

***Smarter Government —
The Data, the Map, the Method***

New Mexico
June 30, 2020

Martin O'Malley

Governor of Maryland
2007–2015

*“If there were no place,
there would be no
where...”*

— John O’Donohue



There is a
crisis facing
western
democracy
today,...



And the crisis
is western
democracy
itself.



TRUST



“It is from the numberless diverse acts of courage and belief that human history is shaped. Each time a man stands up for others, or strikes out against injustice, he sends forth a tiny ripple of hope.”

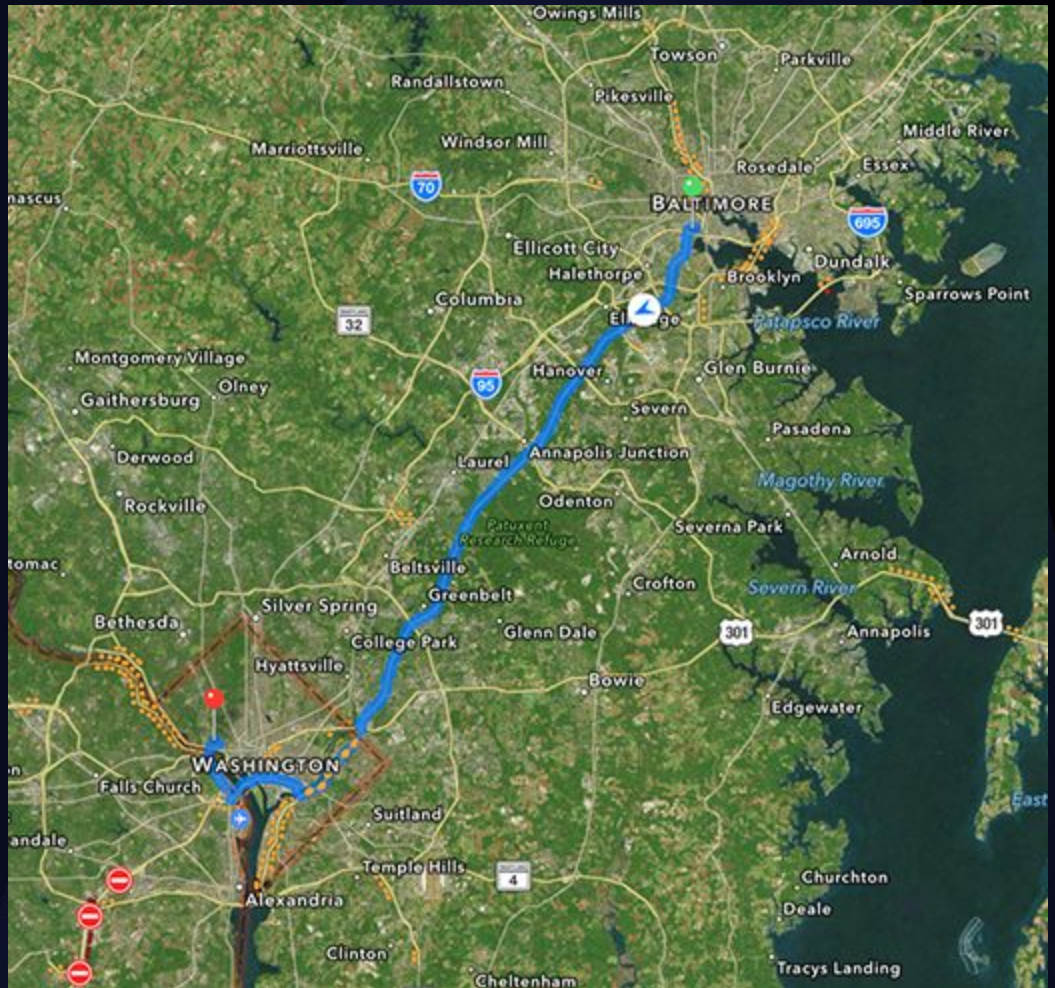
– Robert Kennedy

One Insight,...

GIS

&

Internet of Things



A First for Democracy:

*We now have ability to **model, measure, and map** dynamic human and natural systems — real-time — in ways that all can see.*



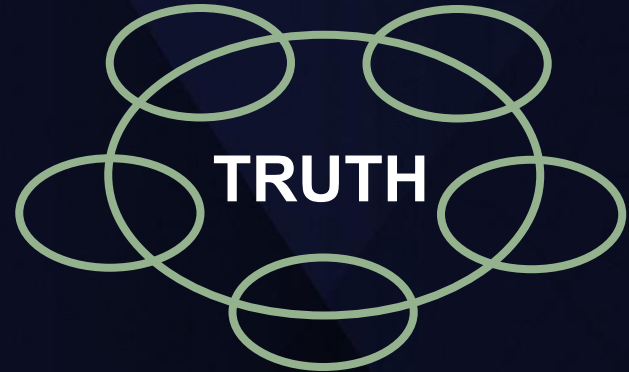
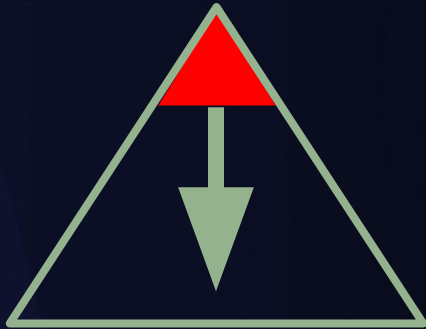
- ◆ Entrepreneurial
- ◆ Performance Measured
- ◆ Interactive
- ◆ *COLLABORATIVE*

A New Way of Governing

But it requires a big shift
in the **practice of leadership**

A Big Shift in the Nature of Leadership

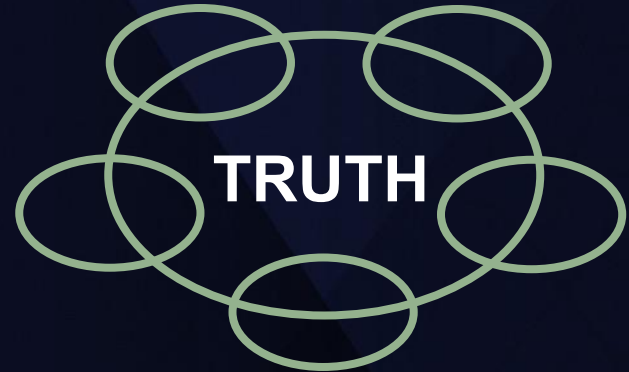
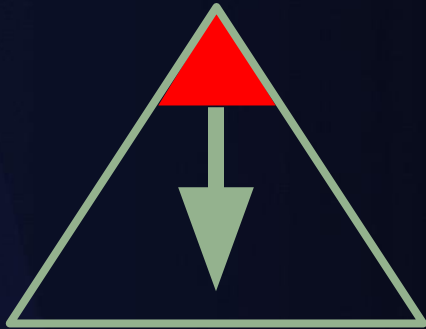
AUTHORITY



Shared Understanding

From Command and Control To Collaboration

AUTHORITY

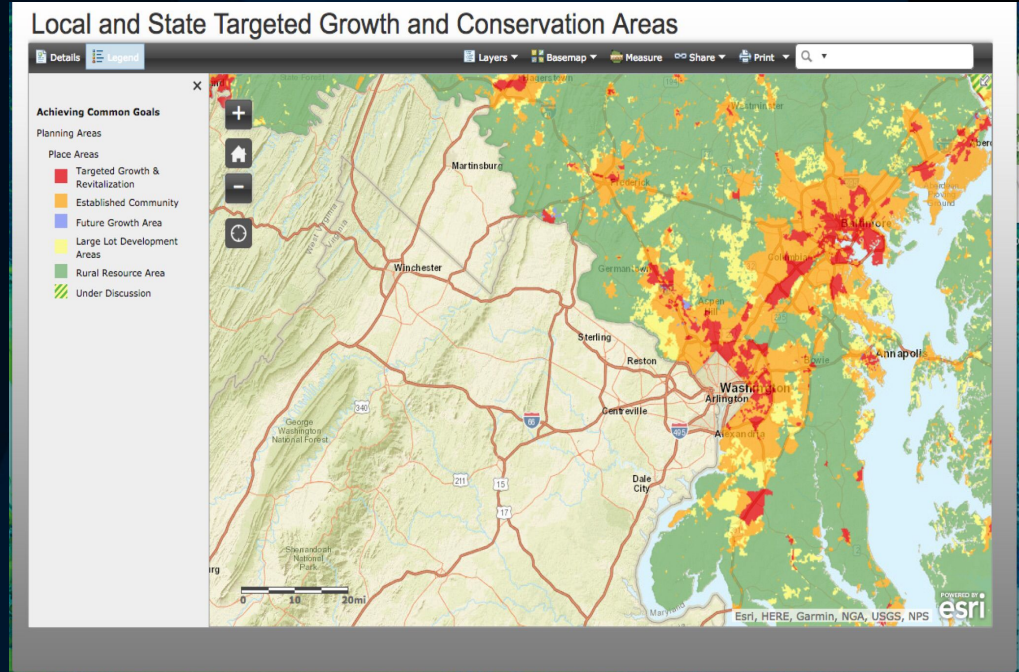


Shared Understanding

Set Strategic Goals with Public Deadlines

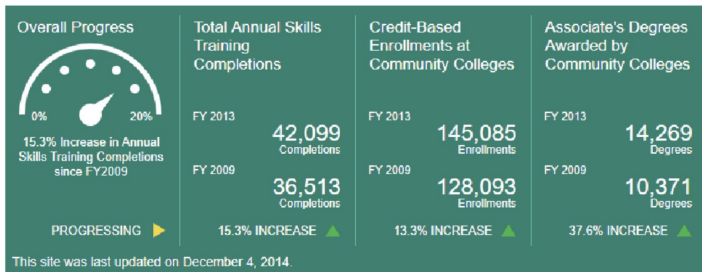


Use Maps to Show the Latest Emerging Truth to Everyone





This site was last updated on December 3, 2014.



This site was last updated on December 4, 2014.



This site was last updated on December 3, 2014.

Create Real-time Public Facing Dashboards

But, here's the *thing*,...

None of this works unless the leader insists — *and drives* — **a repeating cadence of collaboration** and follow-up at the center of the enterprise.

Repeating Cadence of Collaboration



?



Old Tenets of State Government

- ◆ If the Secretary really wants to know, we can find out. But we'll have to pull all of our people off their other jobs. And it will take weeks.

Old Tenets of State Government

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Old Tenets of State Government

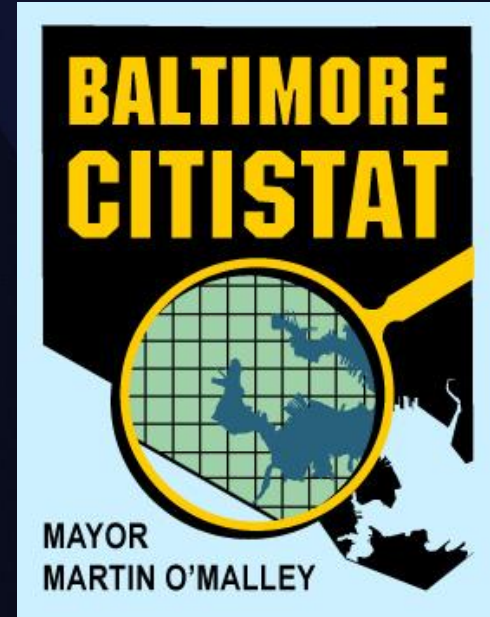
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- ◆ That wouldn't work here because: a) This is the way we've always done it; b) We're already doing that; or c) We tried that once and it didn't work.
- ◆ I hope everyone forgets about this question before next year's annual budget hearing...

CitiStat Tenets

- ◆ Accurate and timely intelligence shared by all
- ◆ Rapid deployment of resources
- ◆ Effective tactics and strategies
- ◆ Relentless follow-up and assessment



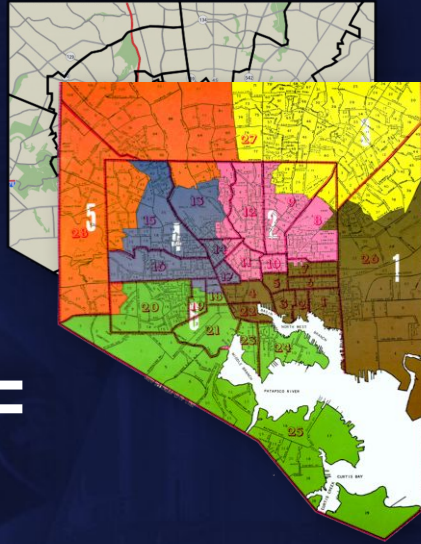
Repeating Cadence of Collaboration



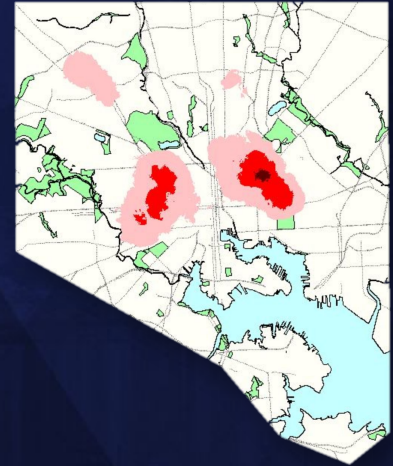
Improving Public Safety

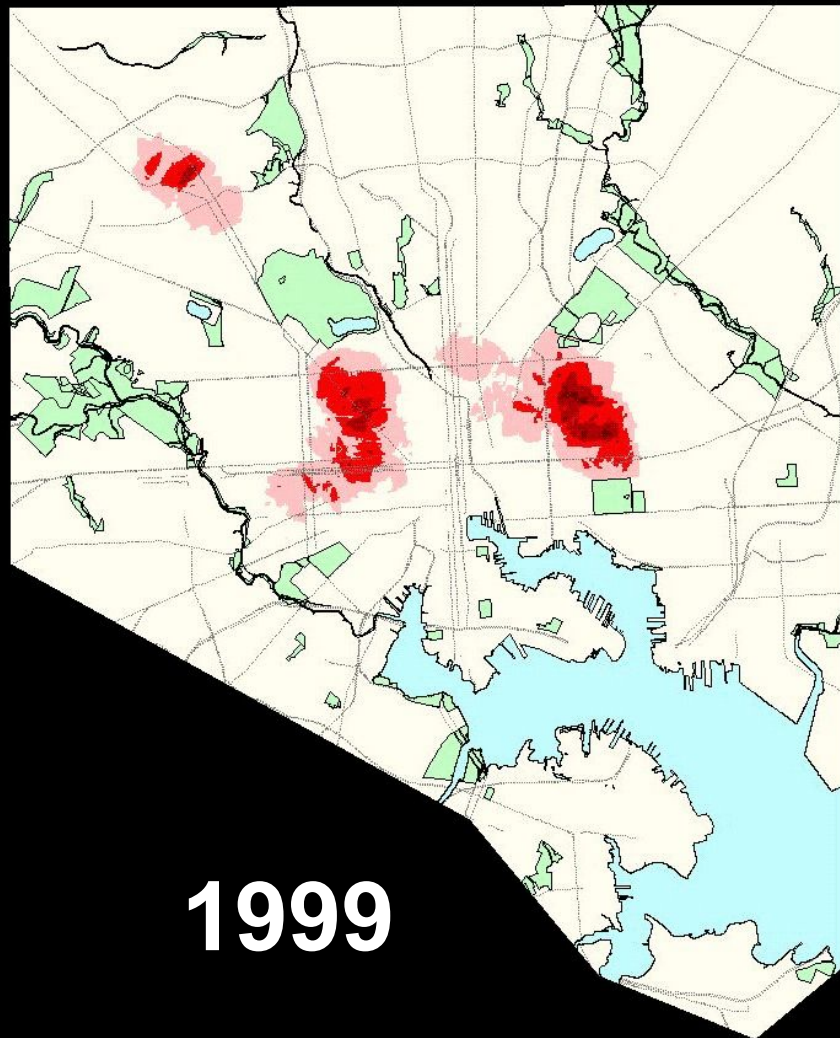
We deployed police to where crime was actually happening...

200 Police thru COPS =



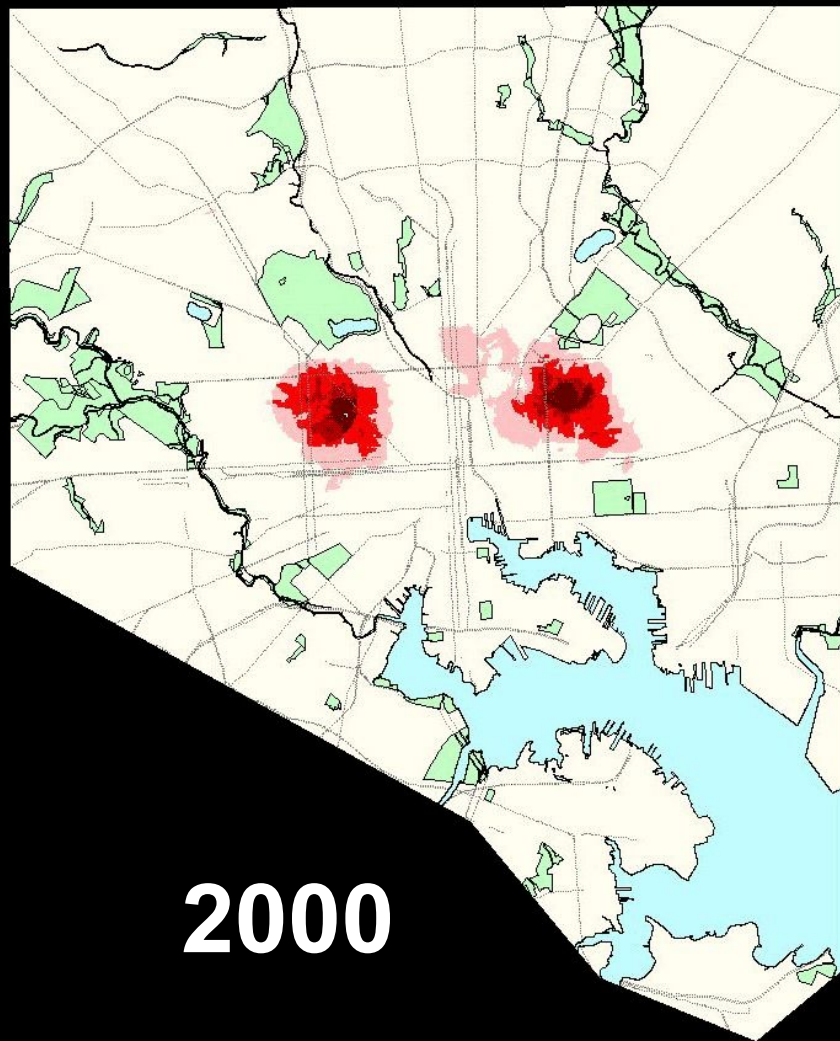
OR





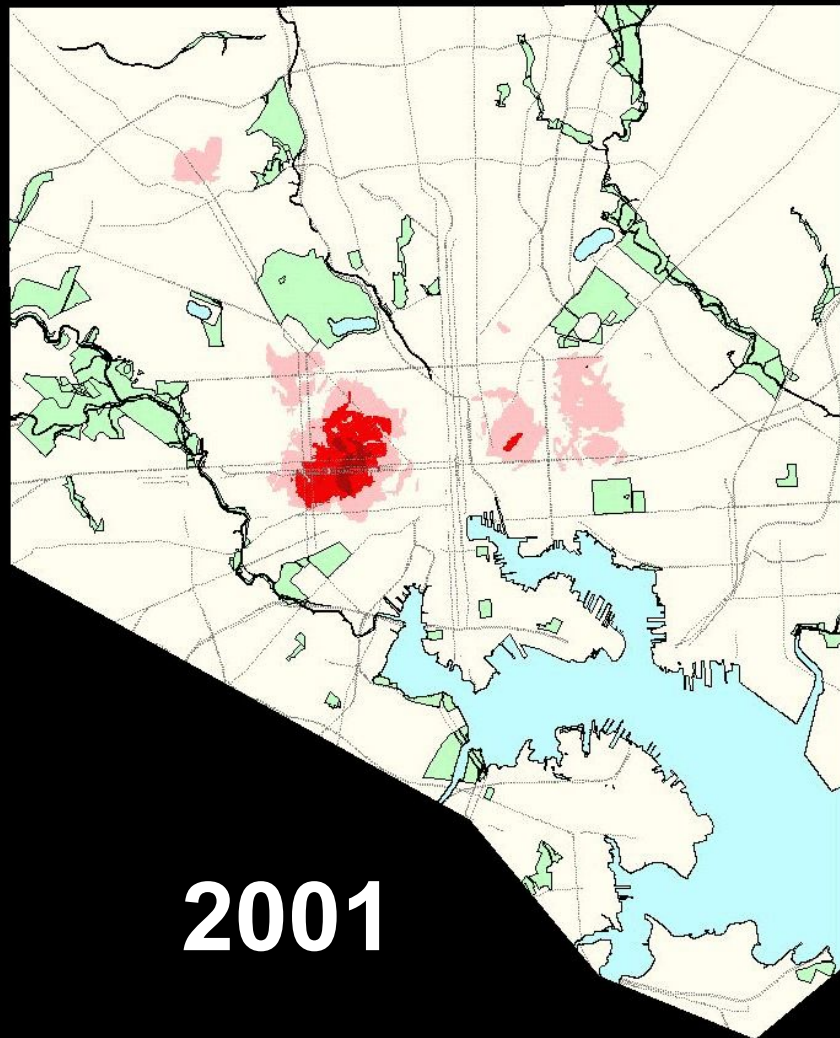
1999

Baltimore City Homicides and Shootings



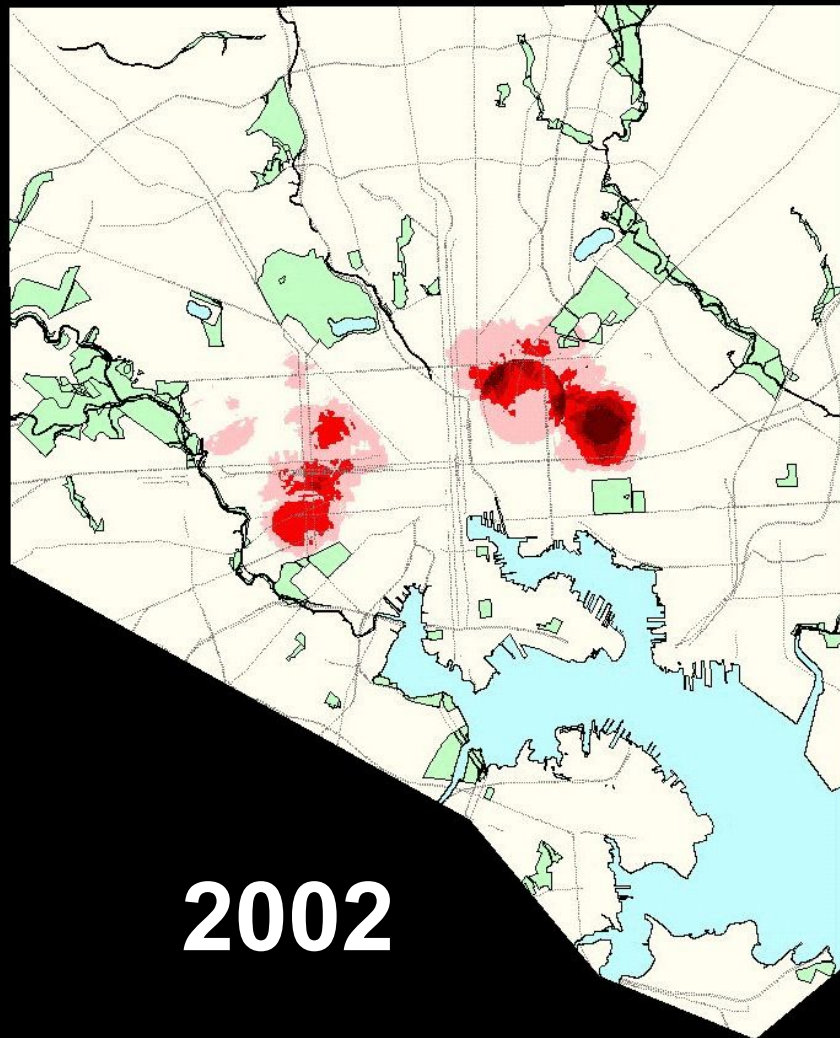
Baltimore City Homicides and Shootings

2000



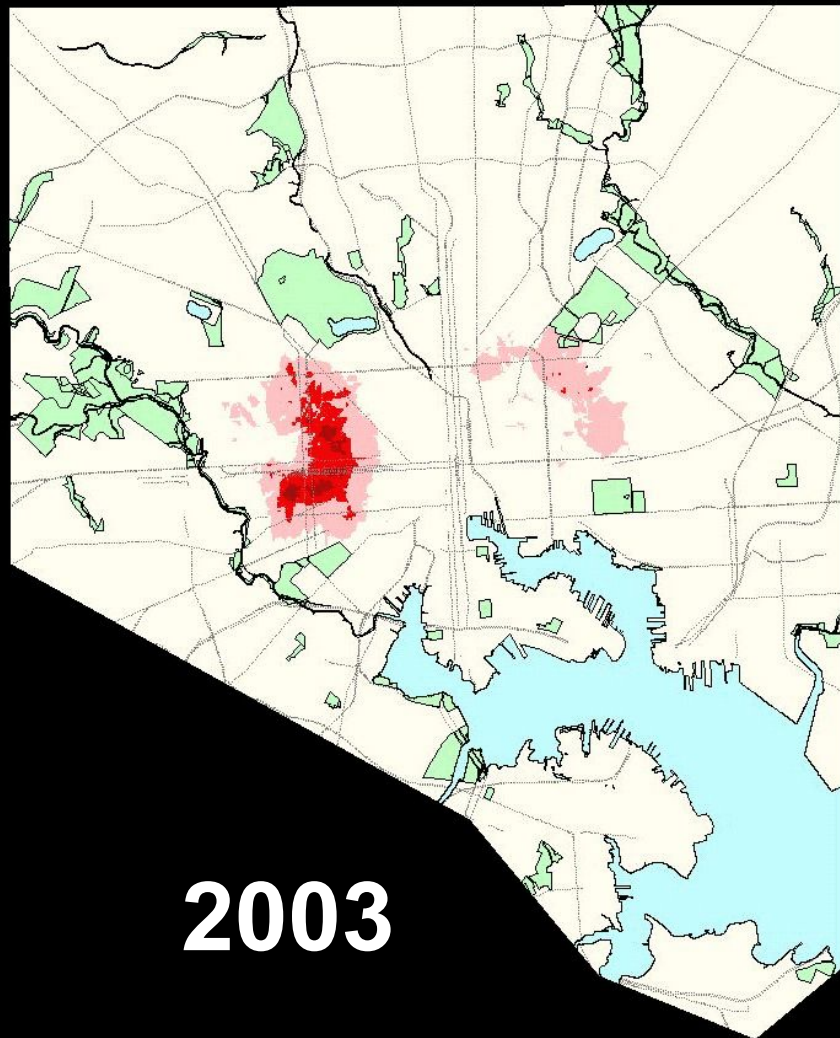
2001

Baltimore City Homicides and Shootings



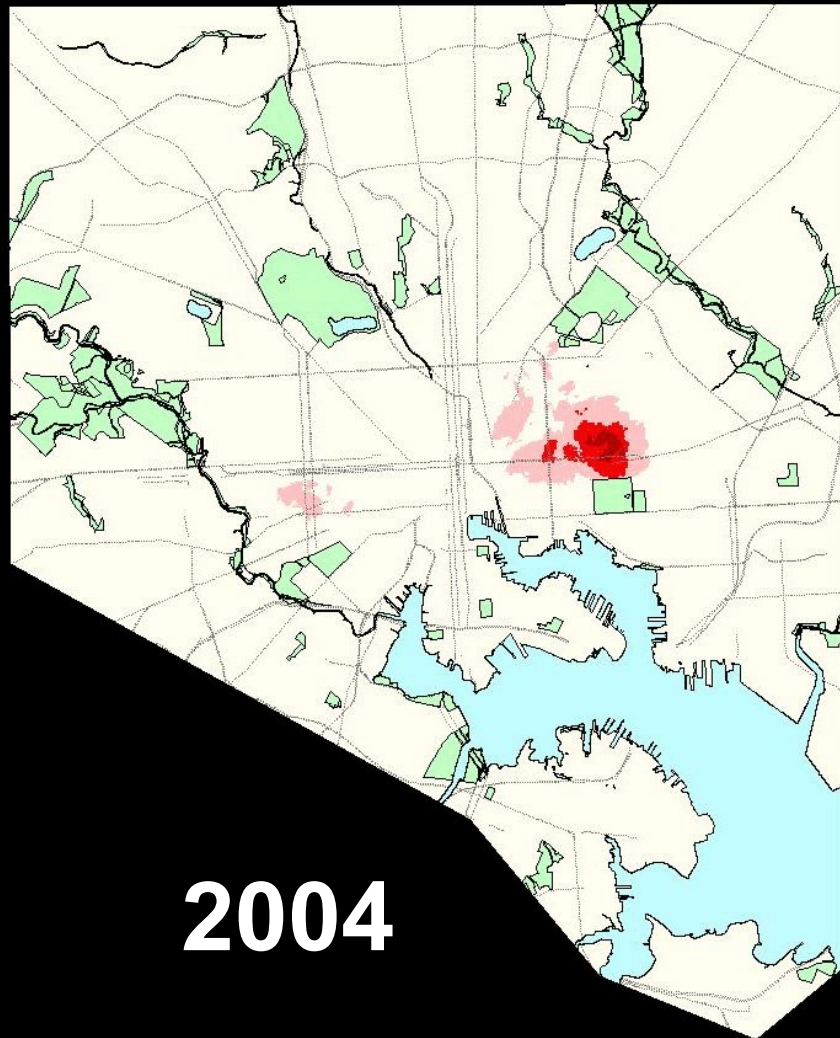
Baltimore City Homicides and Shootings

2002



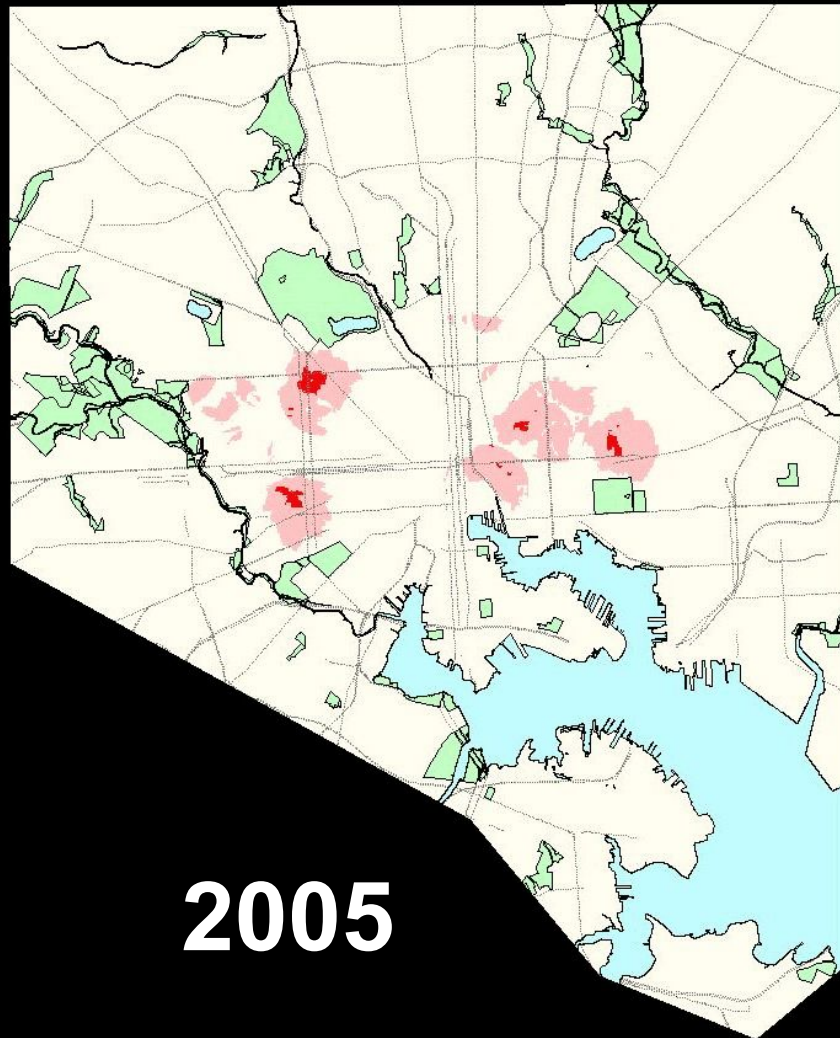
2003

Baltimore City Homicides and Shootings



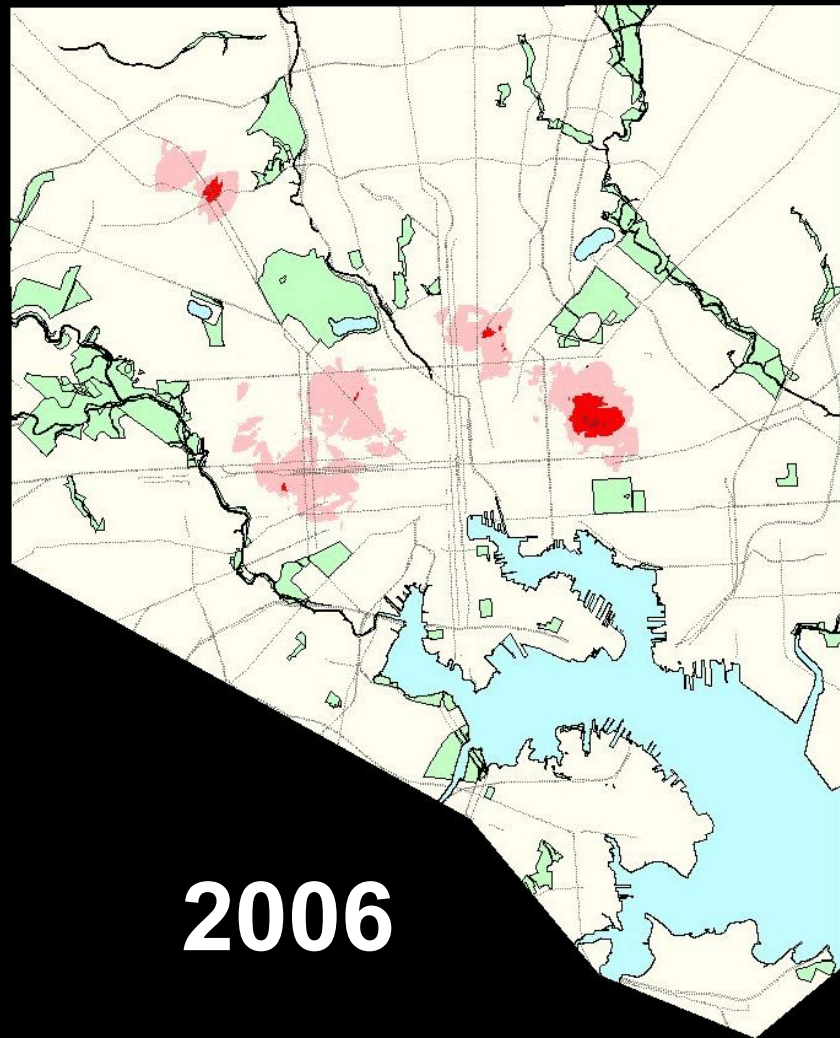
Baltimore City Homicides and Shootings

2004



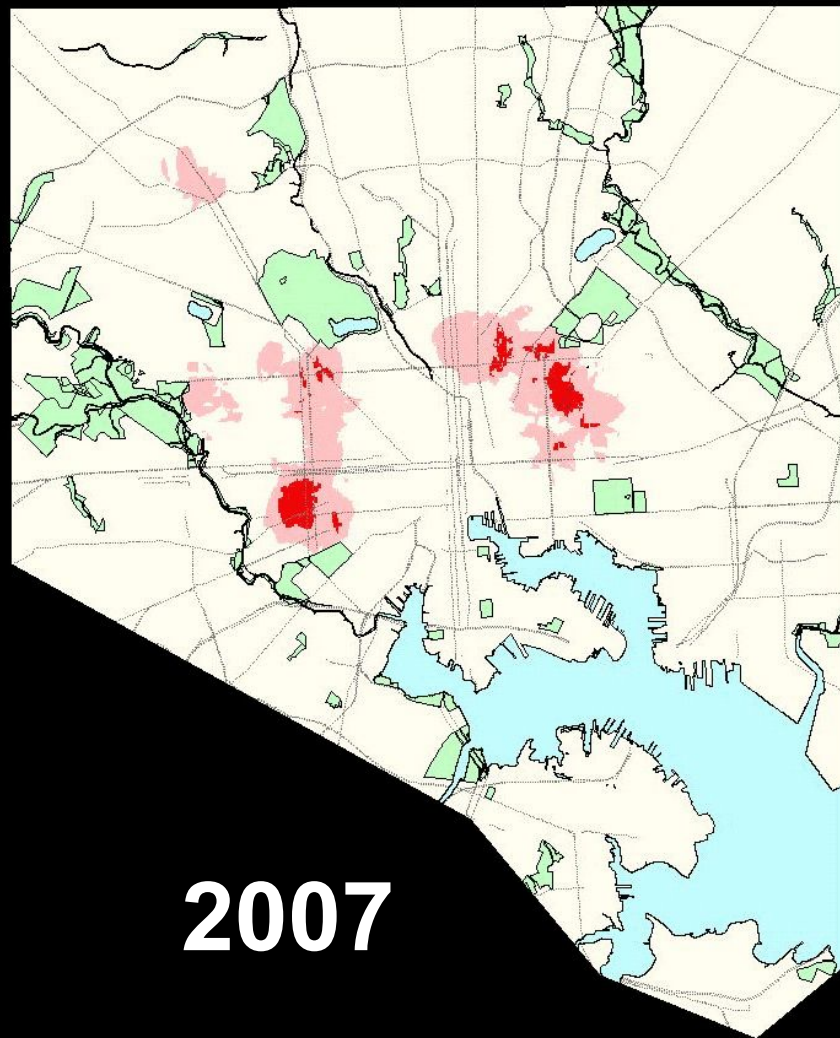
2005

Baltimore City Homicides and Shootings



2006

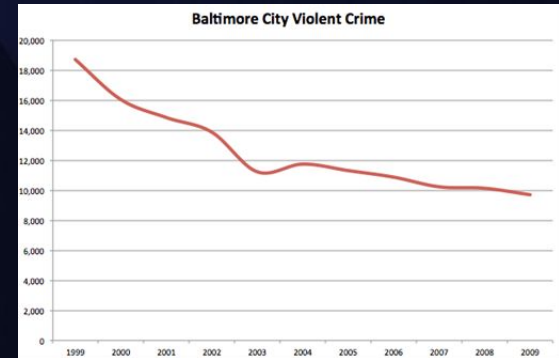
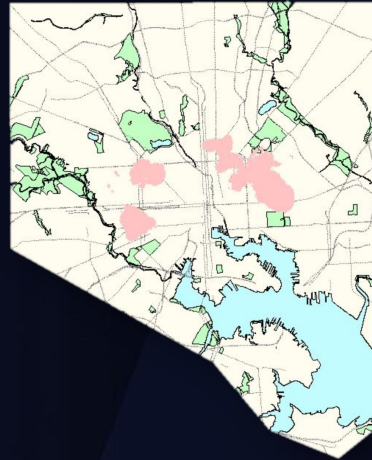
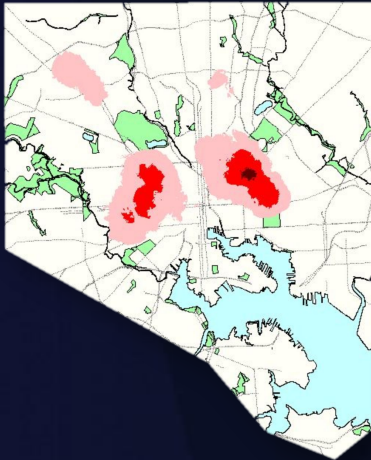
**Baltimore City
Homicides and
Shootings**



Baltimore City Homicides and Shootings

2007

Managing by politics and excuses.... ...giving way to managing for better results



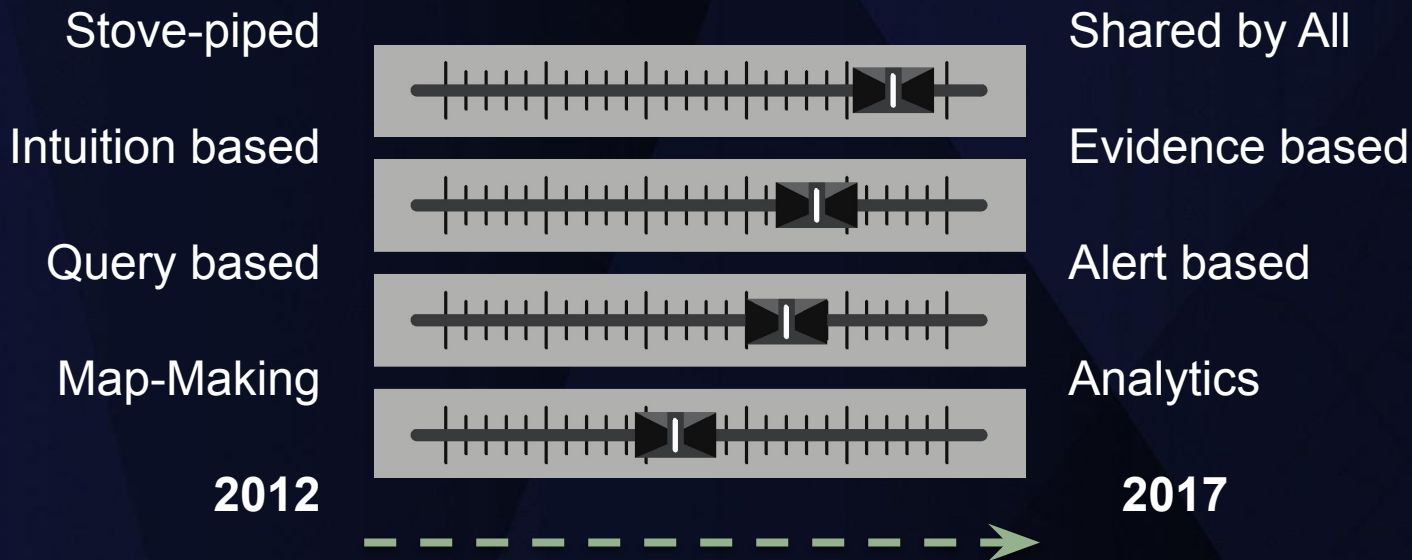
Results: From 2000 – 2009

Baltimore Achieved the Biggest Reduction in Part One Crime of any Major City in America



Data-driven Decision Making

LAPD's data-driven crime fighting evolution



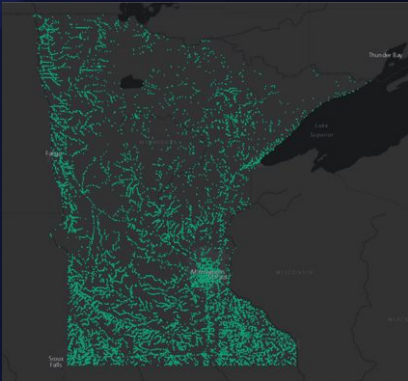
Repairing Roads and Bridges

Minnesota's I-35w
Bridge Collapse
Evening Rush Hour
August 1, 2007



A New Way of Governing is Emerging

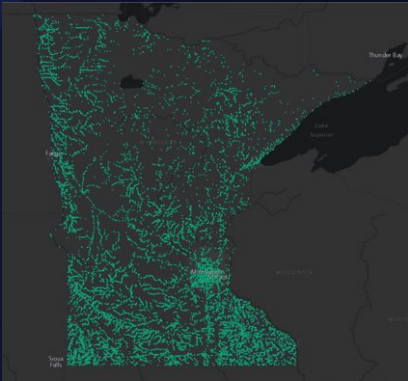
Focused on results; driven by “what works?”



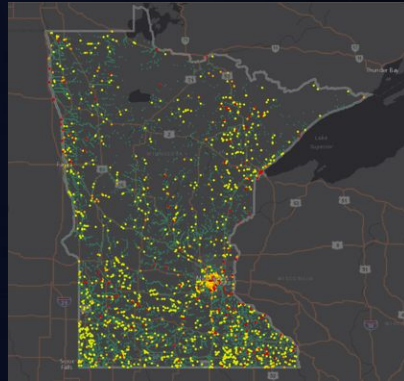
All Bridges

A New Way of Governing is Emerging

Focused on results; driven by “what works?”



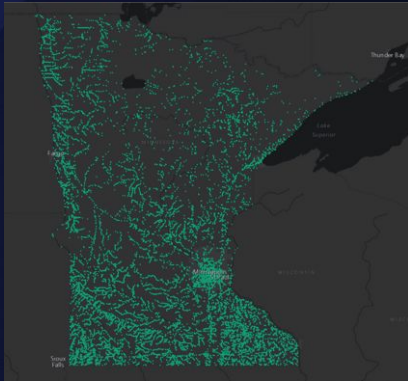
All Bridges



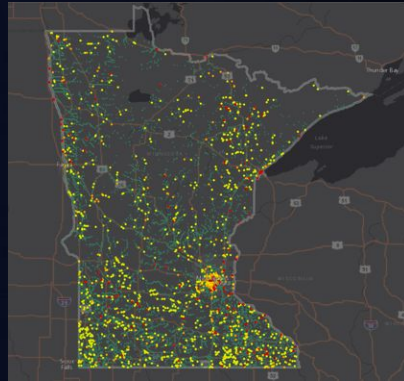
Bridge Conditions

A New Way of Governing is Emerging

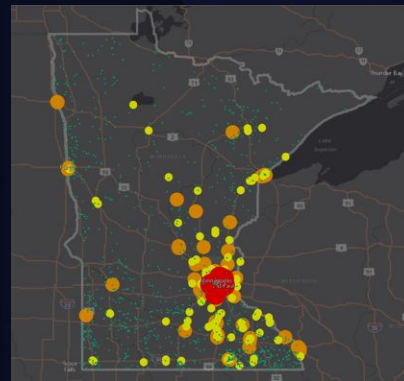
Focused on results; driven by “what works?”



All Bridges



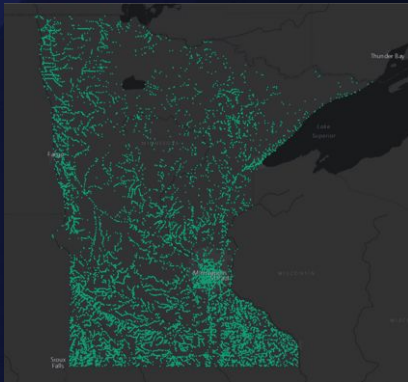
Bridge Conditions



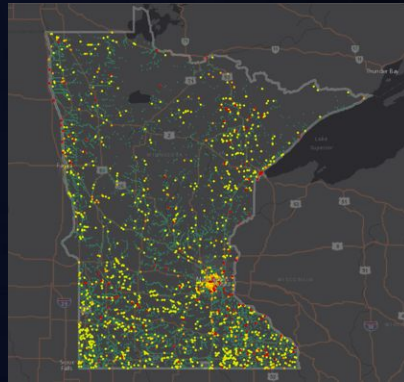
Traffic Volume

A New Way of Governing is Emerging

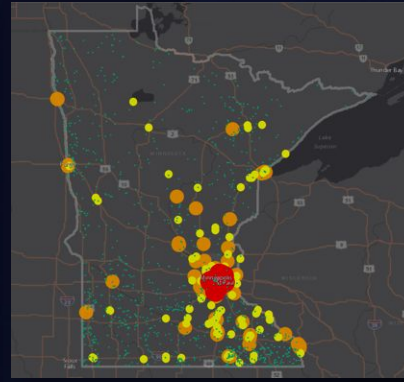
Focused on results; driven by “what works?”



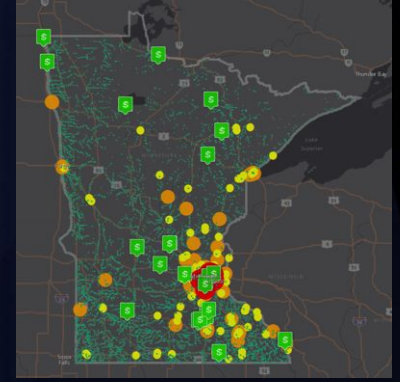
All Bridges



Bridge Conditions

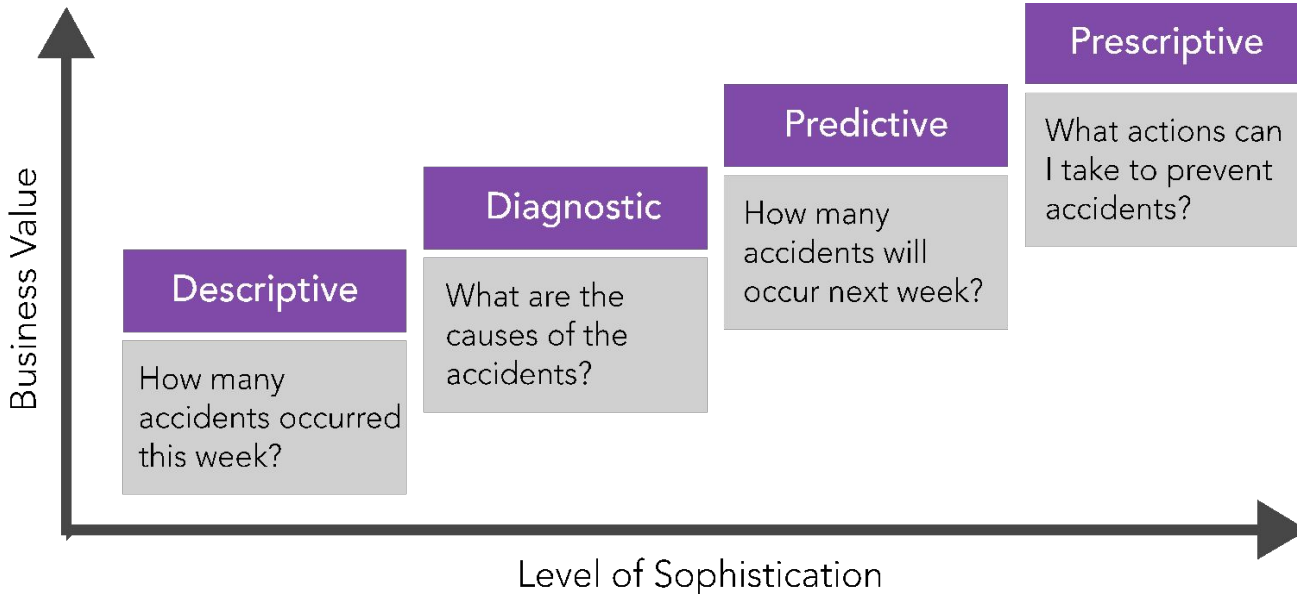


Traffic Volume



Bridge Investments

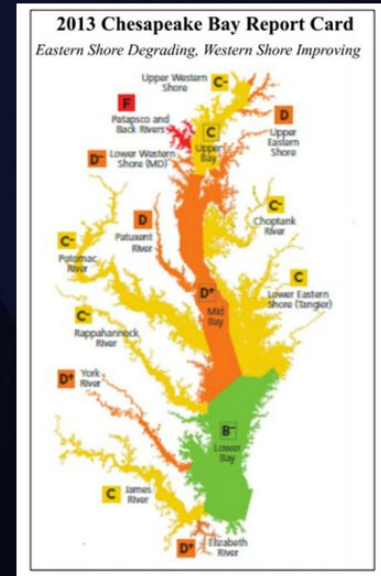
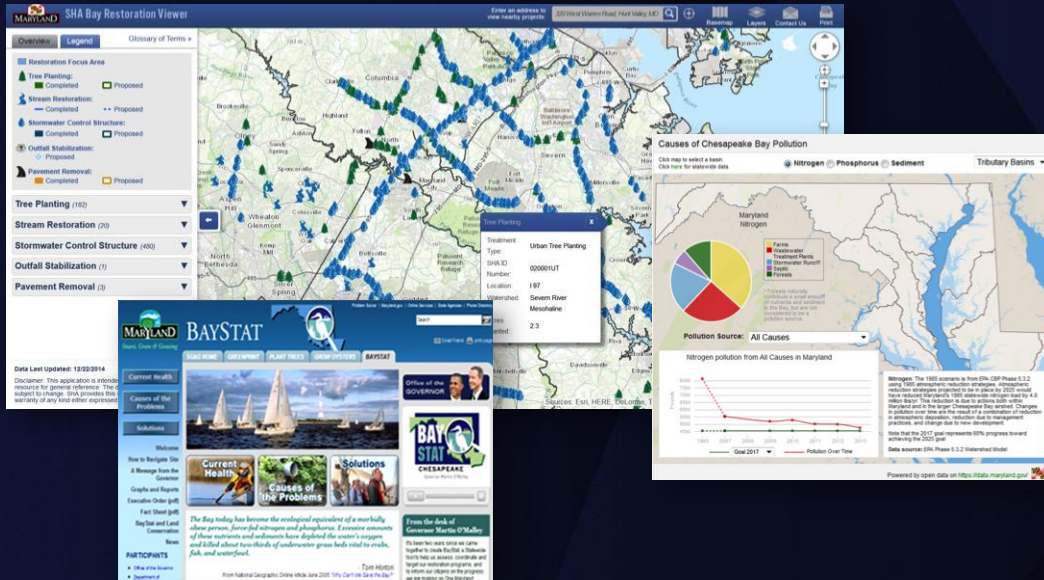
Predictive Analytics



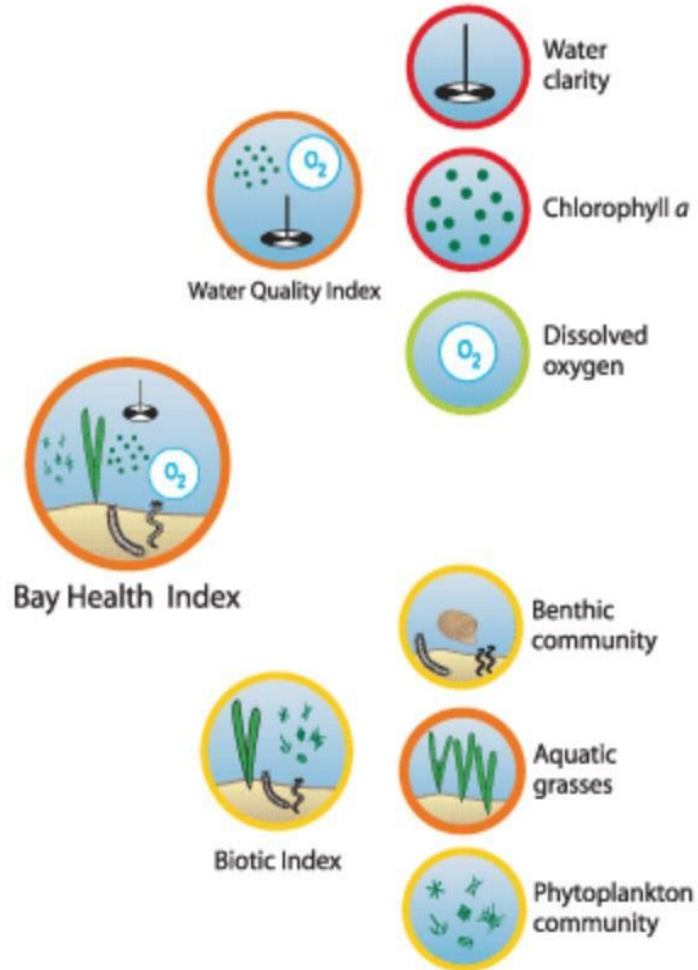
Clean Water

Predictive Analytics

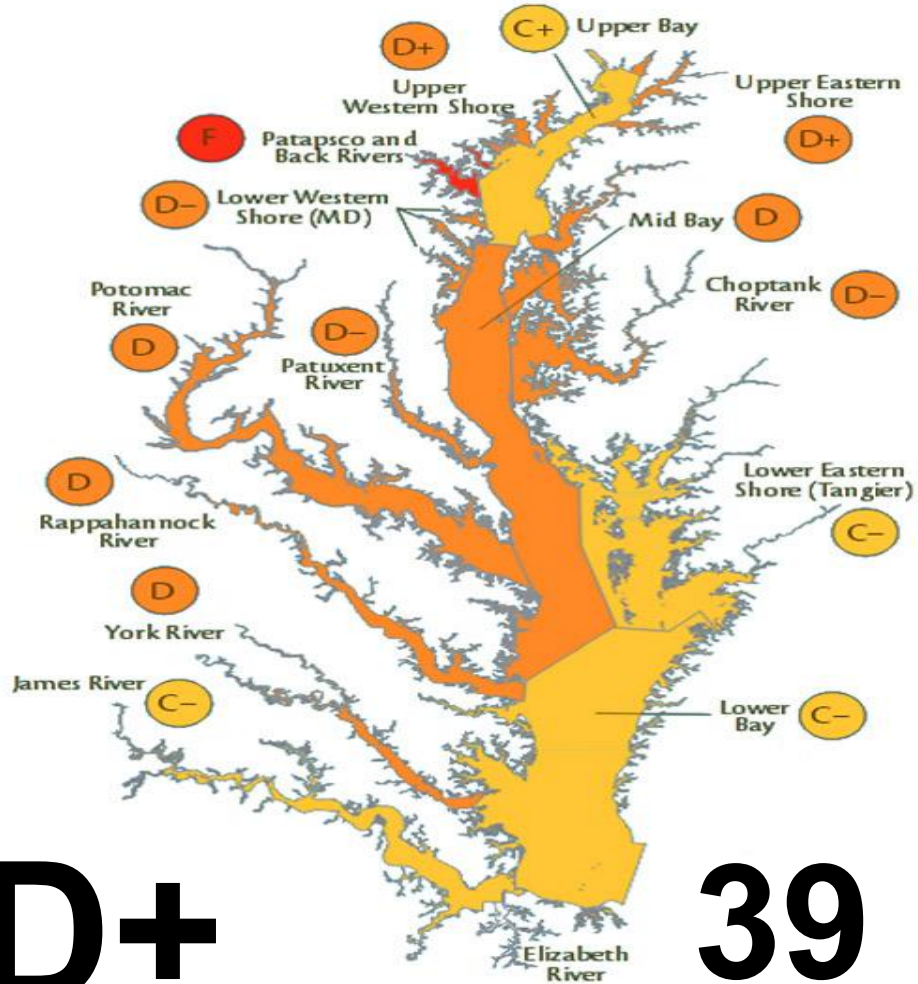
Restoring the health of the bay



Objective Scientific Measures Of Bay Health



2006 Chesapeake Bay Health Report Card



D+

39



- Overview
- How To
- Contents
- Add Data

Green Print

Stormwater Print

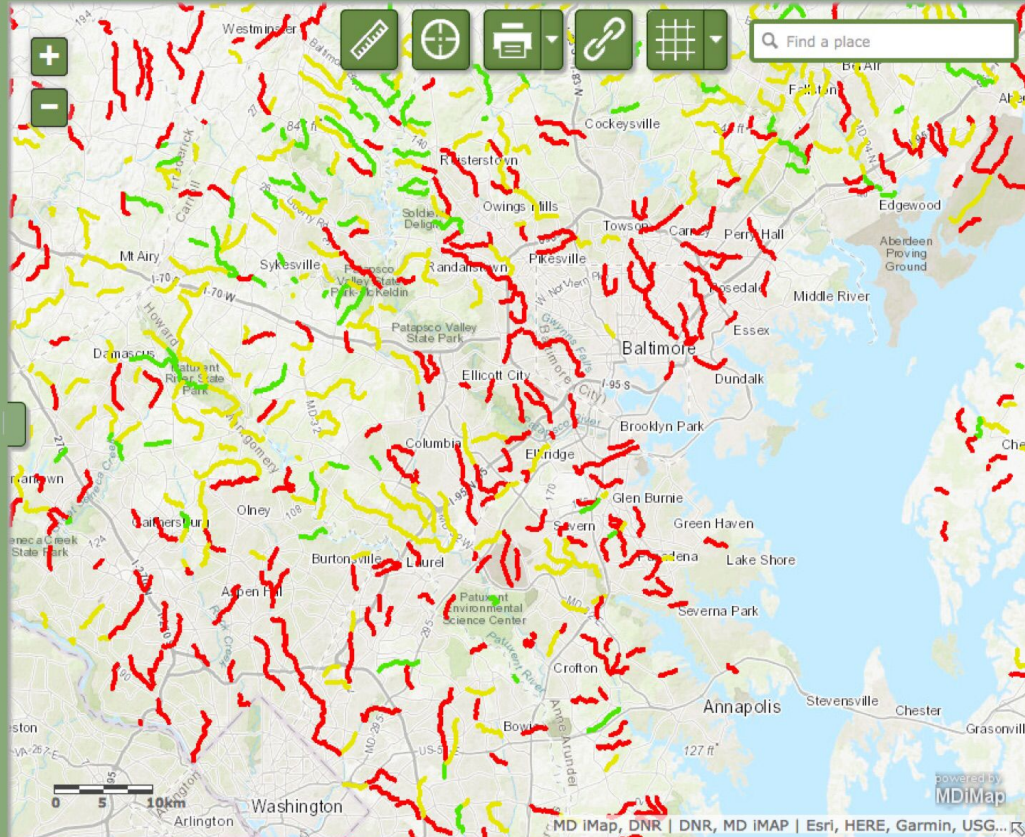
Stream Health

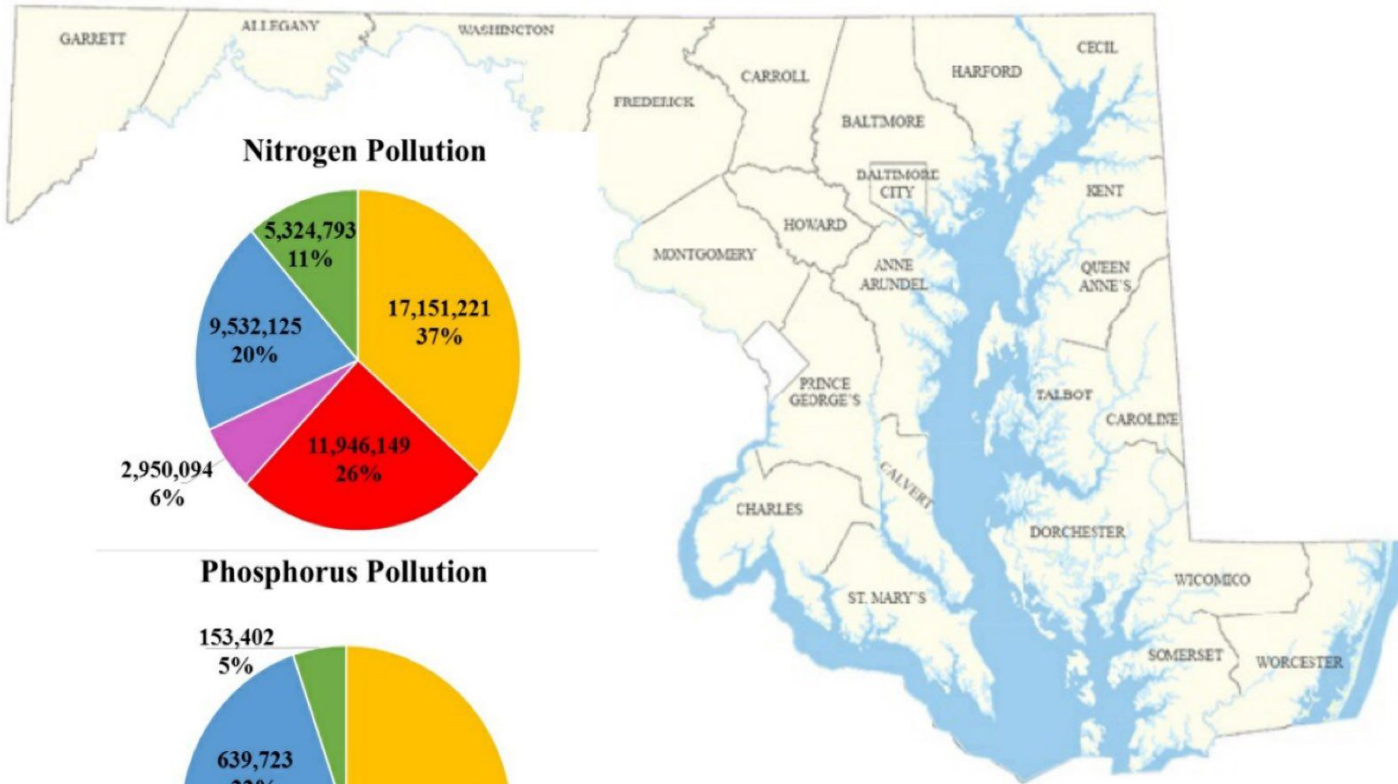


(FIBI).

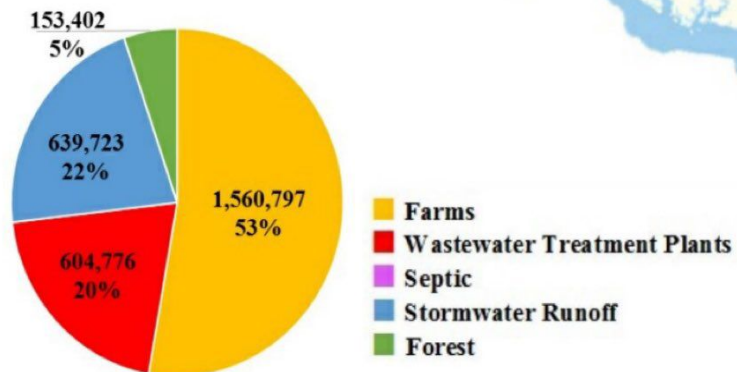
StreamHealth shows the current health of Maryland streams and factors that impact that health. Sites with CBI = NA do not have a Benthic Index of Biotic Integrity (BIBI) or Fish Index of Biotic Integrity (FIBI).

Create Your Own Map





Phosphorus Pollution



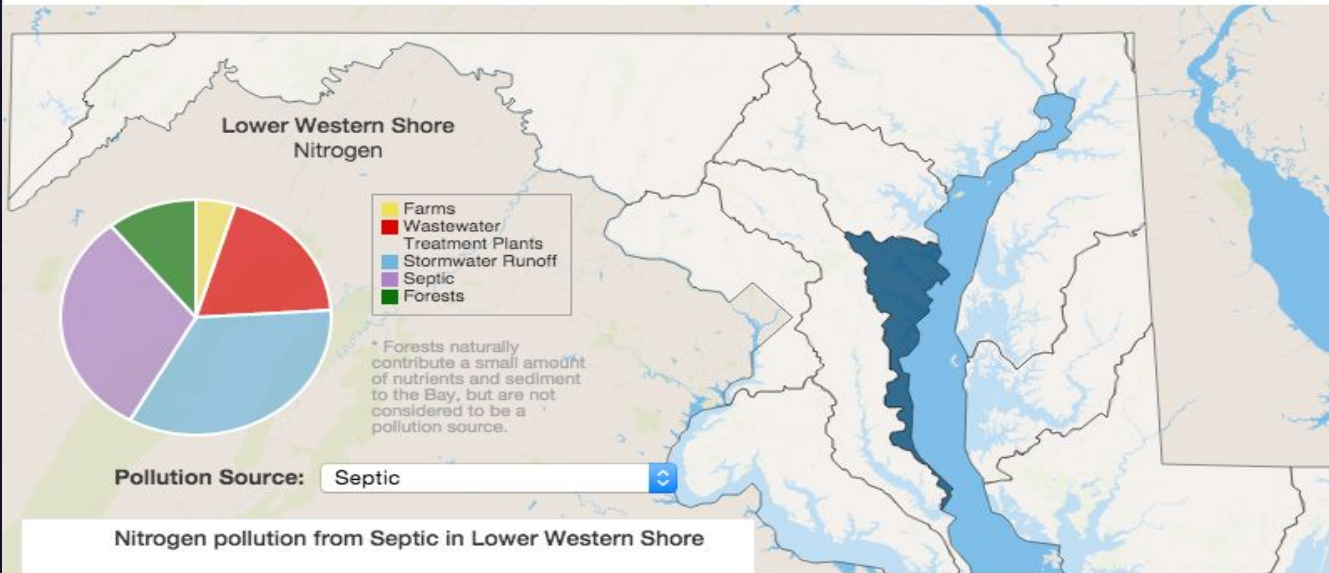
- Farms
- Wastewater Treatment Plants
- Septic
- Stormwater Runoff
- Forest

Causes of Chesapeake Bay Pollution

Click map to select a basin.
Click [here](#) for statewide data.

Nitrogen Phosphorus Sediment

Tributary Basins 



Nitrogen pollution from Septic in Lower Western Shore



Nitrogen: The 1985 scenario is from EPA CBP Phase 5.3.2 using 1985 atmospheric reduction strategies. Atmospheric reduction strategies projected to be in place by 2025 would have reduced Maryland's 1985 statewide nitrogen load by 4.8 million lbs/yr. This reduction is due to actions both within Maryland and in the larger Chesapeake Bay airshed. Changes in pollution over time are the result of a combination of reduction in atmospheric deposition, reduction due to management practices, and change due to new development.

Note that the 2017 goal represents 60% progress toward achieving the 2025 goal

Data source: EPA Phase 5.3.2 Watershed Model

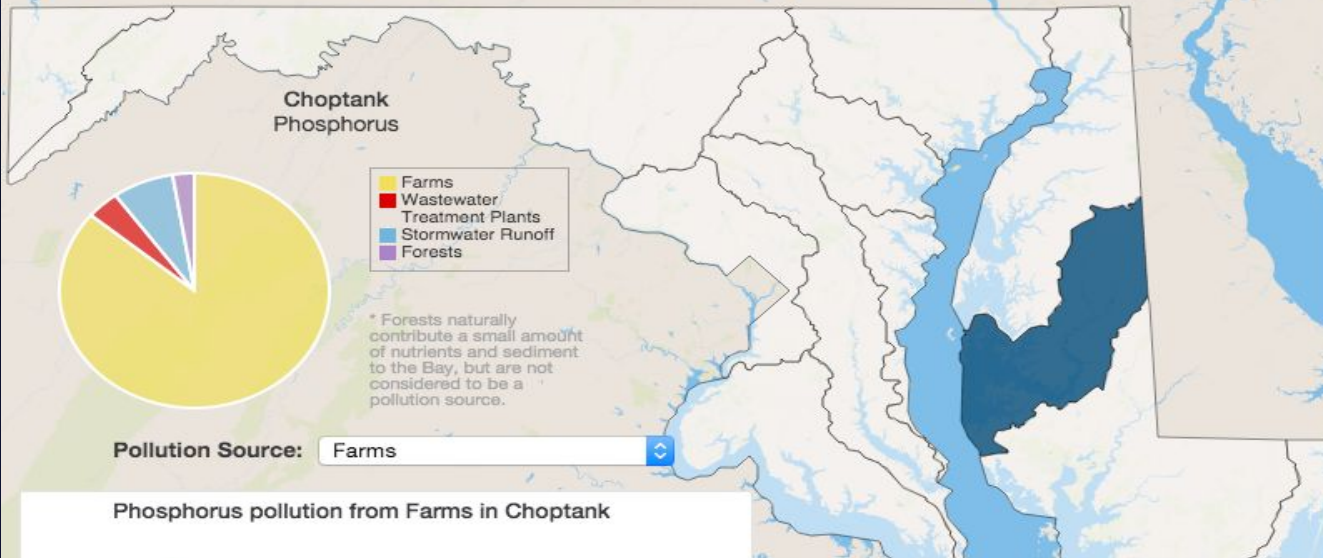


Causes of Chesapeake Bay Pollution

Click map to select a basin.
Click [here](#) for statewide data.

Nitrogen Phosphorus Sediment

Tributary Basins



Phosphorus pollution from Farms in Choptank



Phosphorus: Phosphorus pollution fuels the growth of algae, creating dense, harmful algae blooms that rob the Chesapeake Bay's aquatic life of needed sunlight and oxygen. Phosphorus often attaches to soil and sediment particles on land, entering the Bay many years later when stream banks erode or rainwater washes it into streams, rivers, and the Bay. Sources of phosphorus pollution include fertilizers from farmlands, lawns and golf courses, eroding soil and sediment from stream banks in urban and suburban neighborhoods, animal manure from farms, and wastewater from industrial facilities and sewage treatment plants.

Data source: EPA Phase 5.3.2 Watershed Model



34 Leading Actions

A Suite of 34 Actions on Land:

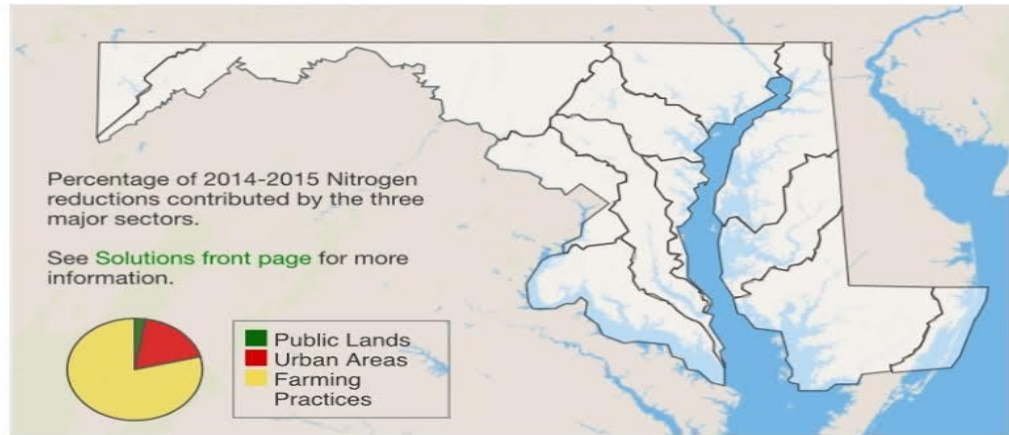
Agriculture

Plant 145,000 ADDITIONAL acres of cover crops	870,000
Increase Nutrient Management Plans to cover ADDITIONAL 100,000 acres	311,000
Update Soil Conservation and Water Quality Plans on 257,000 acres	160,000
Continuous No-Till Farming on ADDITIONAL 150,000 acres	100,000
Precision Agriculture on ADDITIONAL 100,000 acres	100,000
Construct Heavy Use Poultry concrete pads on 400 ADDITIONAL farms.	88,000
Construct Livestock Waste Structures on 145 ADDITIONAL farms	77,000
Construct Water Control Structures on 25,000 ADDITIONAL acres	75,000
Implement Dairy Manure Incorporation on ADDITIONAL 2,500 acres	22,000
Expand Fencing for Stream Protection on 3,000 ADDITIONAL acres	20,370
Expand Manure Transport by ADDITIONAL 10,000 tons	20,000
Implement Poultry Manure Incorporation Technology on 2,500 MORE acres	13,000
Construct 53 MORE Poultry Waste Structures	11,130
Expand Non-Fenced Stream Buffer to 3,000 MORE acres	10,200
Establish 75 new Run-off Control Systems	5,175

Total

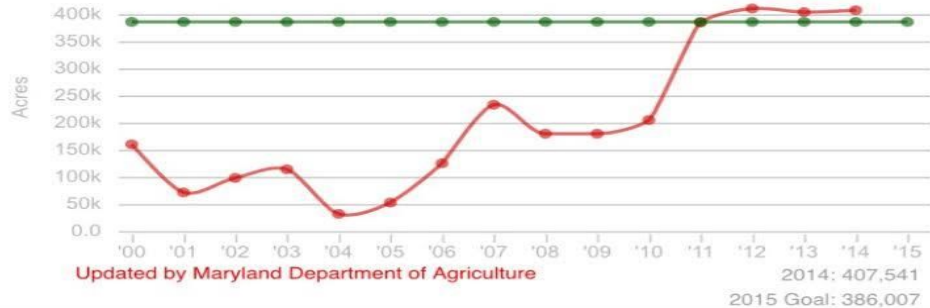
1,882,875 lbs. Nitrogen

Cover Crops



Cover Crops: Maryland

Acres of harvested and unharvested cover crops certified each year in Bay watershed.

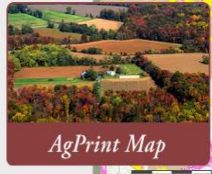
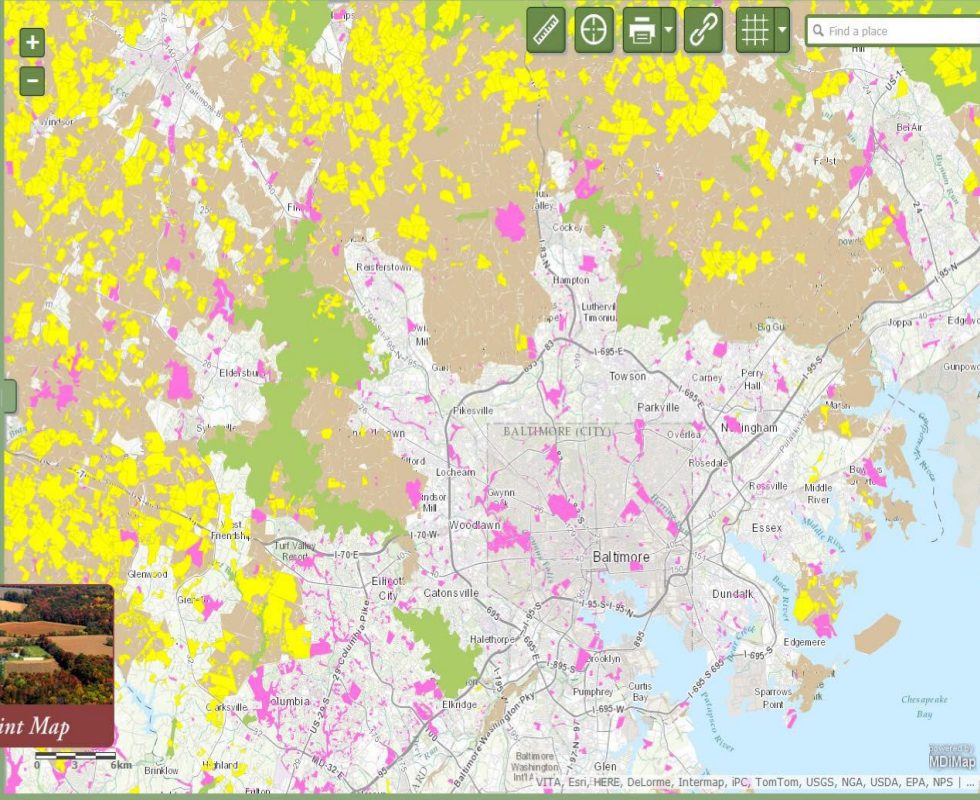




Overview How To Contents Add Data

Legend

- Permanently Preserved Agricultural Lands
- Protected Targeted Ecological Areas
- Protected Lands
- AgPrint Priority Parcels
- Agricultural Parcel - Priority A
- Targeted Agricultural Area
- Parcel Boundaries



AgPrint

A Suite of 34 Actions on Land:
Reducing Pollution from Developed Lands

Upgrade 22 Wastewater Treatment Plants to Enhanced Nutrient Removal Technology	740,000
Nutrient Management Plans for 220,000 acres of developed lands	385,000
Implement MD Healthy Air Act	305,882
Upgrade Blue Plains in DC to BNR	190,000
Retrofit Stormwater Management systems on 90,000 ADDITIONAL acres	119,000
Retrofit 1,080 ADDITIONAL Septic Systems in Critical Areas of Bay	13,133
Retrofit 1,920 ADDITIONAL Septic Systems outside Critical Areas	10,042
Hookup 1,000 targeted Septic Systems to Waste Water Treatment Plants	7,000
Upgrade 75 State Owned DNR Septic Systems	400
	1,882,875 lbs. Nitrogen

Maryland's 2014 - 2015 Milestone Goals and Progress Report

Maryland can only restore the health of the Bay by implementing proven solutions called **Best Management Practices (BMPs)** on the most lands.

Click map to select a basin.
Click [here](#) for statewide data.

Implement Best Farming Practices

Reducing Pollution From Urban Areas

Wastewater Treatment Plants ENR

Stormwater Runoff Management Retrofits

Septic Retrofits

Air Pollution Reductions

Public Land Restoration and Conservation



Definition

The 2015 goal is to have a total of 47 wastewater treatment plants upgraded to ENR technology.

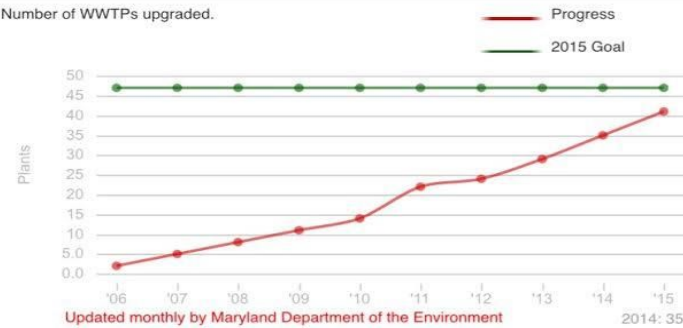
[More Information](#)

Notes

- 2014 progress is updated monthly.
- Updated July 28, 2015.
- The first WWTPs were upgraded to ENR in 2006.

Wastewater Treatment Plants ENR: Maryland

Number of WWTPs upgraded.





StormwaterPrint

Details Contents Add Data

Welcome to StormwaterPrint


Click anywhere on the map to identify StormwaterPrint features. Please note that the BMP Layer will not draw unless you have zoomed into an area on the map.

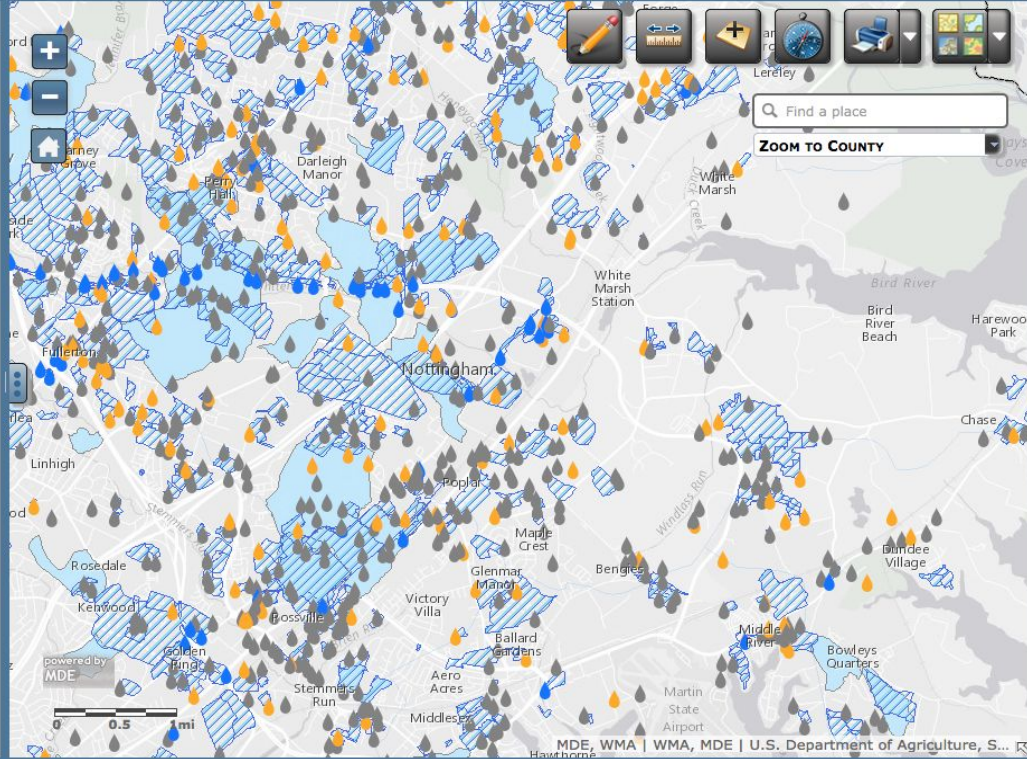
- Click anywhere on the map to identify active features.
- Switch to the contents tab (above) to modify the map layers you are viewing (Click the checkbox next to a layer to turn it on/off).
- Select a layer and click on the Up/Down arrows in the header to move them up/down on the map (sometimes features might not be able to be viewed if a larger feature is drawn on top of it).
- Select the AddData tab (above) to see other layers you can add to your map.

StormwaterPrint is an interactive map depicting the location and type of stormwater best management practices (BMPs) in Maryland as reported to the Maryland Department of the Environment (MDE) by local agencies. Drainage area to a practice, when available, is also included. The accuracy and completeness of the information may only be achieved over time through continual updates. MDE believes sharing this information with the public is valuable and will ultimately help improve the quality of this product in the future. MDE makes no warranties of merchantability or fitness, expressed or implied, for the use of information obtained here. The requester (user) acknowledges and accepts all limitations, including the fact that all data, information, and maps are dynamic and in a constant state of maintenance, correction and/or update.

Legend

BMP Year

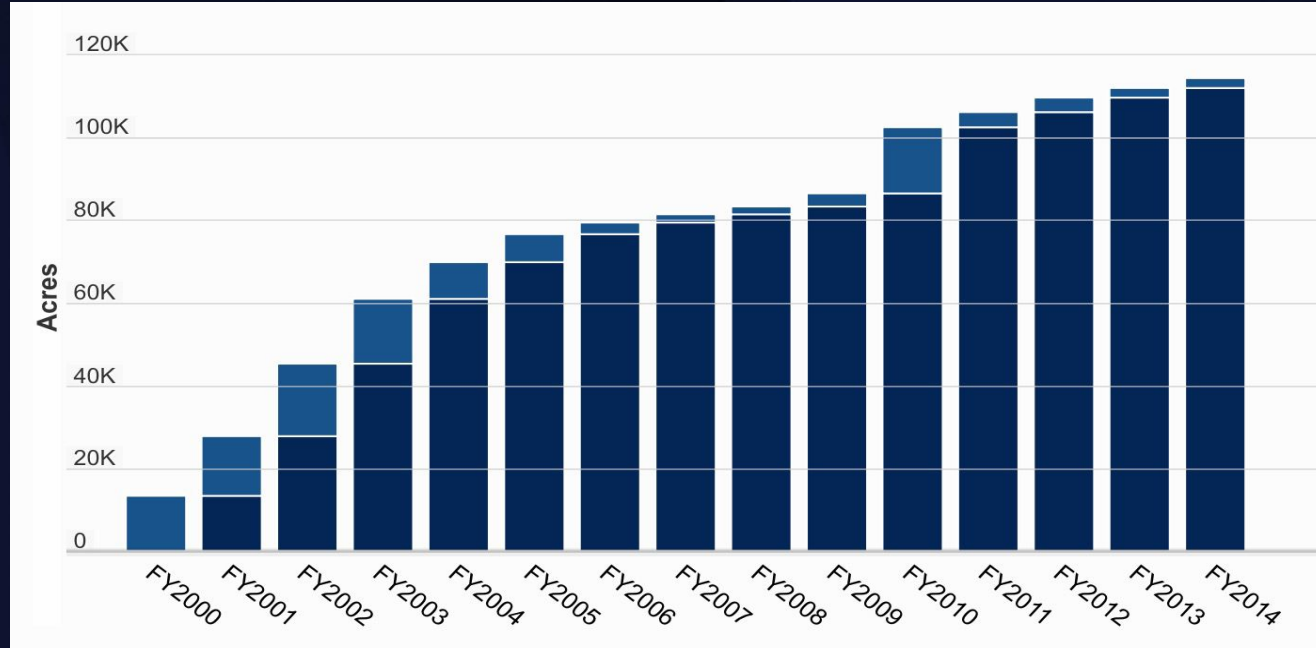
-  2003 - Present
-  1985 - 2002



*A Suite of 34 Actions on Land:
Restoring Natural Filters on Open Lands*

<i>Expand Streamside Grass Buffers by 7,000 MORE acres</i>	<i>119,000</i>
<i>Expand Streamside Forest Buffers by 3,000 MORE acres</i>	<i>86,000</i>
<i>Restore 1,000 MORE acres of Wetlands</i>	<i>28,720</i>
<i>Retire 100 MORE acres of Highly Erodible Land</i>	<i>17,000</i>
<i>Plant 1,500 acres MORE of Trees (Forest Brigade)</i>	<i>19,000</i>
<i>Restore 555 MORE acres of Wetlands on Public Land</i>	<i>16,000</i>
<i>Expand 345 MORE acres of Streamside Forest Buffer on Public Land</i>	<i>10,000</i>
<i>Plant 450 MORE acres of Trees on Public Lands</i>	<i>5,500</i>
<i>Expand Streamside Grass Buffers by 69 MORE acres on Public Lands</i>	<i>1,200</i>
<i>Restore 45 MORE acres of Grassland Buffer on Public Lands</i>	<i>315</i>
<i>Total</i>	<i>302,735 lbs. Nitrogen</i>

Natural Buffers on Private Lands




Green Print

MARYLAND Smart, Green & Growing Atlas

Overview | How To | Contents | Add Data

Green Print



The Greenprint map displays Targeted Ecological Areas (TEAs), lands and watersheds of high ecological value that have been identified as conservation priorities by the Maryland Department of Natural Resources (DNR). It also displays information about four of Maryland's most active State operated land conservation programs: Program Open Space (POS) - Statewide, the Maryland Agricultural Land Preservation Foundation (MALPF), the Maryland Environmental Trust (MET), and the Rural Legacy Program. GreenPrint offers a way to improve how these programs work together and assists in steering POS acquisitions to the TEAs. The TEAs were developed in 2008 and then updated in 2011. This map shows the 2011 version of the TEAs. Therefore, some older acquisitions may not appear in the TEAs, even though they were acquired using the TEAs available at that time. The maps also display other protected land data for reference.

More details can be found at:
<http://greenprint.maryland.gov/faq/>
and
<http://greenprint.maryland.gov/wp-content/uploads/sites/7/2014/08/WhyGreenPrintLandsAcquisition.pdf>

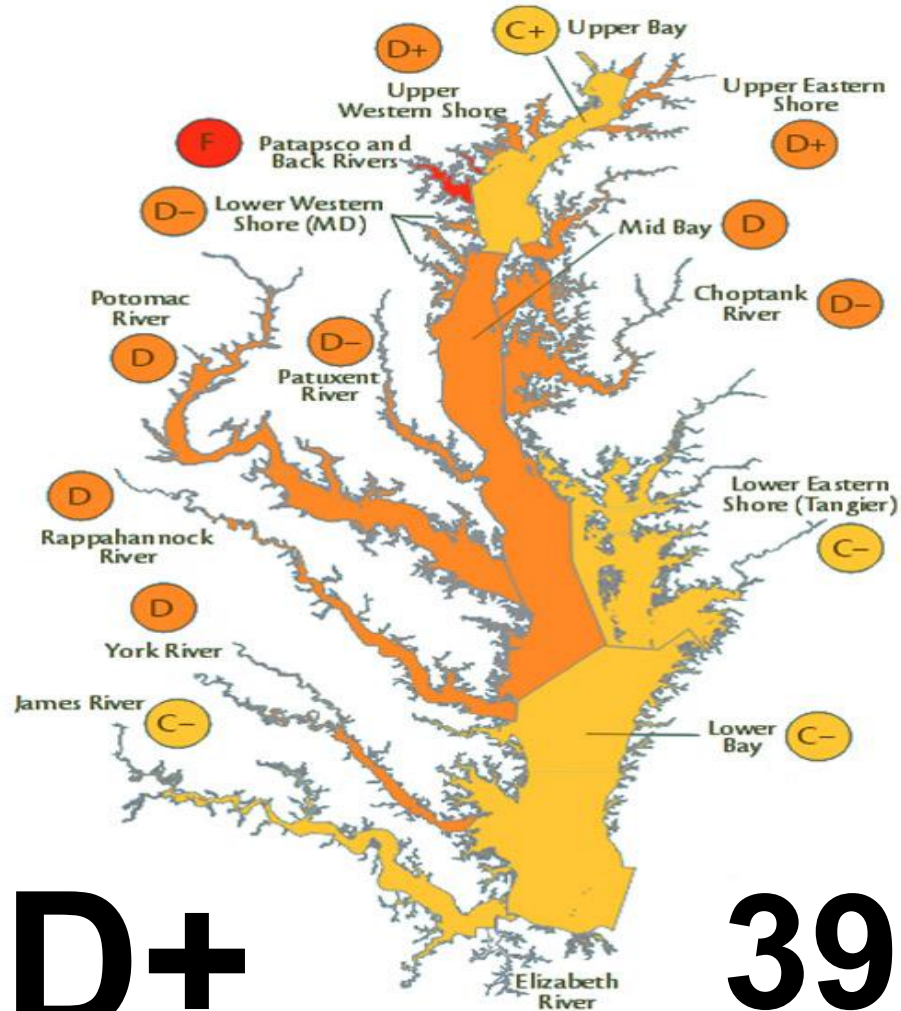
The addition of land conservation acquisitions to this map is an ongoing process and may not represent what is currently protected. The POS-Statewide and Rural Legacy Program data have been updated as of December 17, 2014. The MALPF and MET data have been updated as of December 3, 2014. The data have been migrated from a previous map platform and some parcels may indicate no information is available. This issue is currently being addressed.

Growth Print

Find a place

VTX, Esri, DeLorme, Garmin, IPC, USGS, NGA, USDA, EPA, N. C.

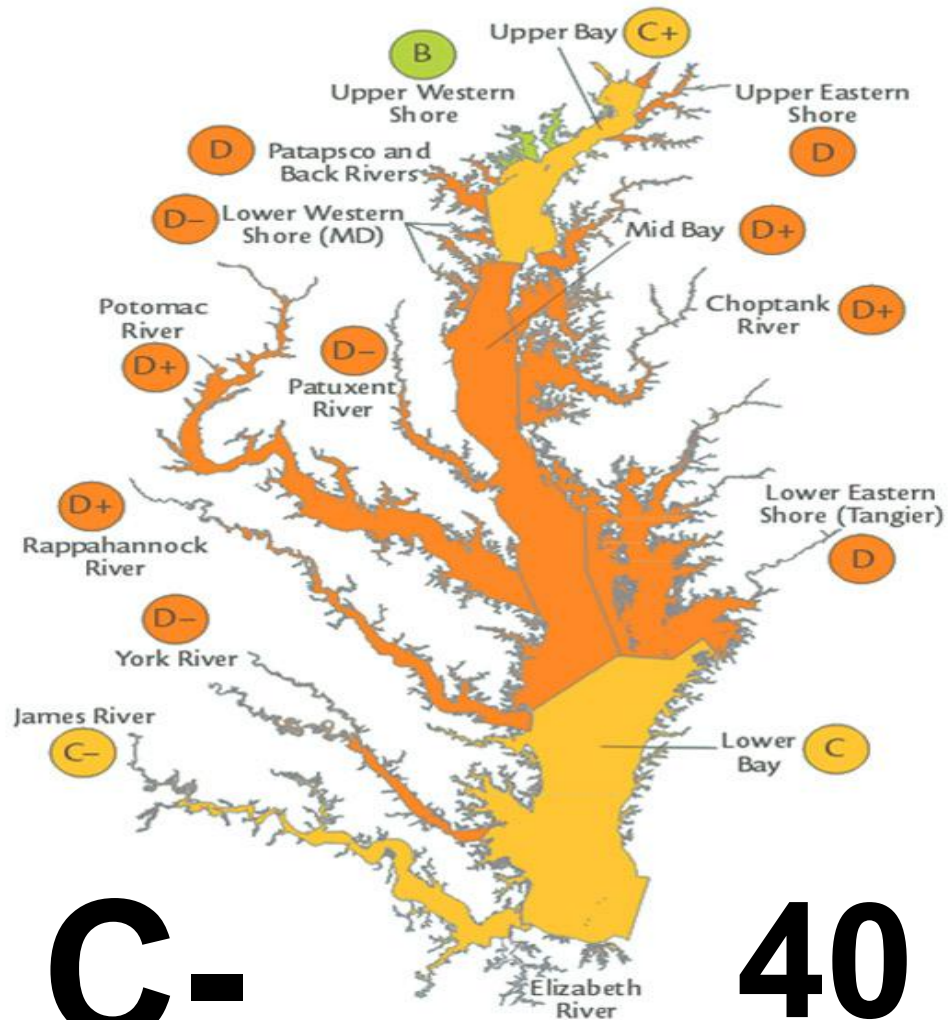
2006
Chesapeake
Bay Health
Report Card



D+

39

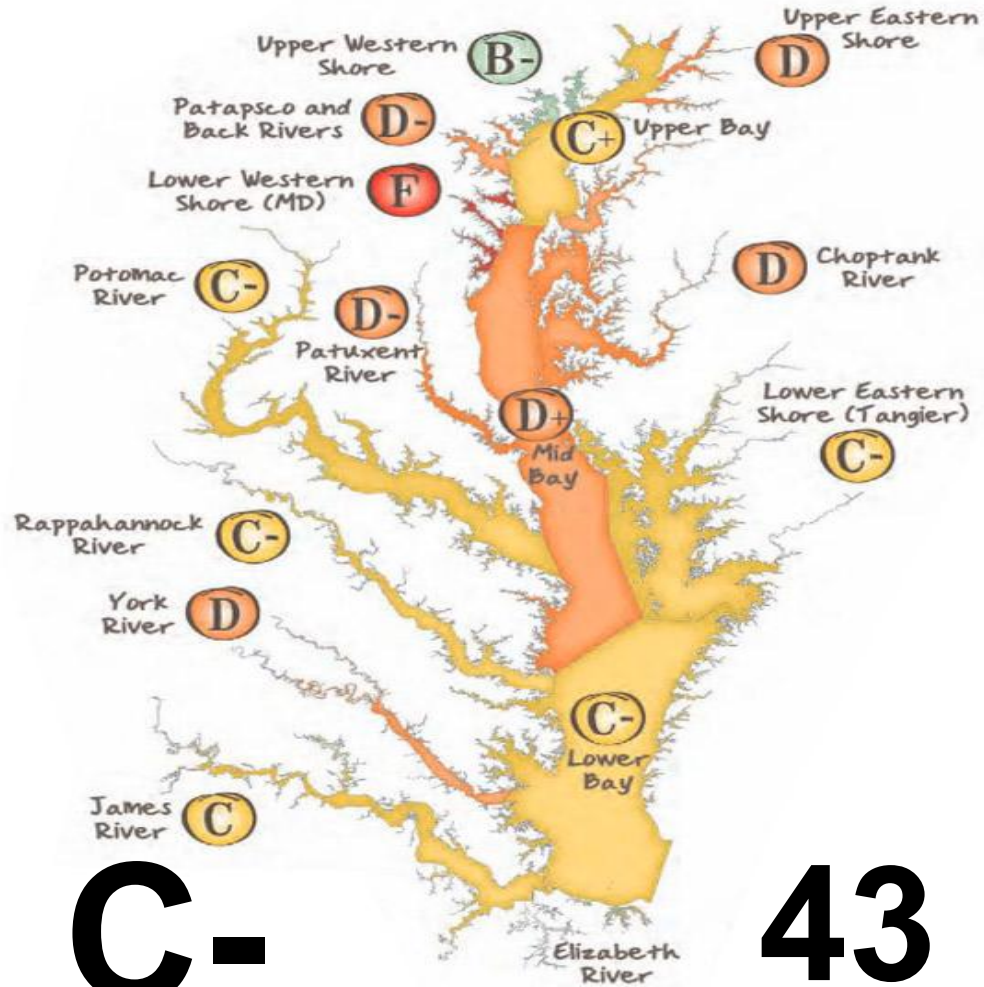
2007 Chesapeake Bay Health Report Card



C-

40

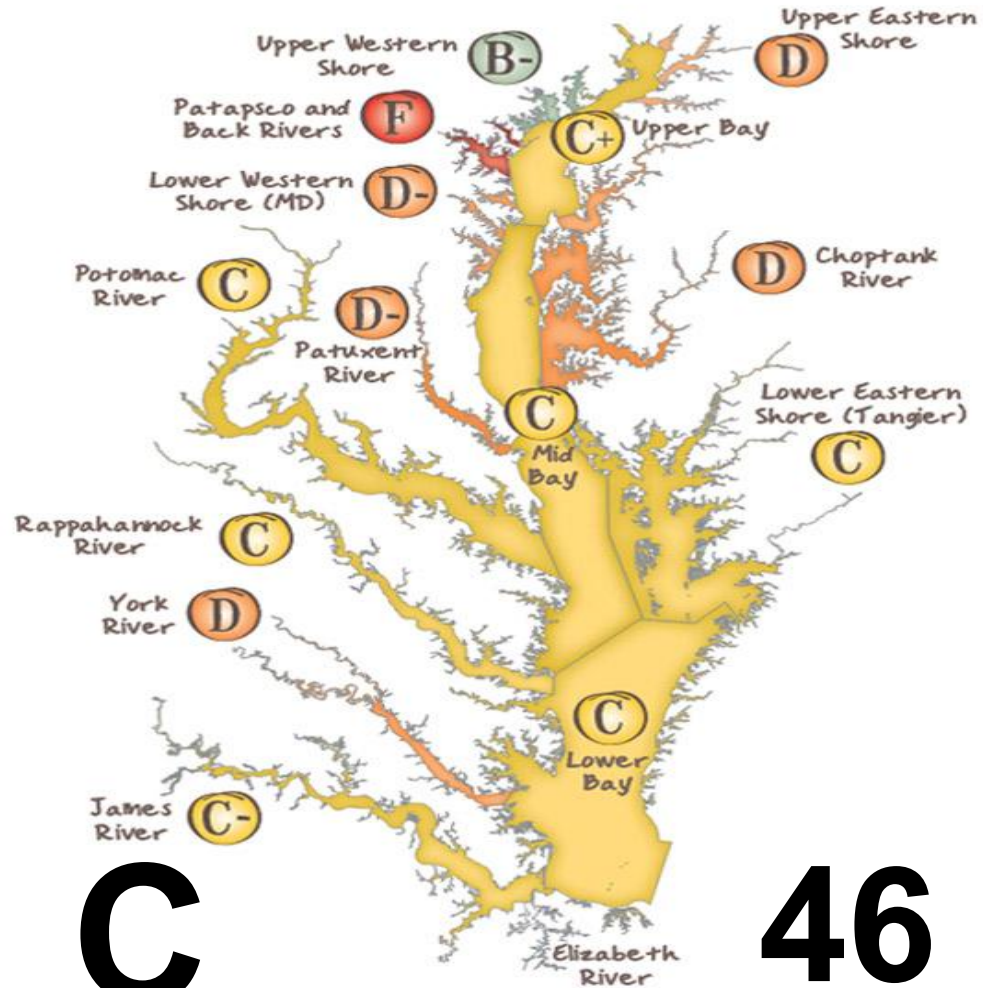
2008
Chesapeake
Bay Health
Report Card



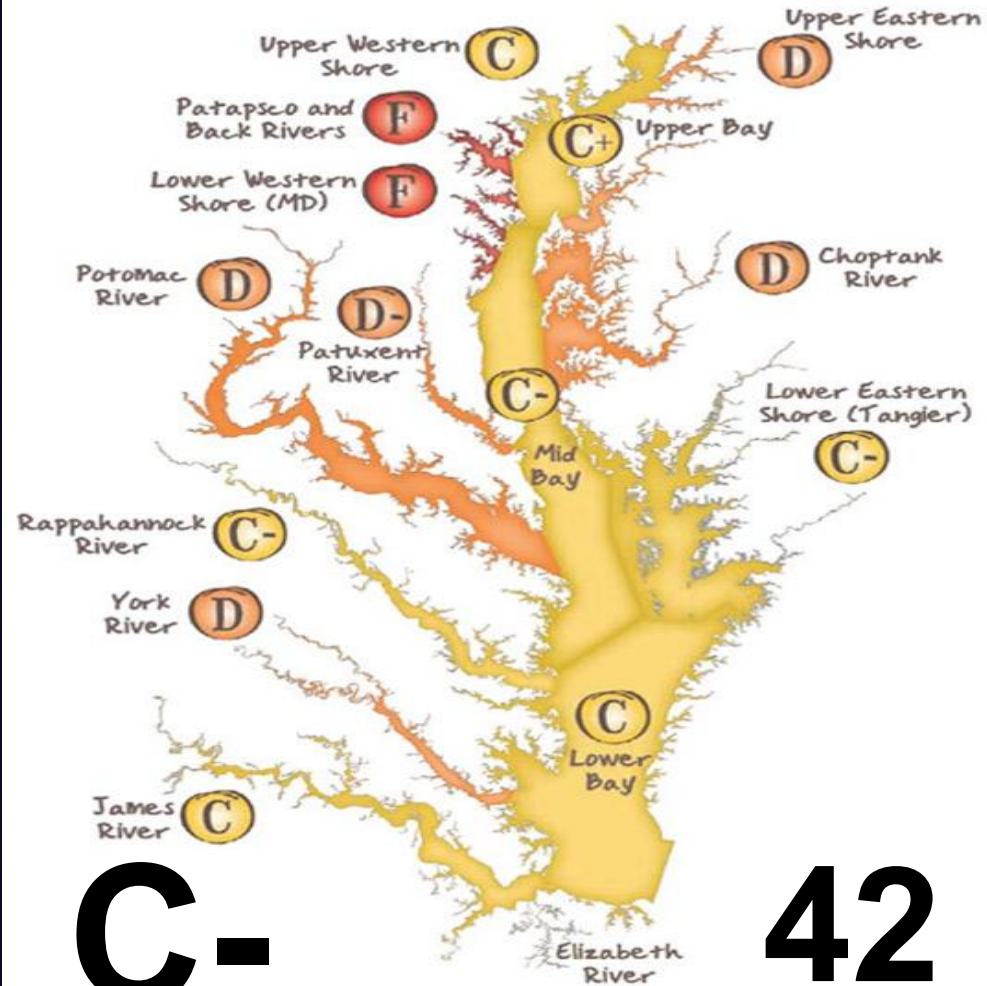
C-

43

2009 Chesapeake Bay Health Report Card



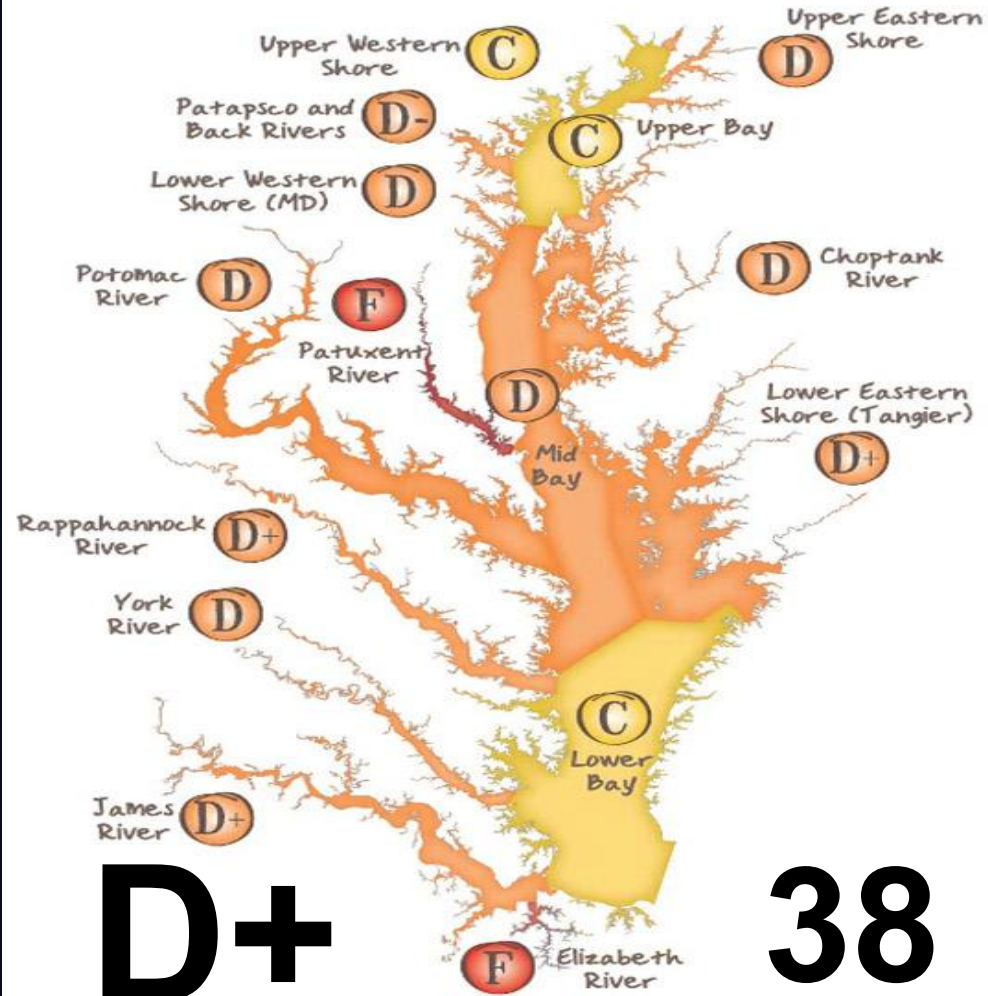
2010 Chesapeake Bay Health Report Card



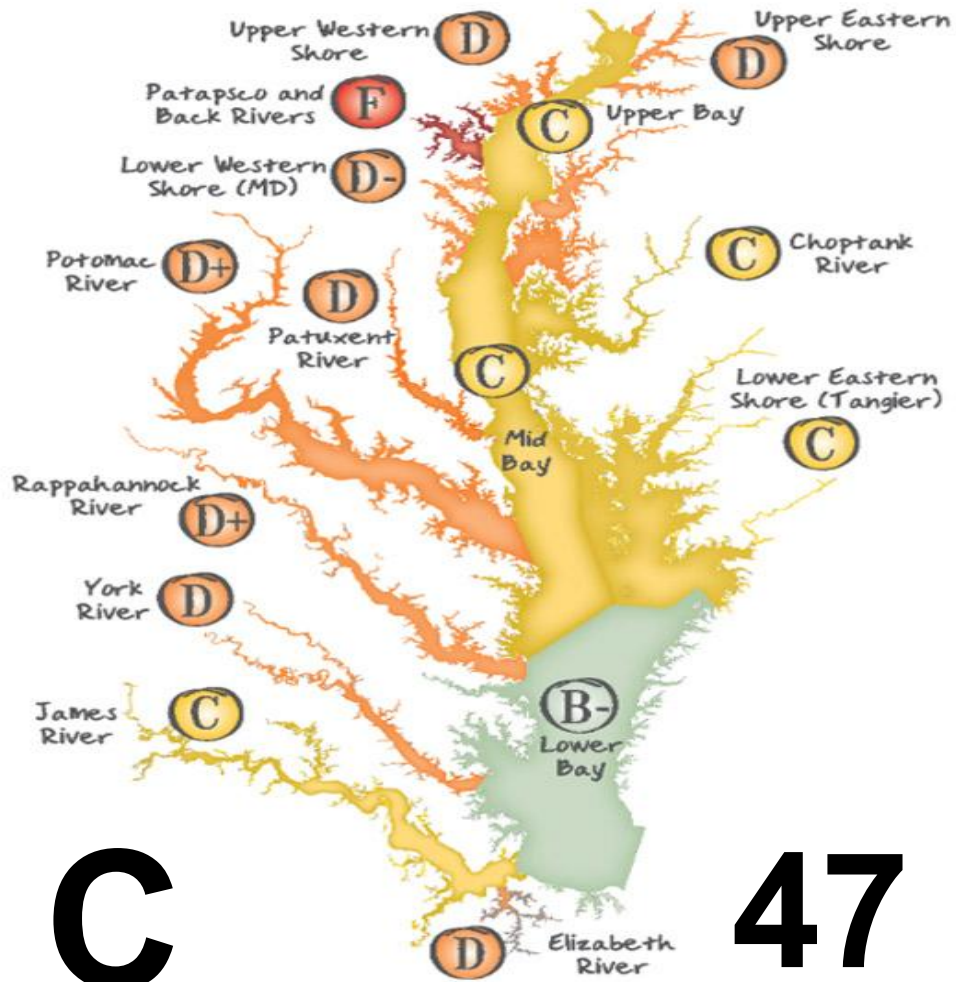
C-

42

2011 Chesapeake Bay Health Report Card



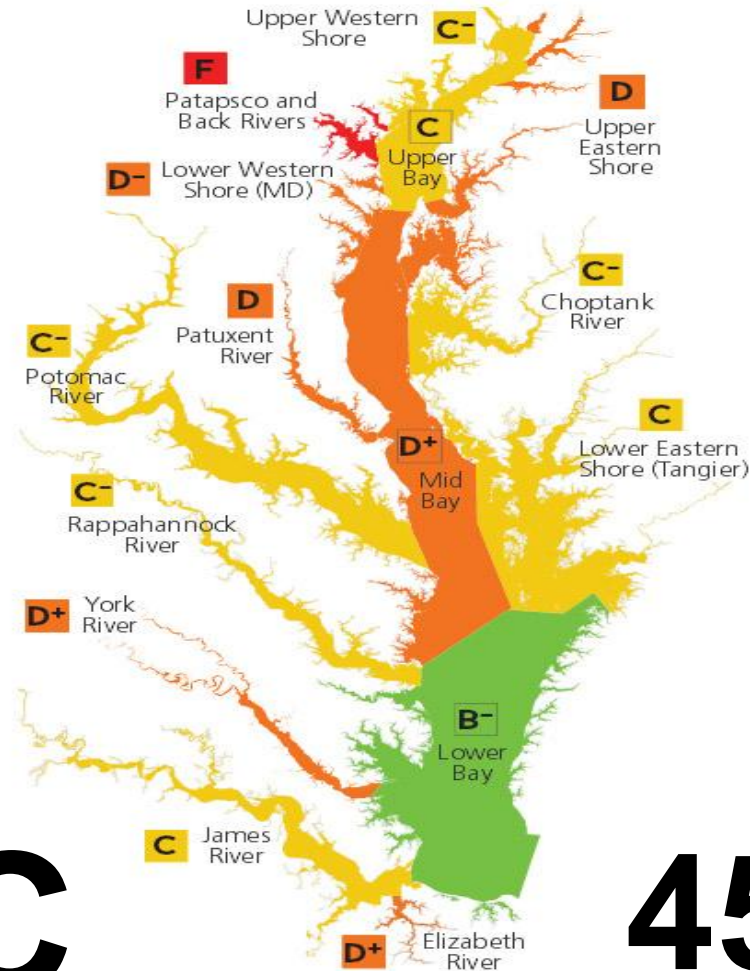
2012 Chesapeake Bay Health Report Card



C

47

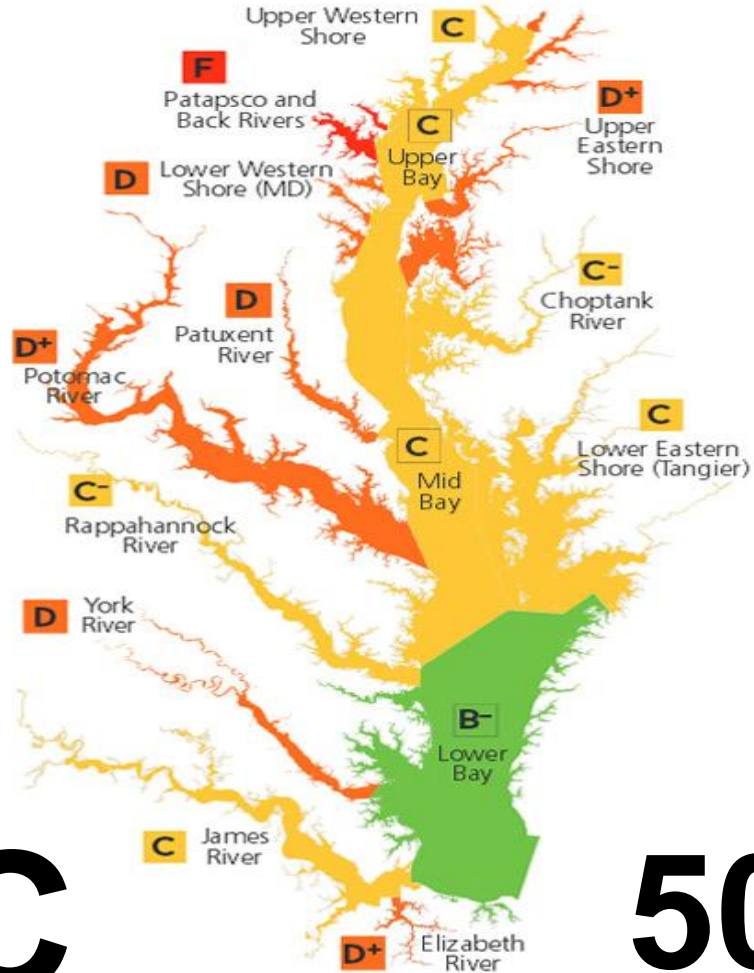
2013 Chesapeake Bay Health Report Card



C

45

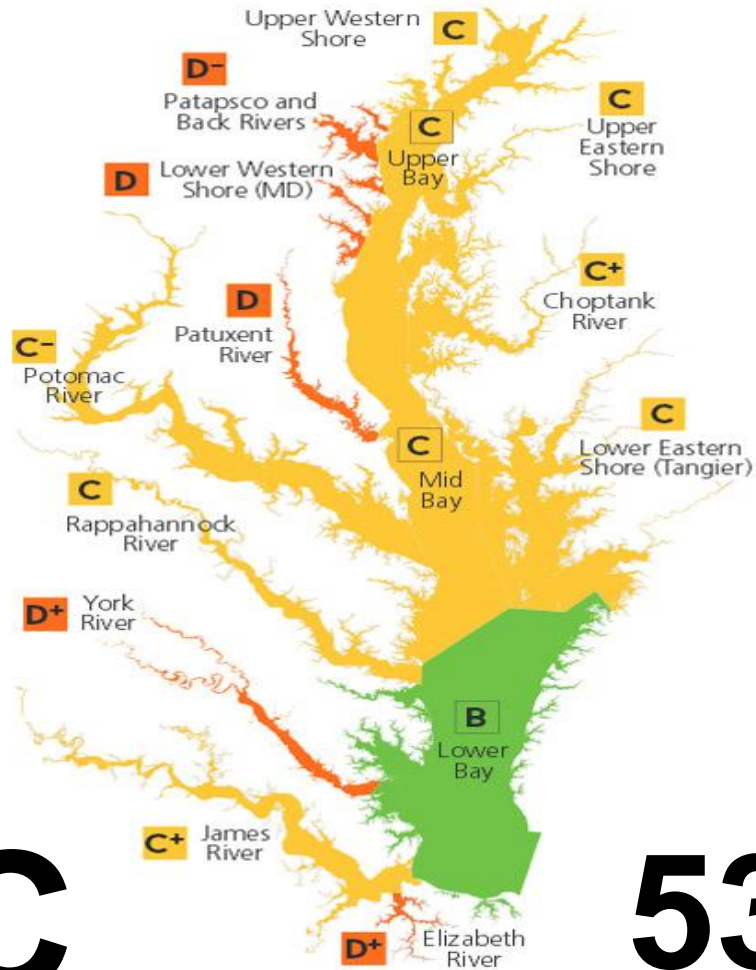
2014 Chesapeake Bay Health Report Card



C

50

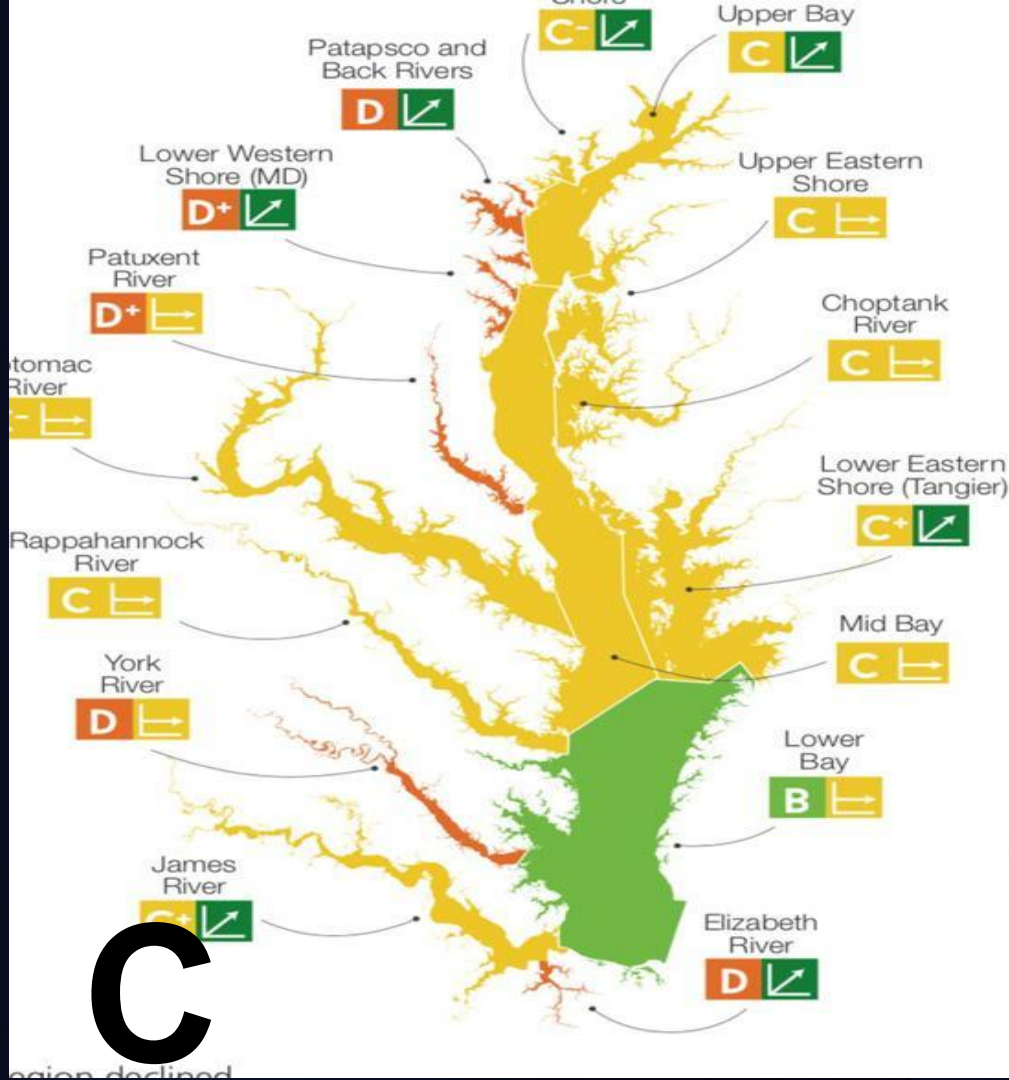
2015 Chesapeake Bay Health Report Card



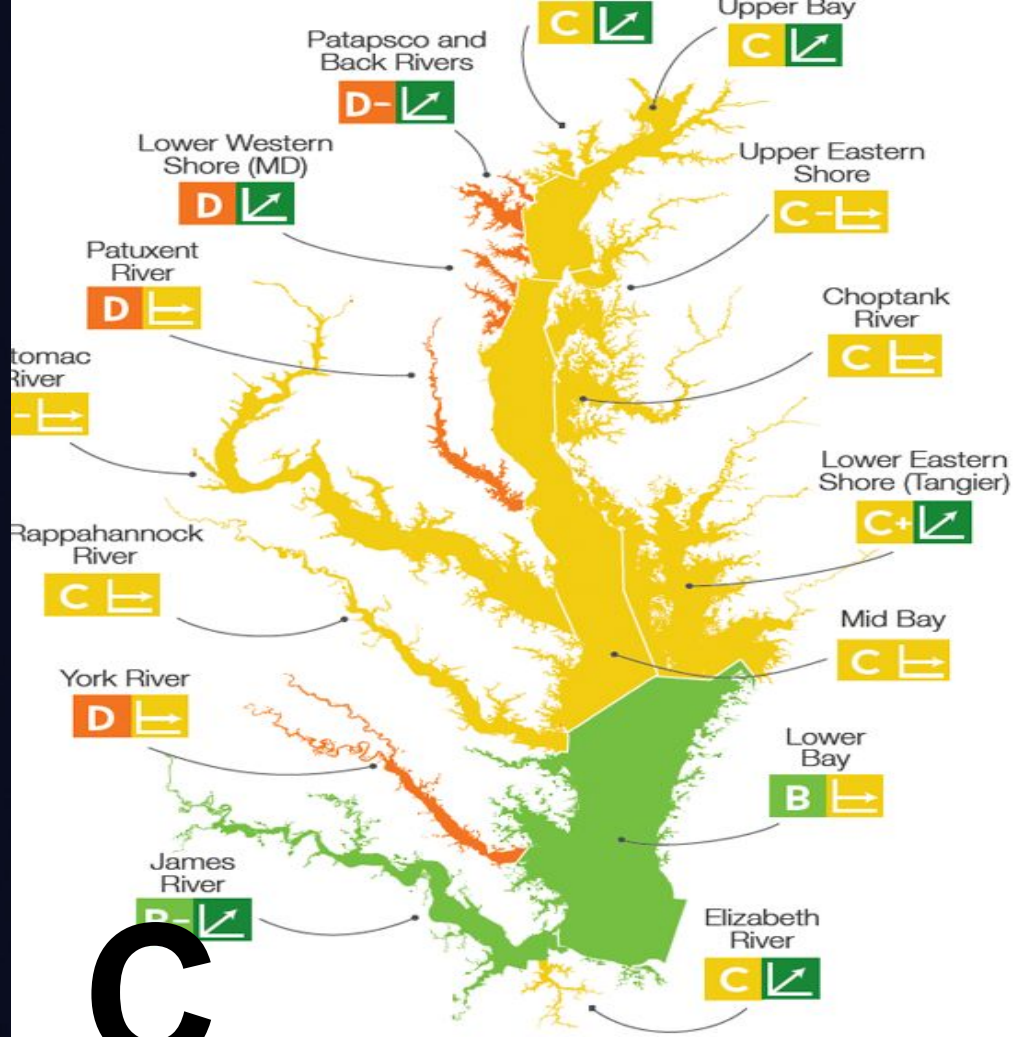
C

53

2016 Chesapeake Bay Health Report Card

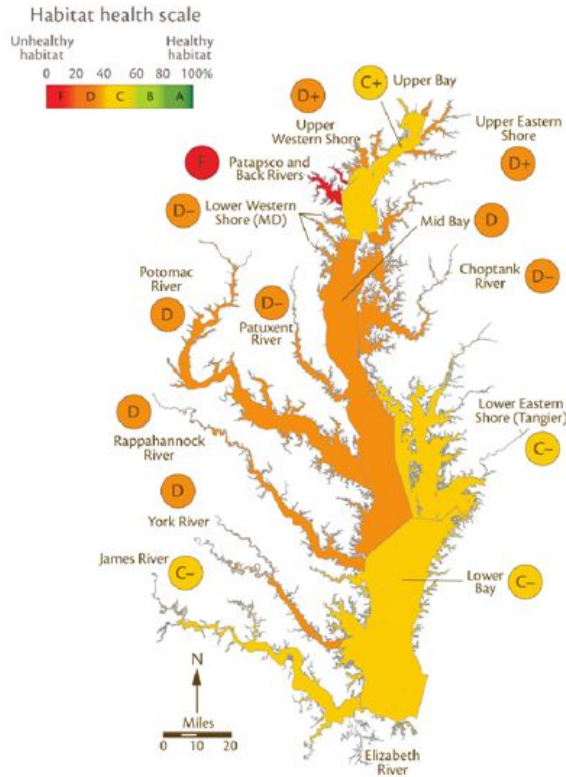


2017 Chesapeake Bay Health Report Card

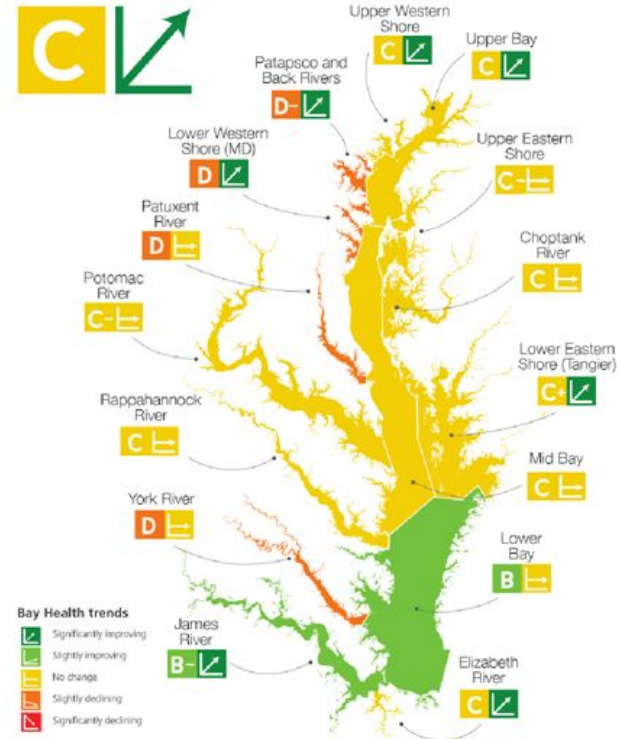


C

2006



2017



Chesapeake Bay health shows a significantly improving trend despite many pressures on the Bay and its watershed. From 2006 to 2017, the overall average grade improved from a D+ to a C. For more information, visit chesapeakebay.ecoreportcard.org.

So,...

Start, and don't stop.

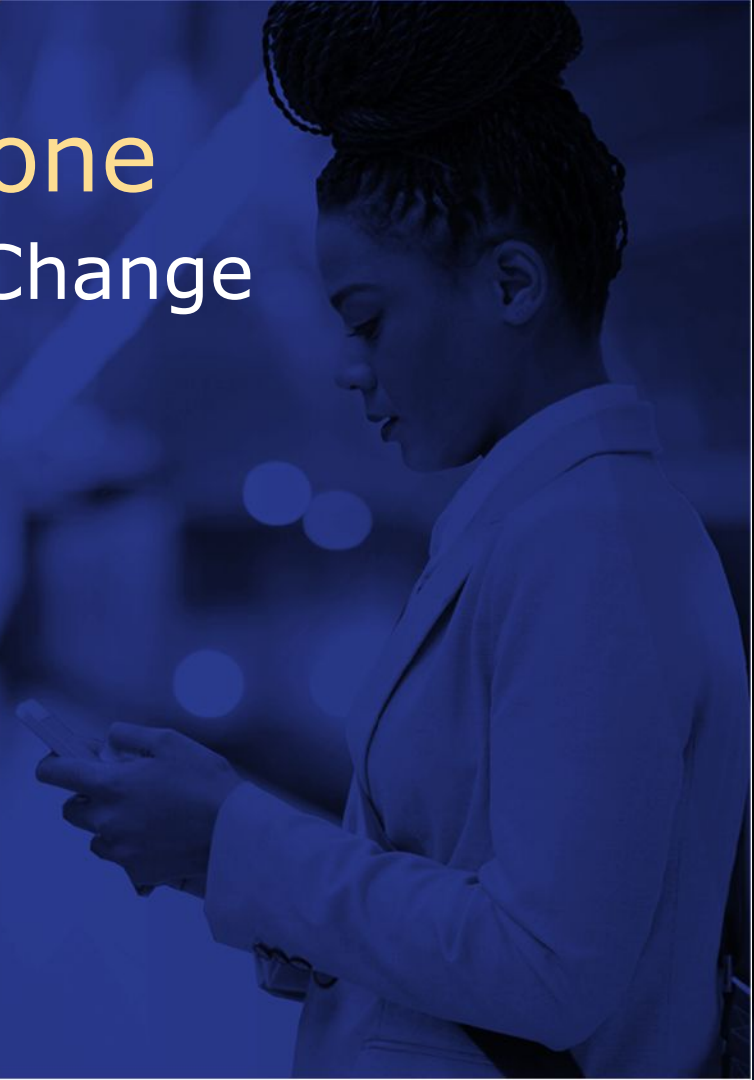
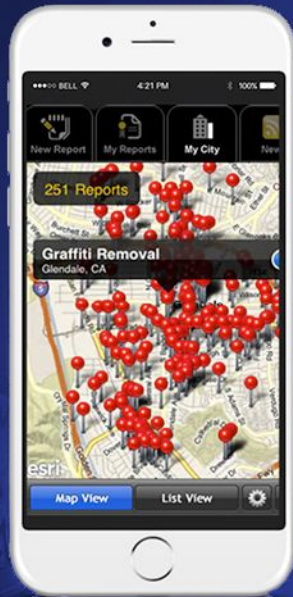
Embrace a radical commitment to Openness and Transparency.

Measure Performance to Lift up your Leaders.

Have the courage to set Public Goals with Public Deadlines.

Getting things done

Citizens Affecting Real Change



“Res publica”

