

History and evolution of the Chesapeake Bay Report Card



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Chesapeake Bay Program Management Board Meeting
February 14, 2019



History - How did it start

- Sometimes inaccurate/confusing messages being received → GAO
- Chesapeake Bay Program may not be the primary source of information
- Information not always presented in a timely fashion
- Information generally relates to the 'whole bay'. Not enough information about local waterways

What GAO Recommends

GAO recommends that the Administrator of EPA instruct the Chesapeake Bay Program Office to (1) complete its efforts to develop and implement an integrated assessment approach; (2) revise its reporting approach to improve the effectiveness and credibility of its reports; and (3) develop a comprehensive, coordinated implementation strategy that takes into account available resources. In commenting on this report, the signatories to the *Chesapeake 2000* agreement generally agreed with GAO's recommendations.



History

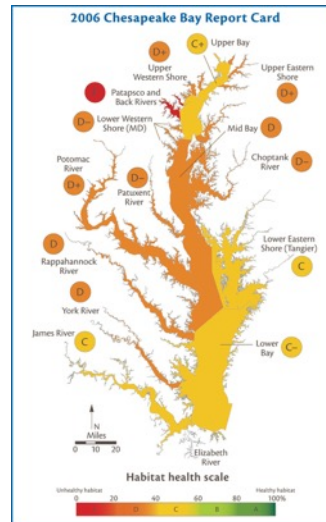
Shared messaging, different products

	UMCES report card	Bay Barometer	CBF report card
Indicators	Water quality, benthics, SAV	Fisheries, habitats, water quality, toxics, land conservation, engaged communities, climate change	Pollution, habitat, fisheries
Audience	Public, policymakers	Public, managers	Public
Style	6 page trifold	32 page report	16 page report
Timing	Released in spring, data from previous calendar year	Released in January, data from previous two calendar years	Released in January, data from previous calendar year



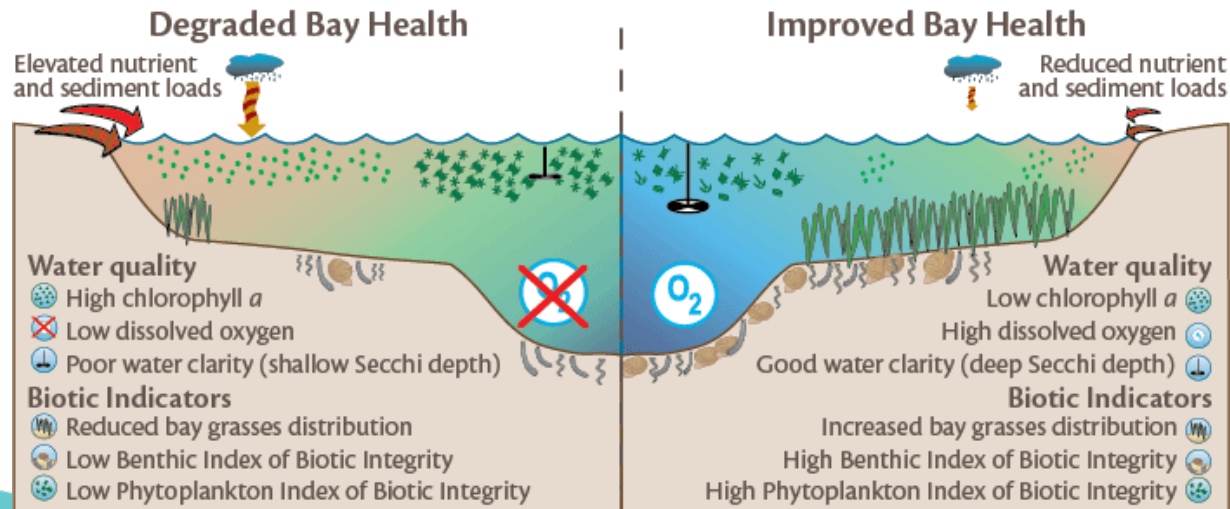
History - How did it start

- 2006 report card (released in Spring 2007)
- UMCES report card
- CBP partnership invited to speak at press event



History - How did it start

- 2006 – 2011 report card
- 3 water quality indicators (dissolved oxygen, water clarity, and chlorophyll)
- 3 biotic indicators (benthic IBI, phytoplankton IBI, submerged aquatic vegetation)
- Water Quality Index and Biotic Index averaged into overall Bay Health Index



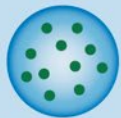
History - How did it start

- 2012 report card
- Phytoplankton IBI was discontinued
- Added total nitrogen and total phosphorus
- Averaged all seven indicators into overall Bay Health Index
- Back calculated scores to 1985 to look at trends

Before 2012

2012

Water Quality Index



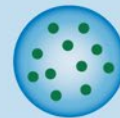
Chlorophyll *a*



Water clarity



Dissolved oxygen



Chlorophyll *a*



Water clarity



Dissolved oxygen

Biotic Index



Benthic community



Phytoplankton community



Aquatic grasses



Total nitrogen



Total phosphorus



Benthic community



Aquatic grasses

History - How did it start

- 2012 – 2017 report card
- Seven indicators
- Trends over time
- Improvement in overall Bay health for the first time in 2017 report card



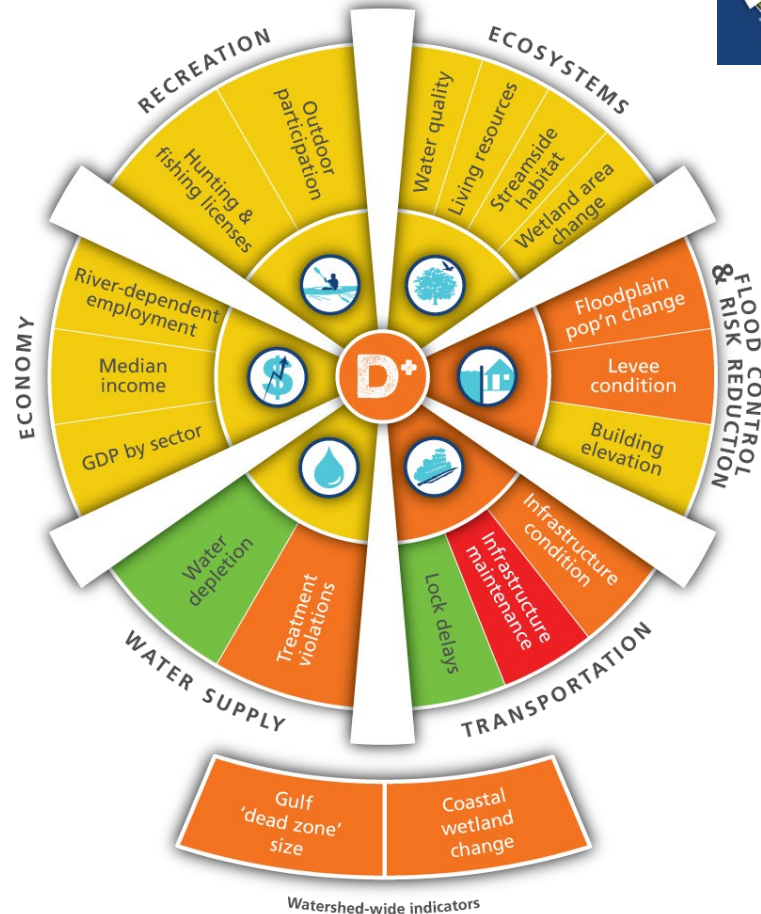
Evolution



Evolution - Producing report cards in other regions



- Mississippi River report card
- 6 goal areas that covered more than just ecosystem health
- Watershed report card, not just receiving waters



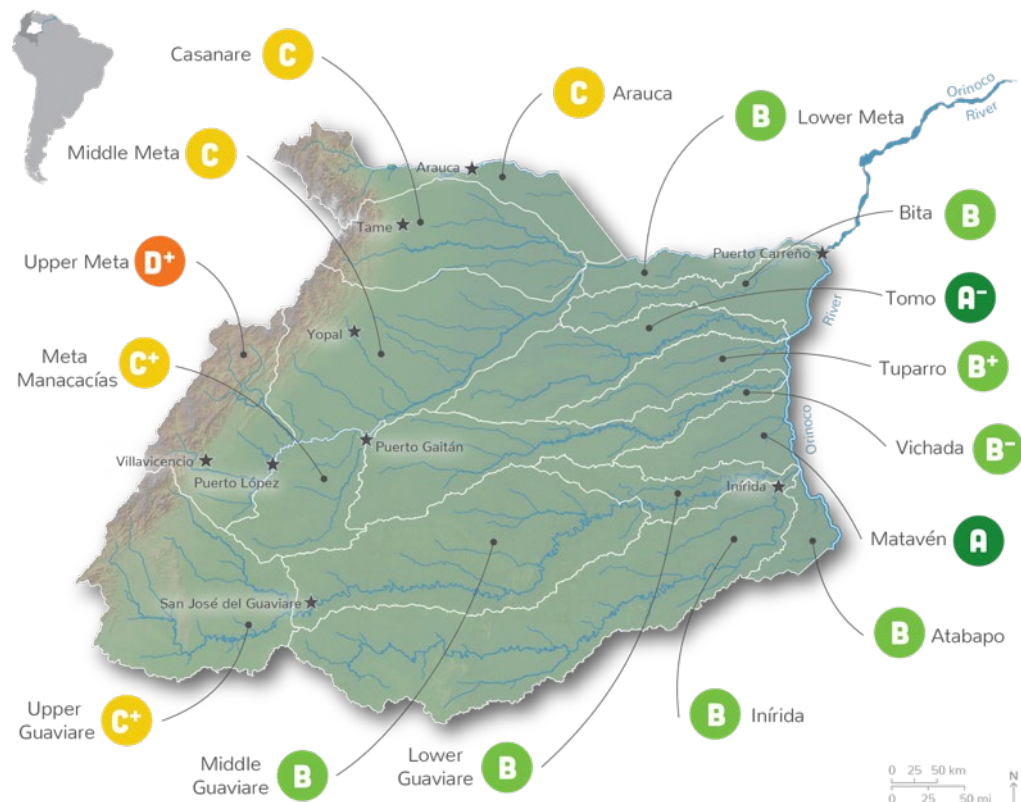
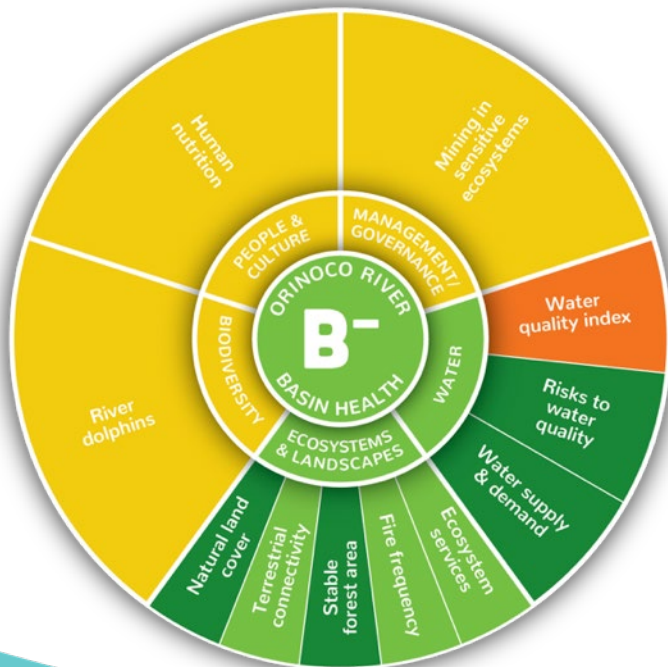
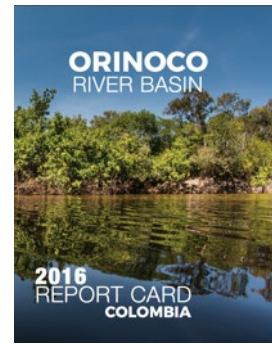
- GOALS**
- Ecosystems
 - Flood Control & Risk Reduction
 - Transportation
 - Water Supply
 - Economy
 - Recreation

- GRADES**
- A Very good
 - B Good
 - C Moderate
 - D Poor
 - F Very poor
 - No data



Evolution - Producing report cards in other regions

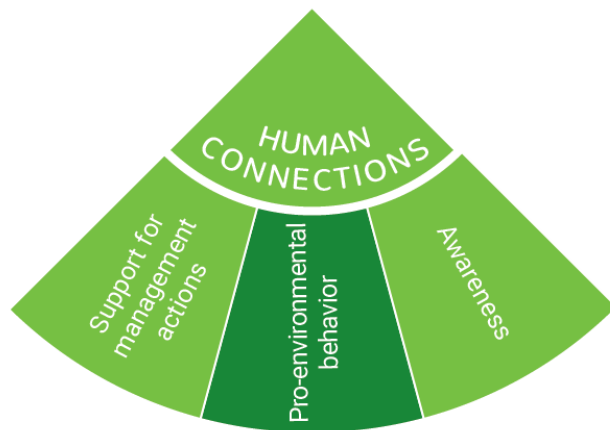
- Orinoco River, Colombia
- Working internationally
- Indicators are...



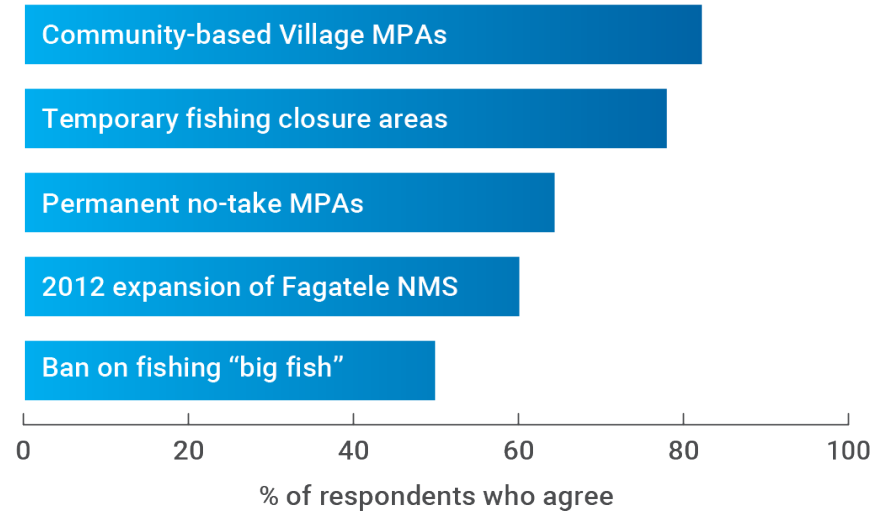
Evolution

Producing report cards in other regions

- NOAA Coral Reef Conservation Program
- All U.S. jurisdictions in both Atlantic and Pacific
- Coral, fish, but also socioeconomic and climate



Samoans support reef management



NMS = National Marine Sanctuary MPA = Marine Protected Area

Evolution - What did we learn?

- From new report cards
 - Social, cultural, and economic indicators
 - Engagement at the local level
 - Stakeholder analysis techniques like stakeholder mapping and stakeholder network analysis
- Implementing it in Chesapeake
 - Moving into the watershed
 - Indicators that resonate with citizens
 - Bay agreement applicable indicators



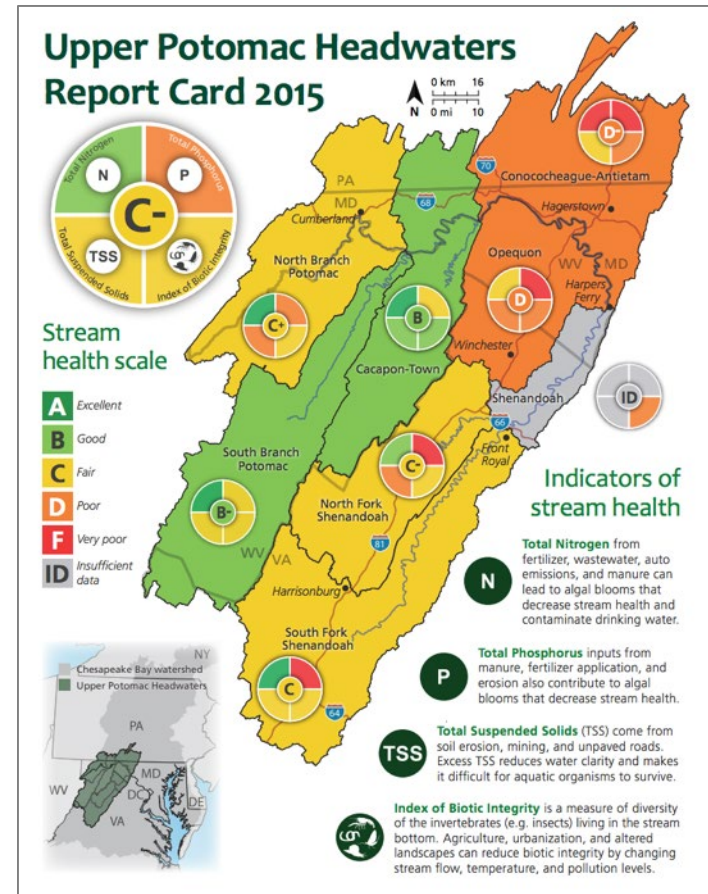
Evolution of Chesapeake report card 2019 and beyond

- Starting with 2018 report card (out in spring 2019) and continuing for several years
- Expanding into the watershed
 - No longer just tidal tributaries
- Low-hanging fruit
 - Stream health (benthics)
 - Watershed fisheries
 - Riparian buffers



Evolution of Chesapeake report card 2019 and beyond

- Have done watershed report cards in the Chesapeake watershed
- Non-tidal protocol
- Upper Potomac River report card



Support from the Bay Program partnership

- Open discussion
- What indicators do you think resonate with people?
- Mentometer
 - What word comes to mind when you think of the Chesapeake Bay Watershed?
 - What are some social and economic values or indicators that we should try to include in the Chesapeake Bay Report Card?
 - How can the UMCES Chesapeake Bay Report Card best help in restoration of the watershed?



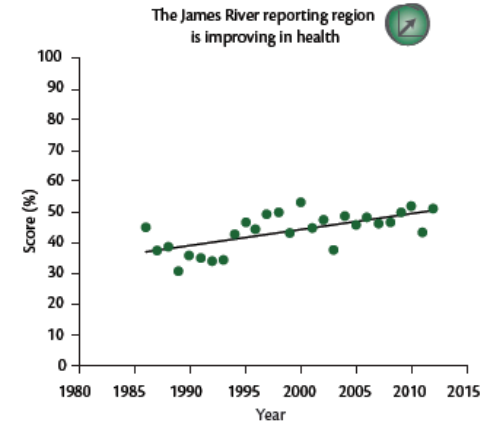
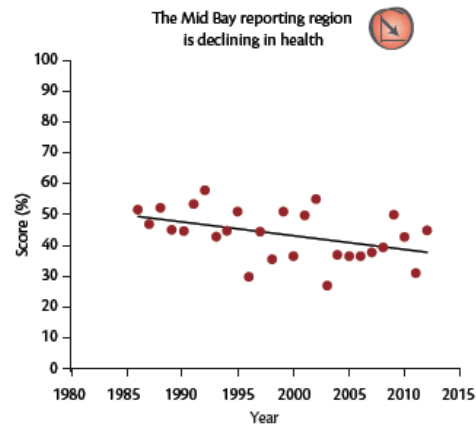
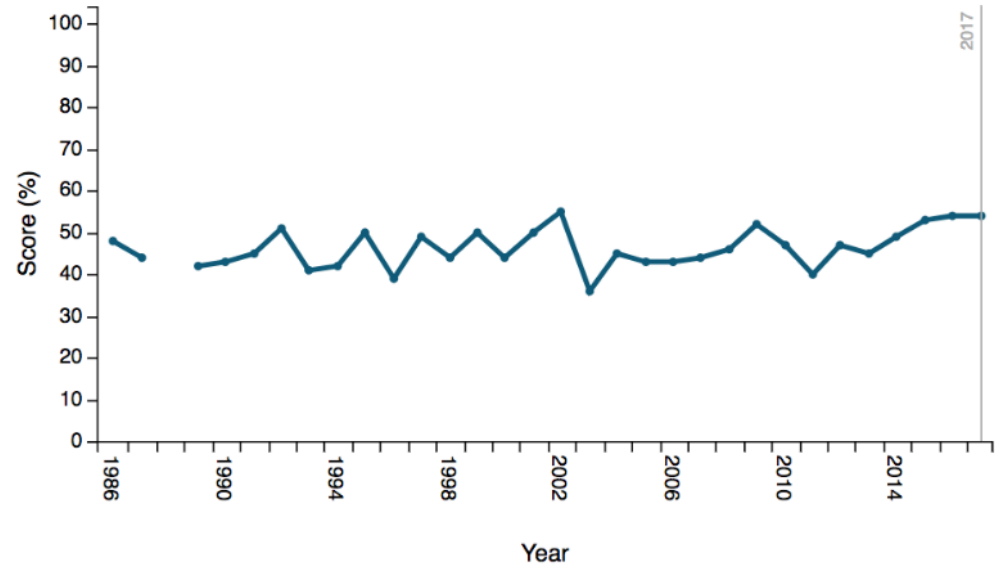
Thank you!

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History - How did it start

- Back calculated indicator scores and overall Bay Health Index to 1985
- Started looking at indicator trends and reporting region trends



Evolution of Chesapeake report card 2019 and beyond

- Expanding into socioeconomic indicators
- Stewardship Index
- Conserved lands

