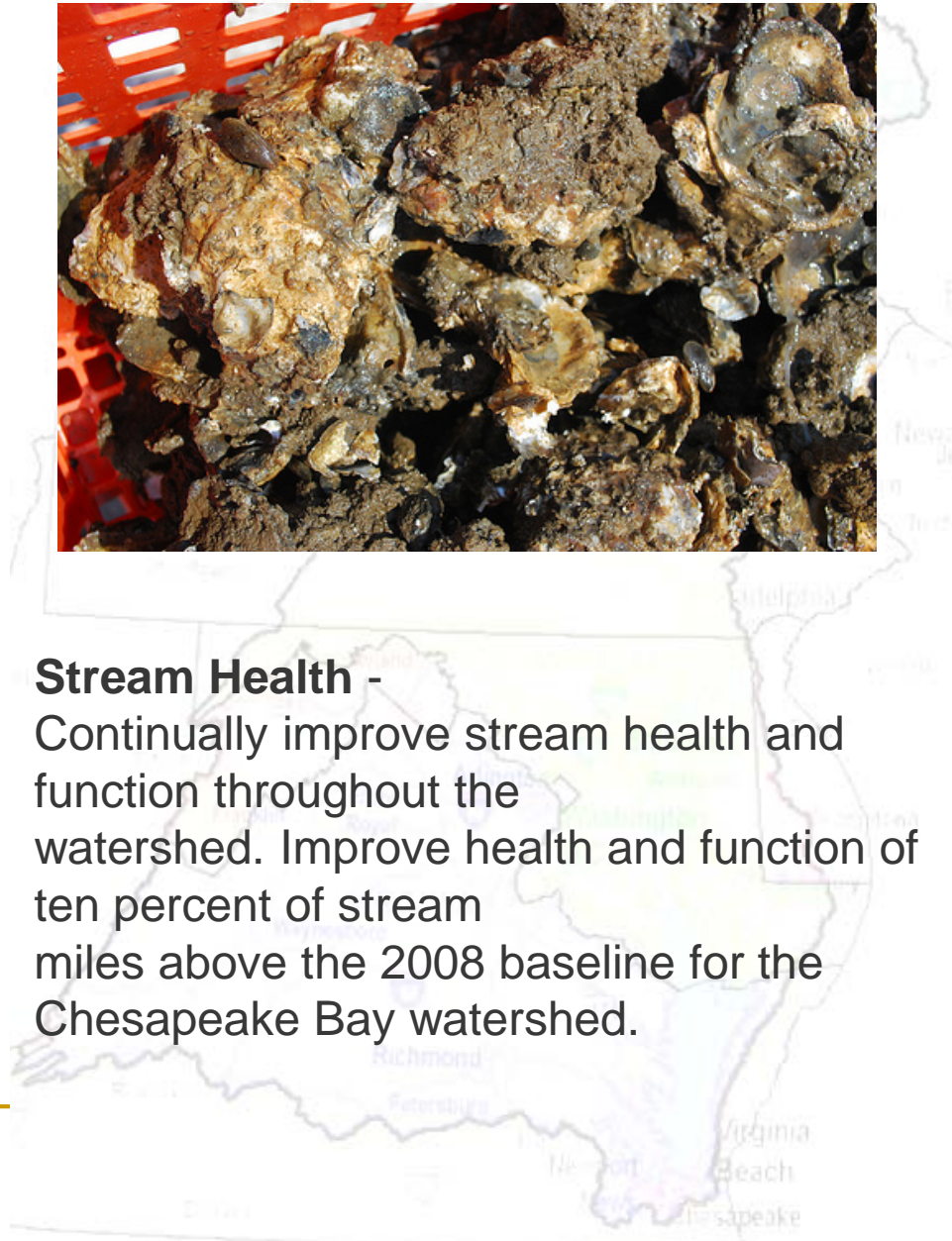
## Oyster Reefs -

Continually increase finfish and shellfish habitat and water quality benefits from restored oyster populations. Restore native oyster habitat and populations in **10 tributaries by 2025** and ensure their protection.

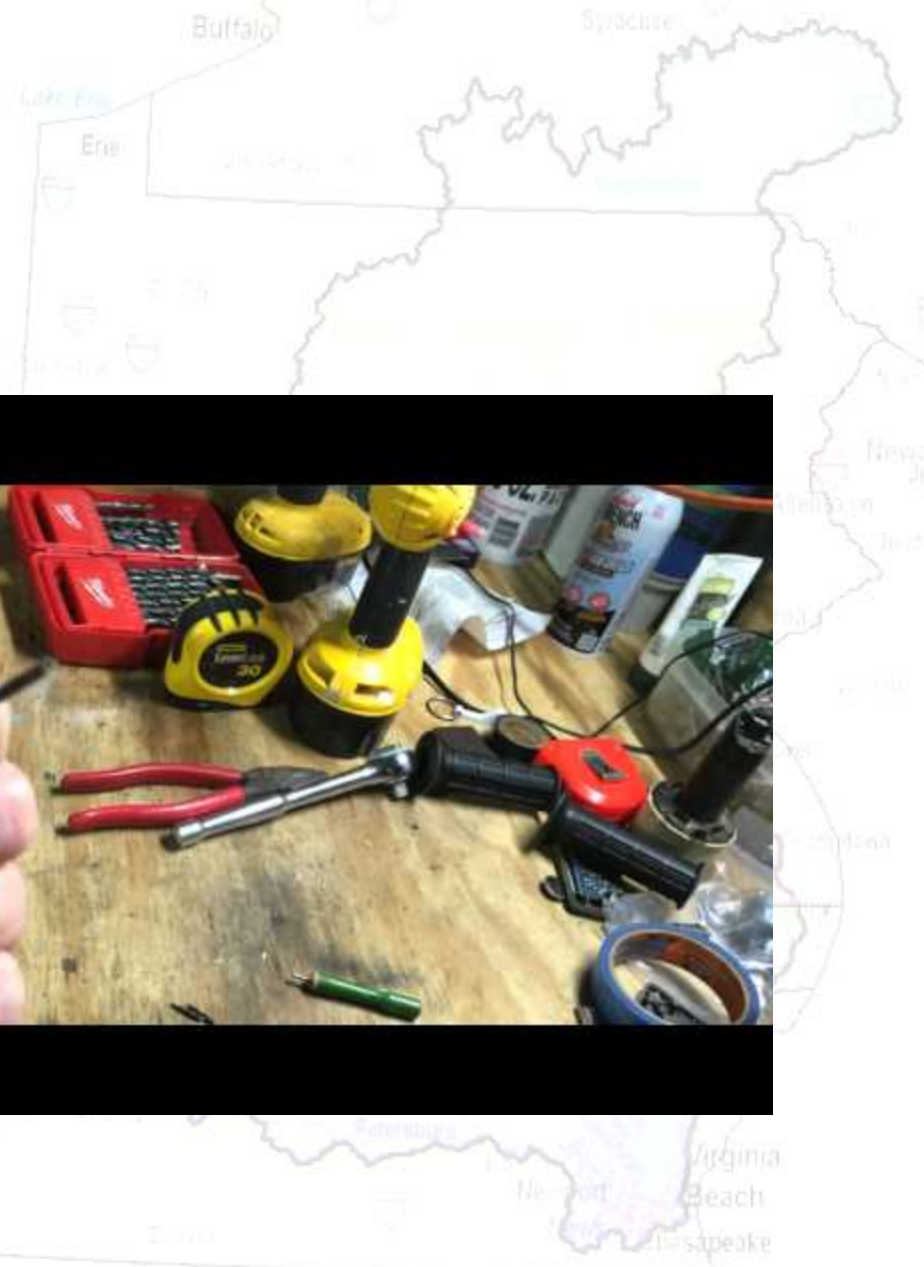
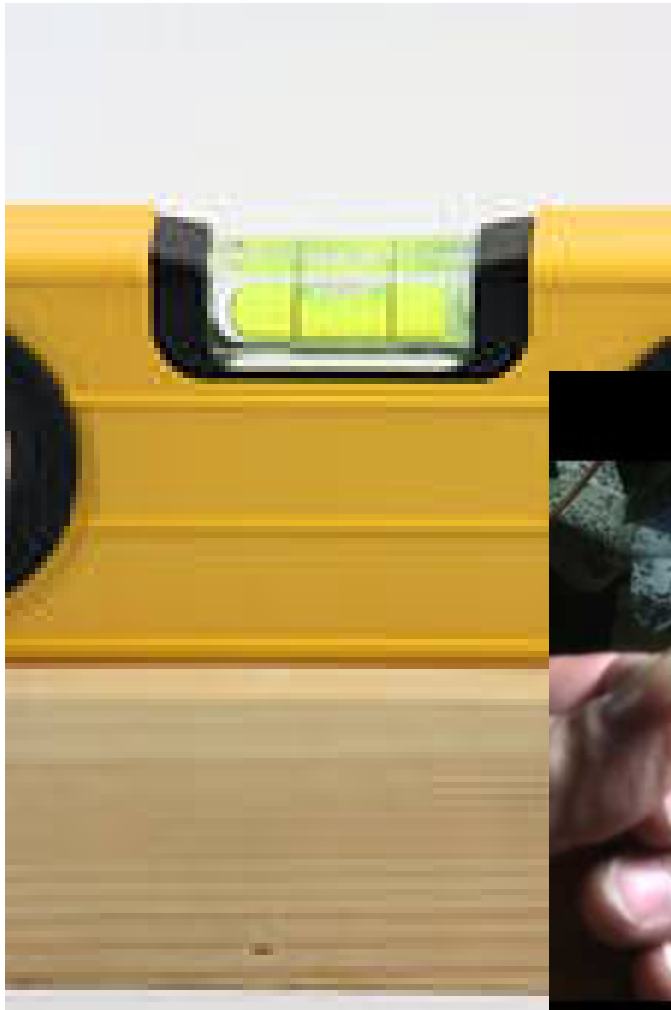


## Stream Health -

Continually improve stream health and function throughout the watershed. Improve health and function of ten percent of stream miles above the 2008 baseline for the Chesapeake Bay watershed.



# Making Adjustments



# Adaptive Management



Have we started?

Yes

Are we moving in the right direction?

Yes

Are we there?

Not Yet





Learn more at  
[www.chesapeakebay.net/  
watershedagreement](http://www.chesapeakebay.net/watershedagreement)



**Chesapeake Bay Program**  
*Science. Restoration. Partnership.*