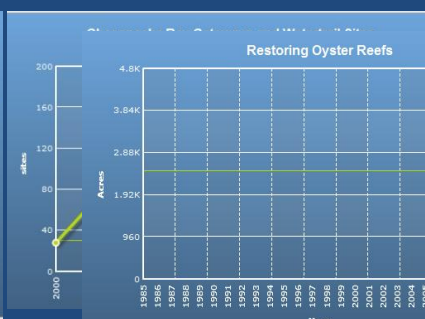
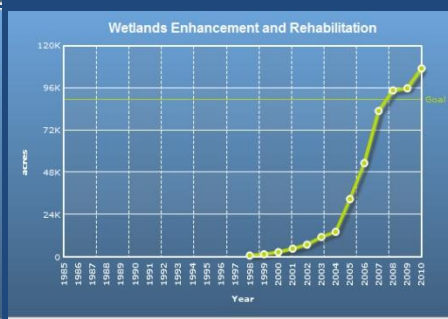


# **Being Accountable/Communicating Assessment Information to the Public in 2013**

## **Update to the Management Board October 2013**

Nita Sylvester, EPA CBPO  
Chair of STAR's Indicators Workgroup

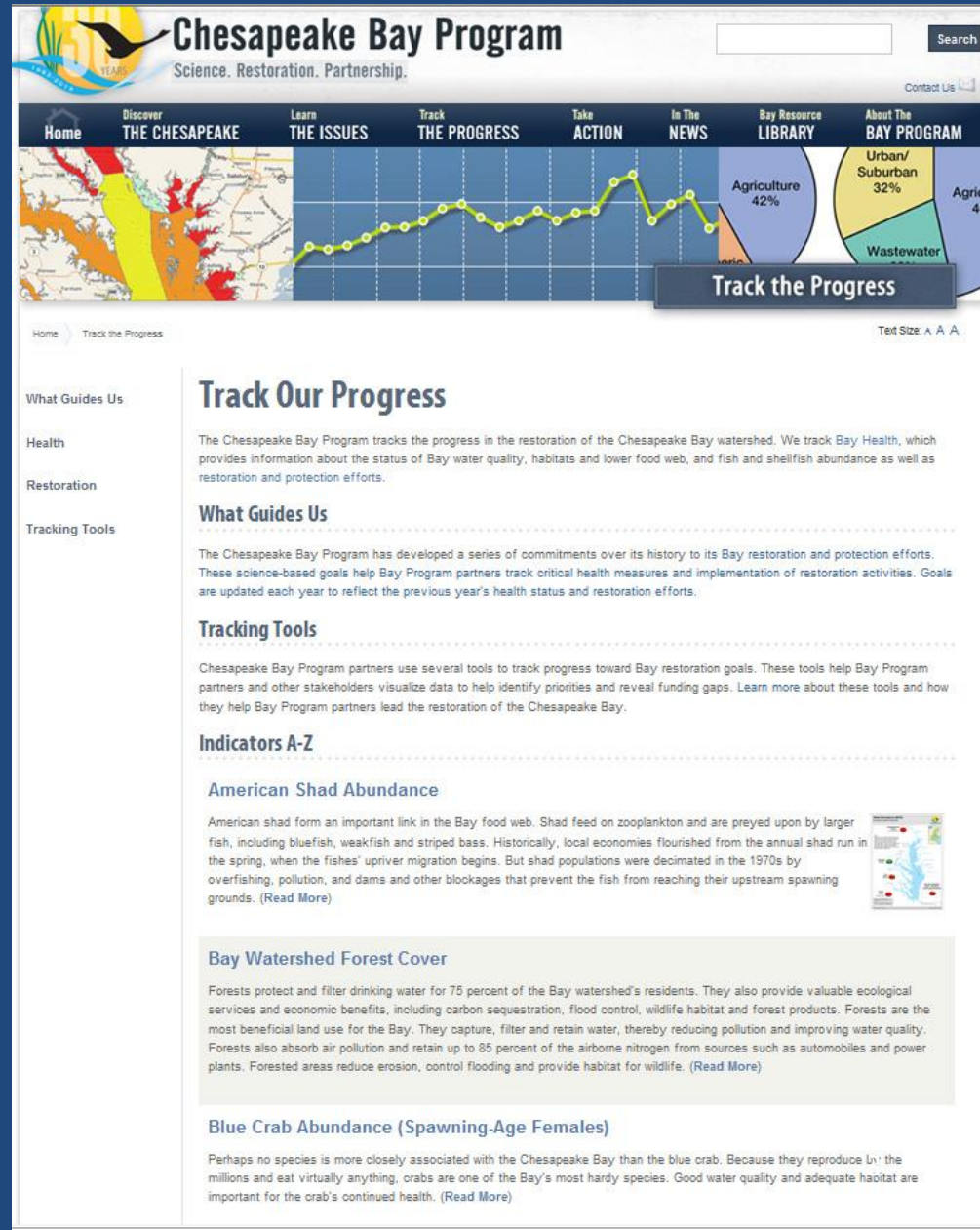
- Indicator updates, including new water quality standards indicator
- Approval of revisions to shad indicator
- Approval to remove 7 indicators from “Track Our Progress” section of ChesapeakeBay.net website (and 2 temporarily)



# Background

## CBP Indicators:

- Approved by MB
- Available from “Track Our Progress” section of [www.ChesapeakeBay.net](http://www.ChesapeakeBay.net)
- Featured in
  - media releases
  - website news posts
  - Bay Barometers
  - State of the Program Reports
  - Reports to Congress
  - etc.





# Update on Indicators

- What's been updated?
- What remains to be updated?
- What has been/will be revised?
- What will be replaced?
- What's being recommended for deletion from "Track Our Progress"?
  - Info on these topics will continue to be available in other locations of Bay.net website, per user audience interest.
  - Com WG will continue to work with STAR to ensure those pages refer to best science available

10/22/2013

The screenshot shows the Chesapeake Bay Program website. The header includes the logo, the title "Chesapeake Bay Program", the tagline "Science. Restoration. Partnership.", a search bar, and a "Contact Us" link. A navigation menu contains links for Home, Discover THE CHESAPEAKE, Learn THE ISSUES, Track THE PROGRESS, Take ACTION, In The NEWS, Bay Resource LIBRARY, and About The BAY PROGRAM. Below the menu is a banner with four images: a hand holding seaweed, a field of crops, a boat in a net, and a house. A "Learn the Issues" button is overlaid on the banner. The main content area is titled "Learn the Issues" and contains a paragraph about the problems facing the Chesapeake Bay, such as excess nutrients and algae blooms. Below this are four columns, each with a title, an image, a paragraph of text, and a "Read More" link. The columns are: Agriculture (image of a farm), Air Pollution (image of a highway), Bay Grasses (image of a person holding seaweed), and Blue Crabs (image of crabs). At the bottom right, there is a "Climate Change" section with a "Read More" link.

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

Home Discover THE CHESAPEAKE Learn THE ISSUES Track THE PROGRESS Take ACTION In The NEWS Bay Resource LIBRARY About The BAY PROGRAM

Learn the Issues

Home Learn the Issues

Text Size: A A A

### Learn the Issues

There are many problems facing the Chesapeake Bay. The major pollutant to the Bay is excess nutrients, which come from agriculture, urban/suburban runoff, vehicle emissions and many other sources. Excess nutrients fuel the growth of algae blooms, which block sunlight that underwater bay grasses need to grow. When algae die, they are decomposed in a process that depletes the water of oxygen, which all aquatic animals need to survive. Learn more about some of the issues facing the Chesapeake Bay:

#### Agriculture

Close to one-quarter of land in the Chesapeake Bay watershed is devoted to agricultural production. Agriculture is essential to all people: farms provide us with food and fiber, natural areas, and aesthetic and environmental benefits. But agriculture is also the single largest source of nutrient and sediment pollution entering the Bay. While conventional tillage, fertilizers and pesticides can be beneficial to crops, their excessive use can pollute rivers and streams, pushing nutrients and sediment into waterways.

[Read More](#)

#### Air Pollution

Air pollution doesn't just cloud the air we breathe. It can also harm our land and water. What goes up must come down, and pollution released into the air—by cars, trucks, gas-powered lawn tools, power plants and other sources—will fall back to the earth's surface, where it could wind up in our waterways. Nitrogen and chemical contaminants are two pollutants that harm both air and water. But maintaining the forests that absorb airborne pollutants and enacting regulations to reduce emissions from our vehicles and power plants are two ways that we can reduce air pollution across the watershed.

[Read More](#)

#### Bay Grasses

Bay grasses are plants that grow underwater. Also known as submerged aquatic vegetation or SAV, bay grasses can be found in the shallow waters of the Chesapeake Bay and its streams, creeks and rivers, and are a critical part of the Bay ecosystem. They provide wildlife with food and habitat, add oxygen to the water, absorb nutrient pollution, trap sediment and reduce erosion. Improving water clarity is the most important step in bay grass restoration, because bay grasses need sunlight to grow. Because bay grasses are sensitive to pollution but quick to respond to improved water quality, their abundance is a good indicator of Bay health. You can watch changes in bay grass abundance take place over time using this interactive map.

[Read More](#)

#### Blue Crabs

[Read More](#)

#### Chemical Contaminants

[Read More](#)

#### Climate Change

[Read More](#)

Agriculture

Air Pollution

Bay Grasses

Blue Crabs

Chemical Contaminants

Climate Change

Development

Education

Forests

Groundwater

Invasive Species

Menhaden

Nutrients

Oysters

Population Growth

Rivers and Streams

Sediment

Shad

Stormwater Runoff

Striped Bass

# Factors Impacting Bay and Watershed Health

| Pollutant s  | Land Use  | Natural Factors  |
|--|---|--|
| <ul style="list-style-type: none"><li>• Nitrogen (R)</li><li>• Phosphorus (R)</li><li>• Sediment (R)</li></ul> | <ul style="list-style-type: none"><li>• Population</li><li>• Forest Cover</li></ul> | <ul style="list-style-type: none"><li>• River Flow</li></ul> |

- Green: previously reported indicator already updated
- Green w/ "(R)": previously reported indicator to be revised
- Black: previously reported indicator to be updated

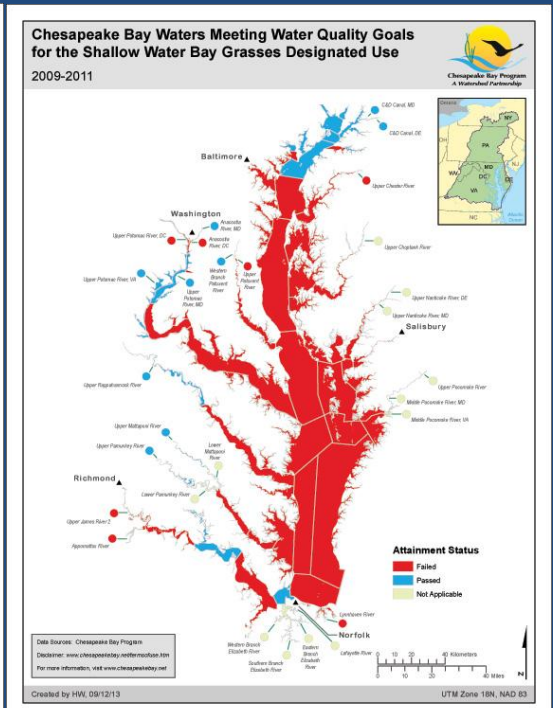
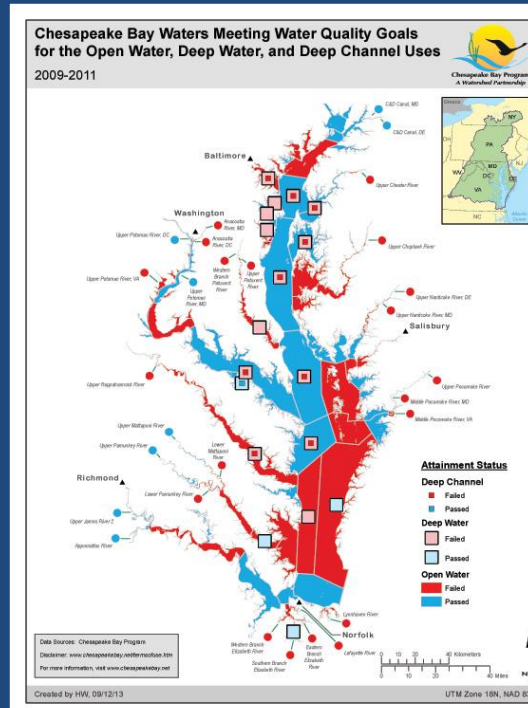
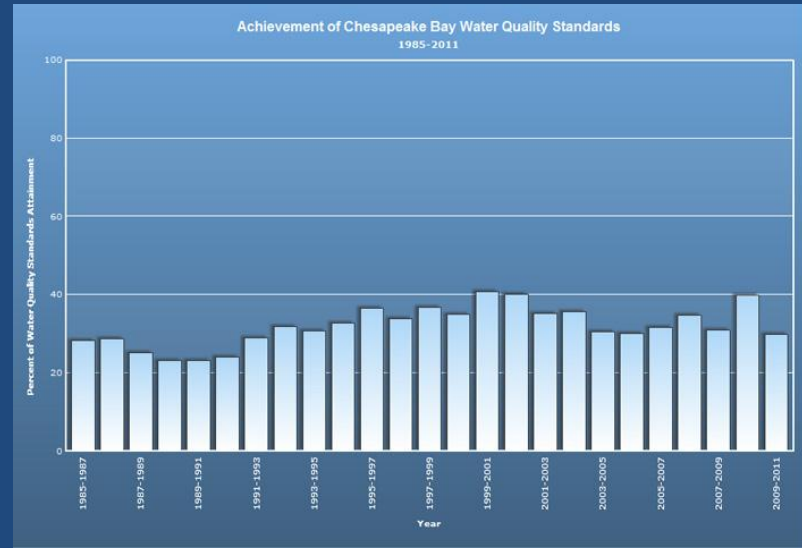
# Bay Health

| Habitats & Lower Food Web   | Fish & Shellfish Abundance  | Water Quality  |
|---|---|--|
| <ul style="list-style-type: none"> <li>• SAV- baywide abundance                             <ul style="list-style-type: none"> <li>• abun by zone</li> <li>• density</li> </ul> </li> <li>• Bottom Habitat</li> <li>• Tidal Wetlands</li> <li>• <del>Phytoplankton</del></li> </ul> | <ul style="list-style-type: none"> <li>• Blue Crabs</li> <li>• American Shad (R)</li> <li>• Oyster Biomass (R)</li> <li>• <del>Striped Bass</del></li> <li>• <del>Menhaden</del></li> </ul> | <ul style="list-style-type: none"> <li>• <i>WQS Achievement</i></li> <li>• Dissolved Oxygen (R)</li> <li>• Water Clarity (R)</li> <li>• Chlorophyll <i>a</i> (R)</li> <li>• Chemical Contaminants</li> </ul> |

- Green: previously reported indicator already updated
- Green w/ "(R)": previously reported indicator already updated; to be revised
- *Green italics*: new indicator
- Black: previously reported indicator to be updated
- Black: w/ "(R)": previously reported indicator to be revised or replaced with new indicator
- ~~Strikeout text~~: previously reported indicator not updated and recommended for removal from "Track the Progress"

# New Bay Water Quality Standards Achievement Indicator

- Fully consistent with how DE, DC, MD, and VA currently list their portion of the Bay's tidal waters.
- Component indicator pages (dissolved oxygen, clarity/underwater bay grasses, chlorophyll *a*) to be revised by end of this week.

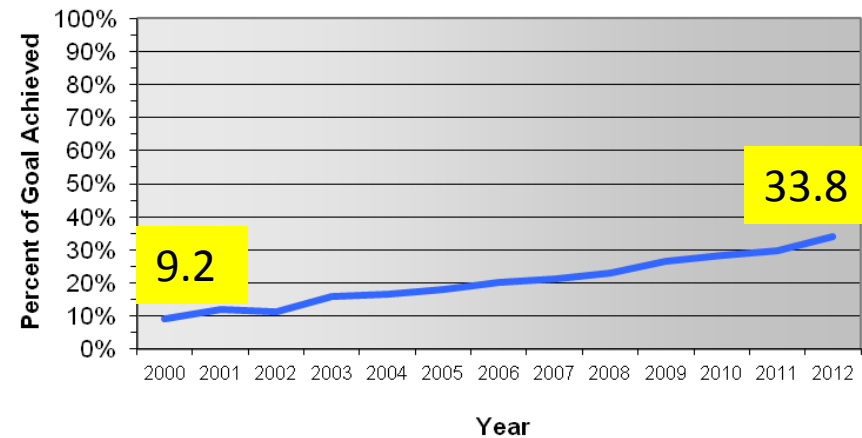


# Revised American Shad Abundance Indicator

- Current indicator tracks abundance/targets in James, York, Potomac, Susquehanna.
- Revised indicator:
  - Adds Rappahannock data
  - Adds Lower James data
  - Revises York data
  - Revises weight of each river to calculate index
  - Static map on indicator webpage features status/trend charts for each component river
  - New dynamic map incorporates/features additional data

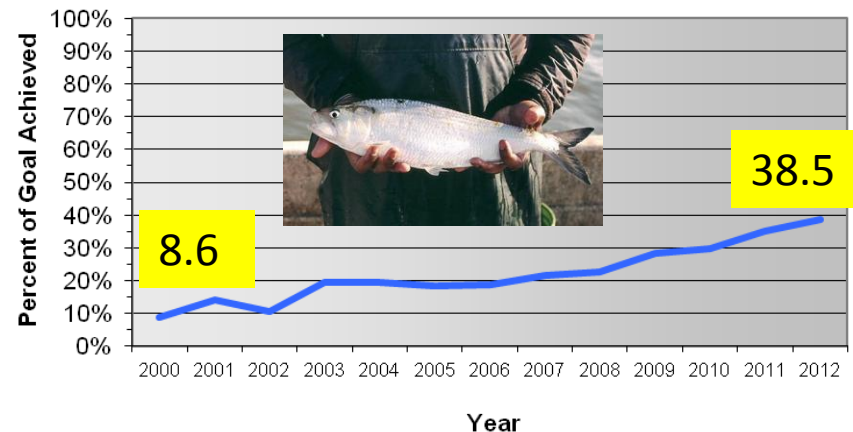
**OLD**

Shad Returning to the Chesapeake Bay



**NEW**

Shad Returning to the Chesapeake Bay





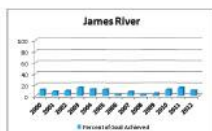
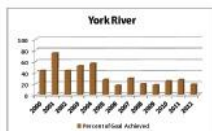
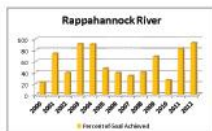
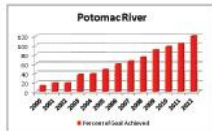
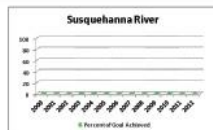
# Requested Decision #1

- Approval to revise current shad indicator in “Track Our Progress” section of Bay.net website.

## Shad Abundance (2012) Ecosystem Health Assessment



Chesapeake Bay and Tributaries



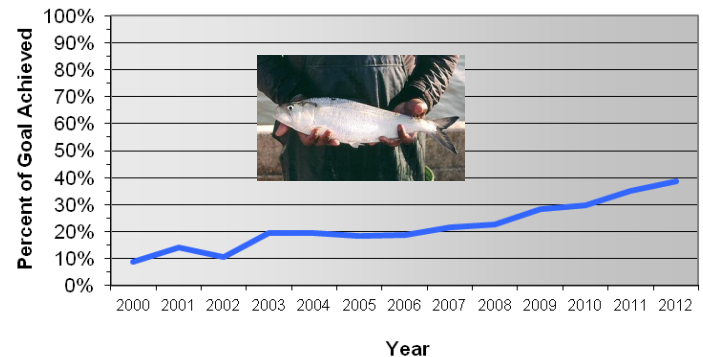
Data Sources: Chesapeake Bay Program  
For more information, visit [www.chesapeakebay.net](http://www.chesapeakebay.net)  
Disclaimer: This is not a legal document. It is for informational purposes only.

Note: Y axis not the same for all graphs.



UTM Zone 18N, NAD 83

## Shad Returning to the Chesapeake Bay



## American Shad Abundance

Based on the most recent data from the James, Potomac, Susquehanna and York rivers, the estimate of Chesapeake Bay-wide American shad abundance increased in 2012 to 34 percent of the goal.

Based on the most recent data from the James, Potomac, Susquehanna and York rivers, the estimate of Chesapeake Bay-wide American shad abundance increased in 2012 to 34 percent of the goal. The Potomac River has seen the most consistent increase of returning shad, reaching 100 percent of that river's target. The York River's shad abundance is at 17 percent of the goal, while the James and Susquehanna River remain at less than 1 percent.



## Legend

- Shad Abundance
- Shad Abundance Tributaries
- James River
- Potomac River
- Rappahannock River
- York River

# Watershed and River Health

## Health of Freshwater Streams

- Health of Freshwater Streams in Watershed (R)

## Flow Adjusted Pollution Trends and Yield

- Nitrogen: LT & ST FAC trends
- Phosphorus: LT & ST FAC trends
- Sediment: LT & ST FAC trends
  - N - ST Yield
  - P - ST Yield
  - S - ST Yield

## Land Cover

- Forest Cover

- Green w/ "(R)": previously reported indicator already updated; to be revised
- Black: previously reported indicator to be updated

# Restoration and Protection Efforts

## Reducing Pollution

- Reducing N Pollution
- Reducing P Pollution
- Reducing S Pollution
- Wastewater Treatment Plant Upgrades

## Restoring Habitats

- Restoring Wetlands
- ~~Wetlands Enhance/Rehab.~~
- Reopening Fish Passage
- Planting Bay Grasses (R)
- Restoring Oyster Reefs (R)

## Managing Fisheries

- Blue Crab Fishery Management

## Protecting Watersheds

- Planting Forest Buffers
- Protected Land
- ~~Developing Watershed Management Plans~~

## Fostering Stewardship

- Public Access Sites
- ~~Water Trails~~
- ~~Bay Gateways~~
- K-12 Education (R)

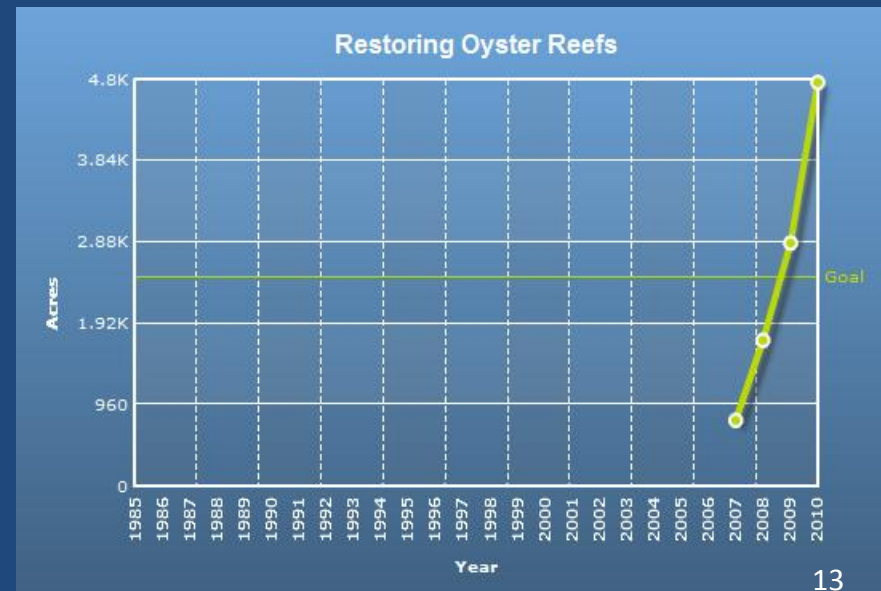
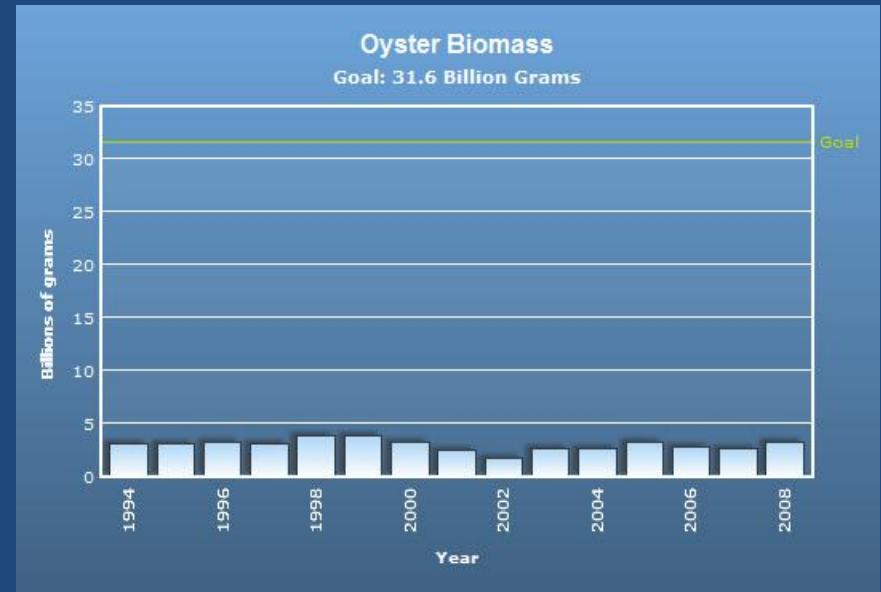
- Green: previously reported indicator already updated
- Green w/ "(R)": previously reported indicator already updated and revised
- Black: previously reported indicator to be updated
- Black: w/ "(R)": previously reported indicator to be replaced with new indicator
- ~~Strikeout text~~: previously reported indicator not updated and recommended for removal from "Track Our Progress"

# What Will Be Developed?

- New Indicators to track new Agreement outcomes, e.g:
  - brook trout
  - oyster
  - black duck
  - environmental literacy
  - etc.

## Requested Decision #2

- Approval to remove these indicators from “Track the Progress” section of Bay.net website until new ones can be developed.
  - Native Oyster Abundance
  - Restoring Oyster Reefs
- Oyster info will continue to be available in other locations of Bay.net website (per user audience interest).
- Com WG will continue to work with STAR to ensure those pages refer to best science available.





## Requested Decision #3

- Approval to remove these indicators from “Track the Progress” section of Bay.net website :
  - Phytoplankton
  - Striped Bass Abundance
  - Juvenile Menhaden Abundance in MD
  - Wetlands Enhancement and Rehabilitation
  - Developing Watershed Management Plans
  - Bay Gateways Designated
  - Water Trails in the Bay Watershed
- Per user audience interest, info will continue to be available in other locations of Bay.net website.
- Com WG will continue to work with STAR to ensure those pages refer to best science available.