

Communicating Our Environmental Indicators: What Goes Where?

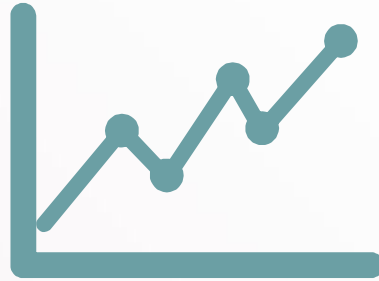
**A Presentation to the Status
and Trends Workgroup
Feb. 14, 2017**



Hello!


I'm Catherine.

I'm here to explain how the launch of ChesapeakeProgress and the evolution of ChesapeakeBay.net has changed the way we communicate our indicators of environmental health, restoration and stewardship.



Track the Progress

Traditionally, we have published our indicators on the Track the Progress section of our flagship website.



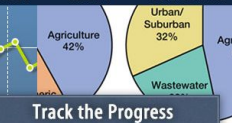


Chesapeake Bay Program

Science. Restoration. Partnership.

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Track the Progress

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What Guides Us

- Health**
- Bay Health
- Watershed & River Health
- Factors Impacting Bay Health
- Restoration
- Tracking Tools


Health

Scientists evaluate Chesapeake Bay health by monitoring important habitats, fish and shellfish, and water quality measures in the Bay and its watershed. They also track pollution, population and other measures that affect the Bay's health.




Bay Health

The Bay's health has slowly improved in some areas. However, the ecosystem remains in poor condition. The Bay continues to have polluted water, degraded habitats, and low populations of many fish and shellfish species.




River Health

Healthy forests, streams and rivers are critical to the health of the Chesapeake Bay. Protecting forests will protect clean air and water, while lowering pollution in rivers will lower pollution entering the Bay.








Factors Impacting Bay Health

The Chesapeake Bay is a dynamic system. What happens in the air and on the land affects the water. Human activities like land use or pollution and natural factors like rainfall or river flow have a big impact on watershed health.



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Discover

- Bay 101
- Bay History
- The Bay Ecosystem
- Field Guide
- The Bay Watershed
- Bay FAQ
- Bay Glossary

Learn the Issues

- Agriculture
- Air Pollution
- Bay Grasses
- Blue Crabs
- Chemical Contaminants
- Climate Change
- Conowings Dam
- Development
- Education
- Forests
- Groundwater
- Invasive Species
- Menhaden
- Nutrients
- Oysters
- Population Growth
- Rivers and Streams
- Sediment
- Shad
- Stormwater Runoff
- Striped Bass
- Wastewater
- Weather
- Wetlands

Track Our Progress

- What Guides Us
- Health
- Restoration
- Tracking Tools

Take Action

- How To's & Tips
- Attend An Event
- Join a Group
- Visit the Chesapeake

In The News

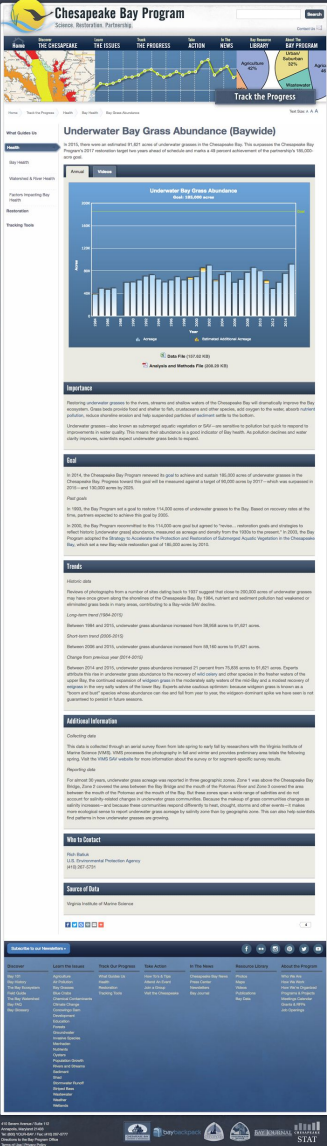
- Chesapeake Bay News
- Press Center
- Newsletters
- Bay Journal

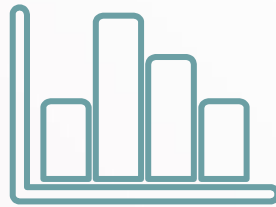
Resource Library

- Photos
- Maps
- Videos
- Publications
- Bay Data

About the Program

- Who We Are
- How We Work
- How We're Organized
- Programs & Projects
- Meetings Calendar
- Grants & RFPs
- Job Openings





ChesapeakeProgress

When we launched the first tool in our suite of accountability products, we included those indicators that are directly linked to our outcomes.

More Than 500 Chesapeake Bay Schools Are Certified Sustainable

At 82 percent of the total, Maryland is home to most of the sustainable schools in the watershed.

[Learn more](#)



The **Chesapeake Bay Program** is committed to tracking our progress toward the goals and outcomes of the **Chesapeake Bay Watershed Agreement**. The accurate, up-to-date and accessible information found here helps oversight groups hold us accountable for our work. We envision **abundant life, clean water, conserved lands** and a diverse range of **citizens and stakeholders** who will steward an environmentally and economically sustainable watershed.

Abundant Life



We depend on the Chesapeake Bay watershed for our wellbeing: its fish and shellfish give us food and work, while its forests and wetlands clean our air and water. By protecting fish and wildlife and restoring their habitats, we support a balanced ecosystem and sustain our quality of life.

[Learn more](#)

Clean Water



The rivers and streams of the Chesapeake Bay provide habitat to wildlife and a resource to people. We must limit the pollution we send into these natural pipelines and protect the healthy waters that remain. By restoring degraded waterways and protecting pristine areas, we support clean water across the region.

[Learn more](#)

Conserved Lands



The Chesapeake Bay is vulnerable to changes we make to the land. Development can pollute rivers and streams, degrade habitats, and harm fish and wildlife. By encouraging smart growth and conserving treasured landscapes, we protect the natural world and support healthy, vibrant communities.

[Learn more](#)

Engaged Communities



Almost 18 million people live, work and play in the Chesapeake Bay watershed. We all rely on the natural world, and we all play a role in protecting it. Connecting people to this world is vital to fostering stewardship, and fostering stewardship is vital to the health of the environment.

[Learn more](#)

Climate Change



A changing climate puts all aspects of life in the Chesapeake Bay at risk. Monitoring and assessing warming temperatures, rising sea levels, extreme weather events and other impacts of climate change helps us create programs and policies that make our resources, habitats and communities more resilient.

[Learn more](#)

\$515
MILLION

invested by federal agencies in the Executive Order for Chesapeake Bay Protection and Restoration in 2015

[Learn more](#)





- Charts
- Maps
- Downloadable data files and Analysis and Methods documentation
- Data trends
- Targets and goals
- Importance
- Management Strategy commitments
- Work Plan actions
- Participating partners



State of the Chesapeake

As we prepared for a redesign of our flagship website, we realized that our desire to avoid duplicative content presented us with an opportunity to improve the way we told stories of Bay health and restoration.

Improving Our Content

We wondered:

- What do our users already know about the Bay?
- What concerns do they have about the environment?
- What kind of information would help them understand how the Bay is doing?

Improving Our Content

We conducted user research.

We synthesized user needs.

We looked for the intersection between these needs and our own business case.

User Research

We found that users want to know:

- The status of vital habitats
- The status of keystone species
- The status of leading environmental threats
- What individuals can do to help

User Research

And users want:

- Easy-to-understand content
- Context
- An understanding of what “healthy” means
- An understanding of where our data comes from and why it can be trusted
- Visual representations of data
- Multimedia



Our Charge

Sustain a clear, accurate and visually pleasing set of webpages that uses text and graphical representations of data to help users understand the current state of the Chesapeake Bay, its rivers and streams and the lands that surround them, and see connections within the watershed's ecosystem.

State of the Chesapeake

State of the Chesapeake

The health of the Chesapeake Bay region faces a multitude of threats, such as poor water quality, vulnerable habitats and aggressive invasive species. Learn about the current state of habitats, wildlife, and environmental threats in the Chesapeake.



Bald Eagles

After pesticide use devastated bald eagle populations, a steady recovery has made the region home to one of the nation's highest concentrations of these iconic birds.



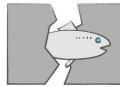
Blue Crabs

An iconic Chesapeake species, blue crabs are vital to the culture and economy of the Bay region, but they also play an important role in the estuary's ecosystem.



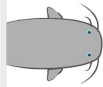
Climate Change

As one of the most vulnerable regions to the effects of climate change, the Chesapeake Bay is already experiencing shifts from warming temperatures to rising sea levels.



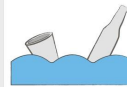
Fish Passage

Removing dams or installing fish lifts allows migratory fish to return to upstream habitats and less resident fish move freely throughout the region's rivers.



Invasive Species

Whether introduced accidentally or on purpose, invasive species can cause harm to native plants and animals by encroaching on their food or habitat.



Litter

Plastic bags, bottles and other litter aren't just unsightly to look at. They can also add toxic contaminants to watersheds and be ingested by animals.



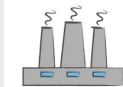
Osprey

These raptors may be found on nearly every corner of the world, but the Chesapeake region is home to the largest concentration of nesting osprey.



Oysters

Natural filter-feeders, oysters clean our waters and provide other animals with food and habitat, while making up one of the region's most valuable fisheries.



Pollution

When pollutants like excess nutrients, sediment and chemical contaminants enter local watersheds, they threaten the health of plants and animals that live in the Bay ecosystem.



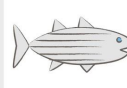
Population

Each of the more than 18 million people that live in the region affects the Bay, consuming resources, altering the landscape and polluting the air and water.



Rivers

Hundreds of thousands of creeks, streams and rivers in the region send fresh water into the Bay and offer vital habitat to aquatic plants and animals.



Striped Bass

Striped bass, or "rockfish," are not only key predators in the Chesapeake Bay food web—they also support one of the Bay's most popular fisheries.



The Dead Zone

When nutrient-fueled algae blooms die and decompose, the resulting low-oxygen conditions—known as "dead zones"—can suffocate underwater life and shrink available habitat.



Tree Cover

Healthy forests are essential in sustaining clean air and water, wildlife habitat, public health and a vibrant economy throughout the Bay region.



Underwater Grasses

By providing food and habitat for wildlife, reducing shoreline erosion and improving water quality, underwater grasses serve as an important piece of the Bay ecosystem.



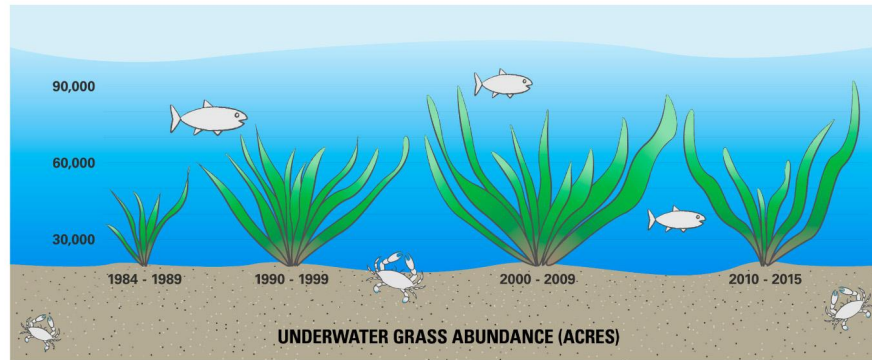
Wetlands

Located where land meets water, wetlands act as natural sponges, soaking up stormwater and helping trap pollutants before they reach rivers, streams and the Bay.

Sneak Peek: State of Underwater Grasses

Underwater Grasses

By providing food and habitat for wildlife, reducing shoreline erosion and improving water quality, underwater grasses serve as an important piece of the Bay ecosystem.



Underwater Grasses

Between 2014 and 2015, underwater grass abundance in the Chesapeake Bay rose 21 percent, making 2015 the most productive growing season of the past three decades. Digital imagery and aerial photographs collected between May and November of 2015 revealed a total of 91,261 acres of underwater grasses across the region. While this total is just under half of the acreage the nation's largest estuary once supported—and the 185,000-acre goal to which Chesapeake Bay Program partners committed in the *Chesapeake Bay Watershed Agreement*—this rise returns underwater grass abundance to levels last seen before two hot summers and two large storms upset the vital aquatic habitat.

91,621

Acres of underwater grasses in the Chesapeake Bay

Scientists attribute the boost to the expansion of widgeon grass in the moderately salty waters of the mid-Bay and the modest recovery of eelgrass in the very salty waters of the lower Bay, where the hot summers of 2005 and 2010 had resulted in dramatic diebacks. A continued rise in bay grasses will benefit the entire Bay ecosystem: underwater grasses improve water clarity, reduce shoreline erosion and provide food and habitat to striped bass, blue crabs and other critters.

What You Can Do


To avoid harming underwater grass beds, boaters can follow posted speed limits and no-wake laws. Boaters can also steer clear of grasses growing in shallow waters.

[More Bay Tips >>](#)



What did this mean for orphaned indicators?

Laura, Stephanie and I worked with Chesapeake Bay Program experts to determine what should be done with those indicators that didn't clearly "fit" on ChesapeakeBay.net or ChesapeakeProgress.

The background is a dark, textured surface, possibly a chalkboard, covered with many question marks drawn in various colors including red, yellow, and light blue. The question marks are scattered across the entire frame, some appearing more prominent than others.

Stop tracking it entirely?
Place it in a “parent”
indicator’s data file?
Incorporate it into an
existing webpage?

Orphaned Indicators

SAV Density and SAV Abundance in Four Salinity Zones	Archive indicator, but include information in Submerged Aquatic Vegetation Abundance data file.
Water Quality Standards Attainment: Chlorophyll a, Dissolved Oxygen and Water Clarity	Archive indicator, but include information in Water Quality Standards Attainment data file.

Orphaned Indicators

Atlantic Menhaden Abundance and Atlantic Menhaden Fishery Management	Archive indicators. Reference and link to the latest available ASMFC data and information on relevant Learn the Issues and Field Guide pages.
Bottom Habitat	Archive indicator. Reference and link to the latest available Versar (via MDNR and VDEQ) data and information on Life at the Bottom page.
Dissolved Oxygen: Volume Assessment	Archive indicator. Note partnership focus on tracking dissolved oxygen through surface area assessments (included in Water Quality Standards Attainment data file).

Orphaned Indicators

Nitrogen, Phosphorus and Sediment Yields Measured in Streams and Rivers	Include a Summary Trends Table (improving, degrading or showing no trend at X percent of sites) and Trends Map on Water Quality Standards Attainment and Monitoring page. Link to the latest available USGS data and information.
River Flow	Link to the latest available USGS data and information on Water Quality Standards Attainment and Monitoring page until chart functionality is improved this year.

Stop tracking it entirely:
one indicator.

Place it in a “parent”
indicator’s data file: **five**
indicators.

Incorporate it into an
existing webpage: **seven**
indicators.

Thanks!

Any questions?