

Connecting Conservation for Bay Health: Protected Land, Clean Water

2017 Maryland Land
Conservation Conference
June 8, 2017



Photo: Shutterstock/Steve Cope

Overview:

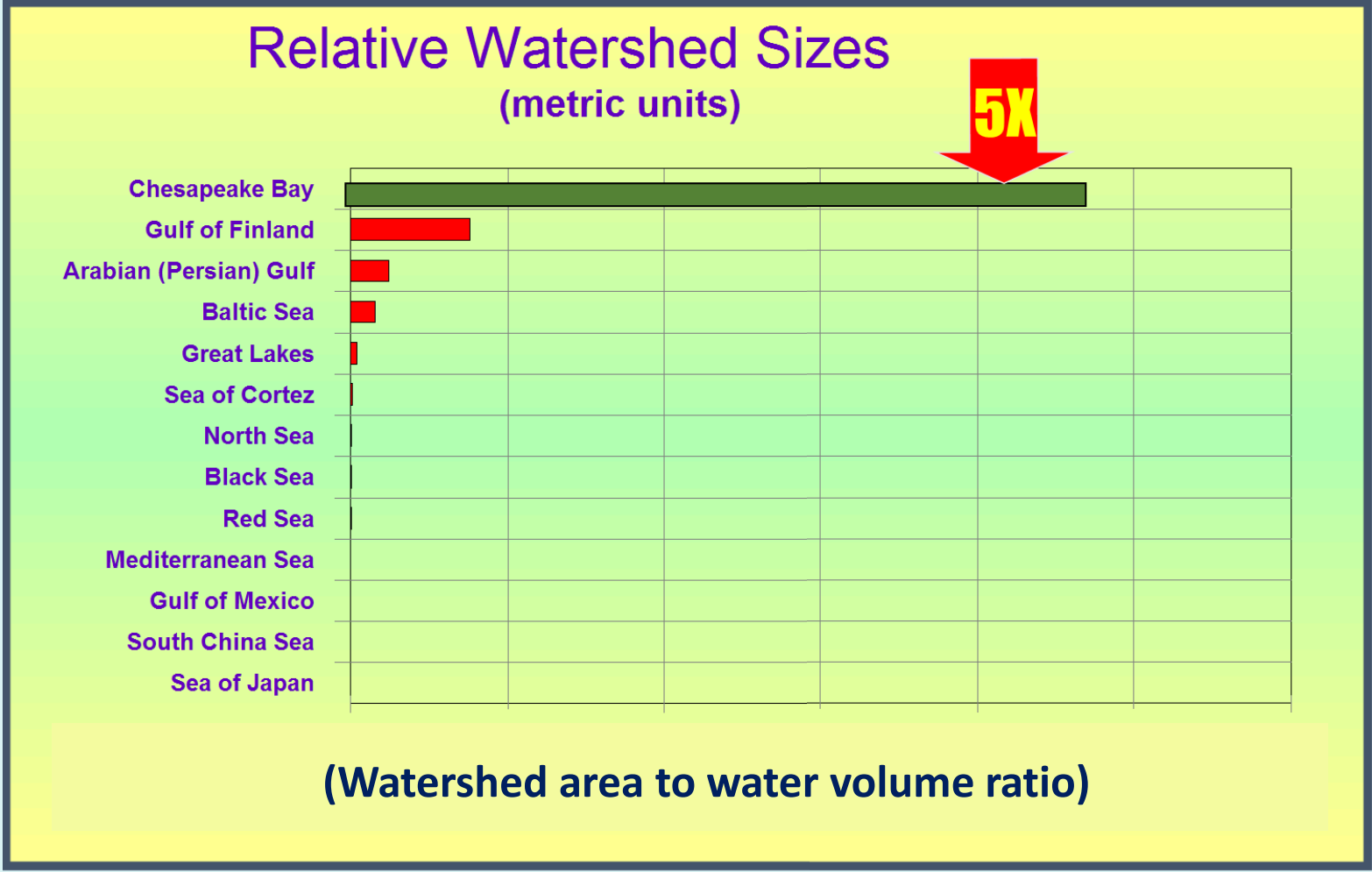
- Introduction
- Getting in the Game: Land trusts & water quality
- Go Big or Go Home: Conserving multiple values at a watershed scale
- Show Me the Money: Financing conservation
- Questions and Discussion



Land use/management determines water quality...

Photo: Ben Ferris, Integration and Application Network, UM-CES

...nowhere more than the Chesapeake.



- **64,000 square miles**
- **Total shoreline ~ 11,684 miles**
- **Nearly 18 million people**
- **Average depth ~ 22 feet**
- **More than 3,600 species**





Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus and Sediment

Established by the U.S. Environmental Protection Agency

TMDL: Pounds of pollution reduced

Shawn M. Garvin, Regional Administrator
U.S. Environmental Protection Agency
Region 3

Judith A. Enck, Regional Administrator
U.S. Environmental Protection Agency
Region 2

DATE

12/29/10

AFFIRMATION

As Chesapeake Bay D...
necessar...

718
nd

Watershed Agreement: Acres of land protected +

...ates of America
...ouncil of the Federal Government and the
Federal Leadership Committee for the Chesapeake Bay;
U.S. Environmental Protection Agency
U.S. Department of Agriculture
U.S. Department of Commerce
U.S. Department of Defense
U.S. Department of Homeland Security
U.S. Department of the Interior
U.S. Department of Transportation



Chesapeake Bay Program
Science Restoration Partnership

Land conservation...

- protects both water quality and quantity
- reduces the cost of water treatment
- is a first (and perhaps most important) line of defense
- provides a potential site for best management practices
- brings along many other quality-of-life benefits



The Chesapeake Bay Land & Water Initiative



[Photos: clockwise from upper L: iStock; Alliance staff/J. Herzog; US EPA/USACE; iStock.]

Chesapeake Bay Funders Network

CBFN brings funders together to protect and restore the Chesapeake Bay and the land, water, and communities of the broader Bay region through collaborative funding strategies that impact the social, political and economic systems influencing the region's environment.

CBFN Members

- **Agua Fund**
- **Chesapeake Bay Trust**
- **The Morris and Gwendolyn Cafritz Foundation**
- **The Campbell Foundation**
- **Dietel Partners**
- **Foundation for Pennsylvania Watersheds**
- **Corina Higginson Trust**
- **Hillsdale Fund**
- **Land Family Foundation**
- **MARPAT Foundation**
- **The Curtis and Edith Munson Foundation**
- **National Fish and Wildlife Foundation**
- **The Oak Hill Fund**
- **Prince Charitable Trusts**
- **Rauch Foundation**
- **Southeast Rural Community Assistance Project**
- **Town Creek Foundation**
- **Virginia Environmental Endowment**
- **Volgenau Foundation**

Chesapeake Bay Watershed Land Trust Assessment



CHESAPEAKE BAY
FUNDERS NETWORK



Land Trust Alliance

Together, conserving the places you love

CHESAPEAKE BAY WATERSHED LAND TRUST ASSESSMENT:
ACCELERATING LAND CONSERVATION TO PROTECT
AND IMPROVE WATER QUALITY



REPORT FOR THE CHESAPEAKE BAY FUNDERS NETWORK
AND THE LAND TRUST ALLIANCE

DECEMBER 2015

Prepared By Long Haul Conservation Advisors, Mary McBryde

Key Findings

- Water resources matter to land trusts.
- Some land trusts are actively working to protect, improve, and restore water quality.
- Science needs to play a critical role.
- Land trusts are uniquely positioned to impact the management of many, many acres...
...and are poised to do much, much more.

Priorities for Types of Land Protected

| State | #1 | #2 | #3 |
|--------------|--|-----------------------------------|--------------------------------|
| Pennsylvania | Important natural areas or wildlife habitats | Water quality, including wetlands | Scenic views or landscapes |
| Virginia | Important natural areas or wildlife habitats | Water quality, including wetlands | Working forestlands |
| Maryland | Important natural areas or wildlife habitats | Water quality, including wetlands | Historic or cultural resources |
| New York | Important natural areas or wildlife habitats | Water quality, including wetlands | Recreation lands |
| Delaware | Important natural areas or wildlife habitats | Water quality, including wetlands | Scenic views or landscapes |
| DC | Water quality, including wetlands | | |

Source: Land Trust Alliance 2015 National Land Trust Census, state data

Note: not enough data for WV to determine priorities

The Chesapeake Bay Land & Water Initiative

*...to accelerate land protection
and stewardship that will best
protect and restore water quality*

www.lta.org/Chesapeake

Initiative Components 2016-2020

\$1.3 Million Grant Program

- Direct, meaningful benefit to water quality
- Accelerate land protection & stewardship with high impact
- Support diverse partners & collaborations
- Accelerate use of science to increase effectiveness
- Support innovation and taking proven examples to scale

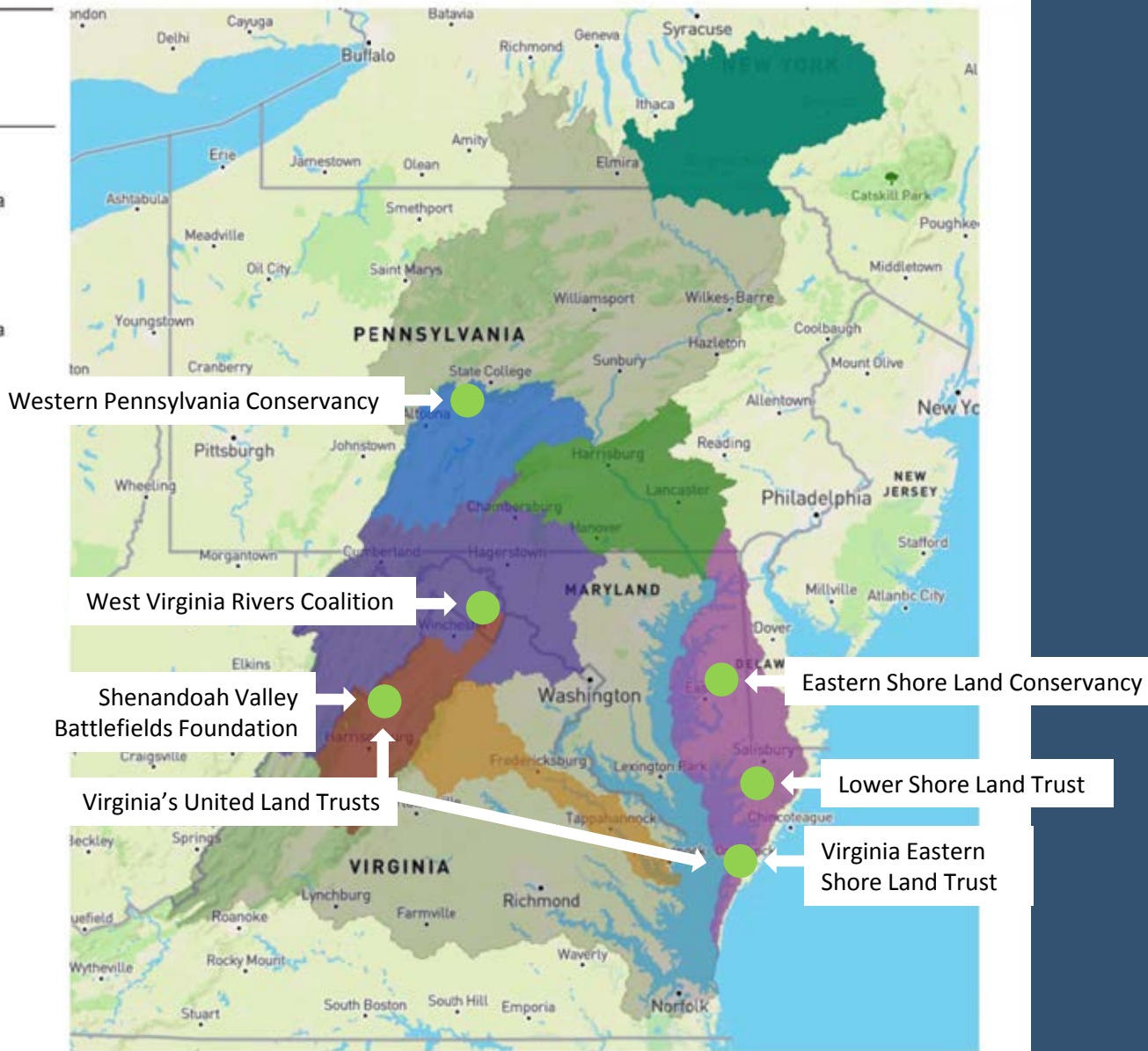
Public Policy-Communications

- Federal, regional, state & local
- Increase the clout and public support for permanent land protection
- Support campaigns for public funding
- Secure greater credit for conservation in the TMDL or other mechanism
- Advance the new math of ecosystem services

Land and Water Initiative Initial Watersheds Approved Projects 2017

Initial Landscape Watersheds

-  Upper Susquehanna
-  Lower Susquehanna
-  Juniata
-  Upper Potomac
-  Shenandoah
-  Rapidan and Rappahannock
-  Eastern Shore



Land and Water Initiative Grant Program Approved Projects 2017

| Applicant | Project | Amount |
|---|--|-----------|
| Eastern Shore Land Conservancy | Healthy Water, Thriving Farms: A land trust's approach to water quality through easement stewardship | \$15,000 |
| Lower Shore Land Trust | Prioritization of Conservation Lands Using Targeted Mapping | \$15,000 |
| Shenandoah Valley Battlefields Foundation | Shenandoah Futures Conservation Collaborative | \$25,000 |
| Virginia Eastern Shore Land Trust | Riparian Buffer Improvement Assessment | \$15,000 |
| Virginia's United Land Trusts (VaULT) | Virginia Land & Water Initiative – Enhanced Water Quality Stewardship on Protected Lands | \$25,000 |
| West Virginia Rivers Coalition | Protected Lands, Clean Waters—An Action Plan for West Virginia's Chesapeake Bay Watershed | \$20,000 |
| Western Pennsylvania Conservancy | Strengthening Partnerships to Establish Permanent Adoption of Agricultural Stewardship Practices | \$25,000 |
| TOTAL | | \$140,000 |

A range of projects...

- Strategic prioritization of land conservation
 - To protect water quality
 - To address pollution hotspots
- Strengthening easement provisions
- Drinking/source water protection
- Individual best management practices
- “Whole farm” approaches

Photo courtesy of US Environmental Protection Agency

A range of approaches...

- Integrated land-water mission
- Hybrid protection/restoration functions
- Building specific staff capacity
- Developing new partnerships

Photo: Shutterstock/ESB Professional

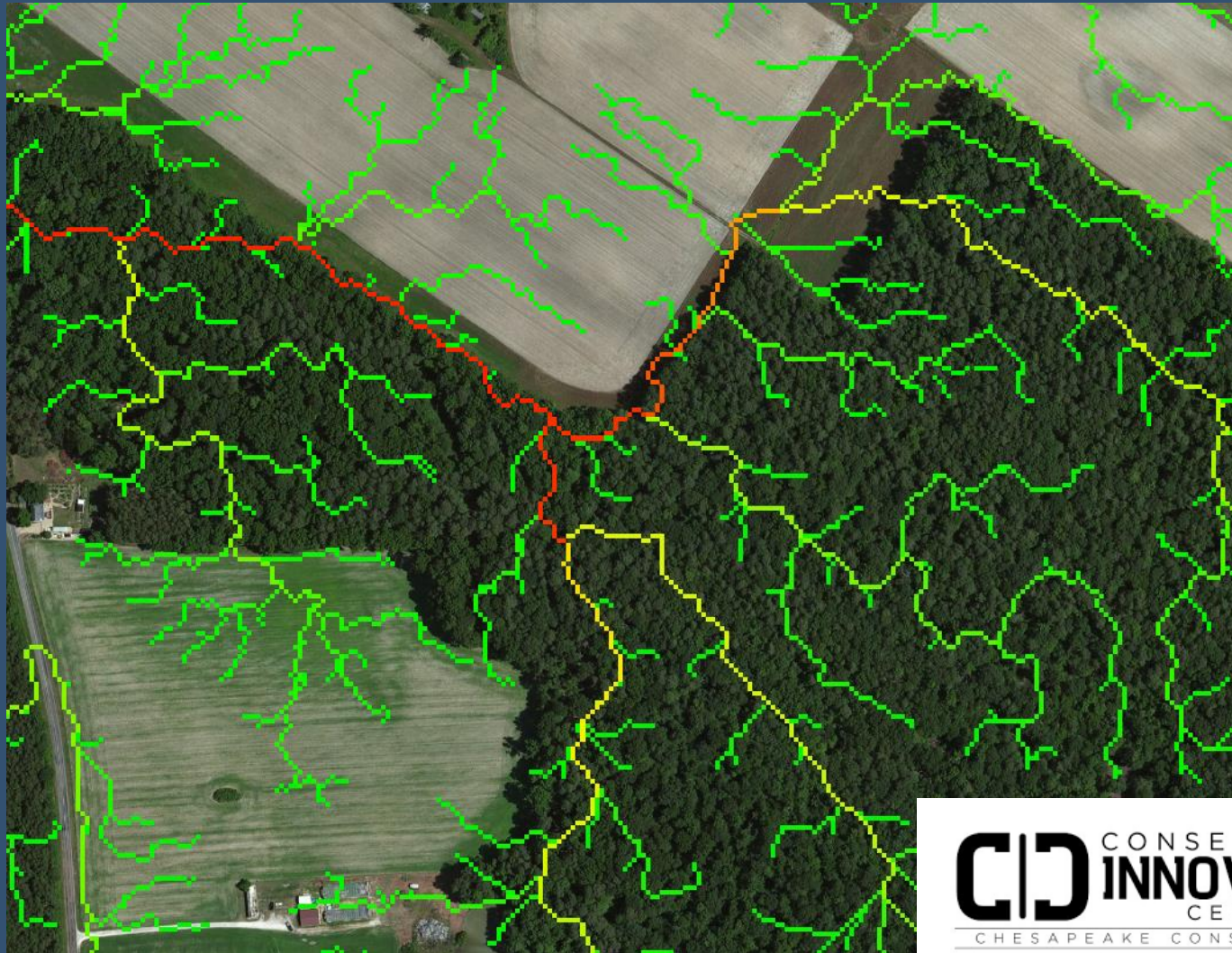
Land trusts....

- Negotiate voluntary, legal agreements
- Protect land in perpetuity
- Maintain long-term landowner relationships
- Serve as a trusted, non-gov't messenger
- Conduct regular monitoring/stewardship
- Some address water quality in easements
- Some have restoration capacity in house

Precision conservation: Filling streamside buffer gaps



Precision conservation: Flow-path analysis



Quantifying pollution reductions

FIELDDOC
ACCOUNT LOGOUT NEED HELP?

Projects / Chesapeake Land and Water Initiative Grant Project / Sample buffer / Forest Buffer

PRINT
SAVE AS PDF
+ ADD MEASUREMENT DATA

Summary for Forest Buffer

Project Title: Chesapeake Land and Water Initiative Grant Project **Site Number:** Sample buffer
Stream Name: Drains to Tidal Water - No River Simulation **HGMR:** Coastal Plain Lowlands Non Tidal

TOOLS

[Practice Overview](#)

[Edit](#)

INSTALLATION SUMMARY


| | Planned 2017-05-04 | Installed To-Date | % of Planned |
|---------------------------------|-----------------------|-------------------|--------------|
| Length of Buffer Installed (ft) | 400 | | |
| Average Buffer Width (ft) | 100 | -- | -- |
| Number of Trees Planted | 500 | | |
| Tree Density (# per acre) | 544.50 | -- | -- |

LOAD & REDUCTIONS

| | Pre-BMP Load | Planned Reduction 2017-05-04 | Reduction To-date |
|---------------------|--------------|---------------------------------|-------------------|
| Nitrogen (lbs/yr) | 16.53 | 9.58 | 0.00 lbs/yr |
| Phosphorus (lbs/yr) | 0.95 | 0.52 | 0.00 lbs/yr |
| Sediment (tons/yr) | 0.01 | 0.00 | 0.00 lbs/yr |


CHESAPEAKE BAY METRICS

| | Planned 2017-05-04 | Installed To-date | |
|-------------------------------|-----------------------|-------------------|----|
| Acres of Riparian Restoration | 0.92 | 0.00 acres | |
| Miles of Riparian Restoration | 0.08 | 0.00 miles | |
| Number of Trees Planted | 500 | 0 trees | 0% |




FIELDDOC

Setting conservation priorities



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INTRODUCTION EXPLORE PLACES & TOPICS FOCUS & PLAN TAKE ACTION CONNECT & SHARE GO TO THE MAP



Home » Focus and Plan » Priority Places » LandScope Chesapeake » LandScope Chesapeake Home

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- Conservation Summary
- Conservation Priorities
- Featured Places
- Protected Areas
- Conservation Partners
- Chesapeake Bay States




WHAT IS THE CHESAPEAKE CONSERVATION PARTNERSHIP?

The Chesapeake Conservation Partnership is a regional coalition of over 50 diverse organizations engaged in land conservation and related fields within the Chesapeake Bay watershed. Since 2009 the Partnership has connected representatives from all six watershed states and DC including federal and state agencies, local governments, Native American tribes and non-profit organizations, [learn more](#).

CONSERVATION GOALS

The Chesapeake Conservation Partnership has identified long-term landscape conservation goals for achieving a vision of a vibrant, healthy and sustainable Chesapeake region. These goals encompass values that have been documented through many public processes. They recognize all is interconnected -- a vibrant economy, strong communities, healthy people, working farms and forests, vital habitat for native wildlife, clean water, our shared heritage, recreation and quality of life.




Choose a conservation goal to learn more!

From our Content Partner



Locator Map [GO TO THE MAP](#)



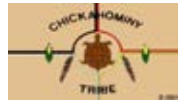


Advancing the New Case for Land and Landscape Conservation

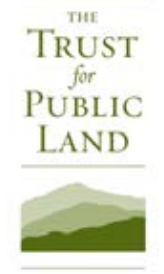


Chesapeake

CONSERVATION PARTNERSHIP



THE CONSERVATION FUND











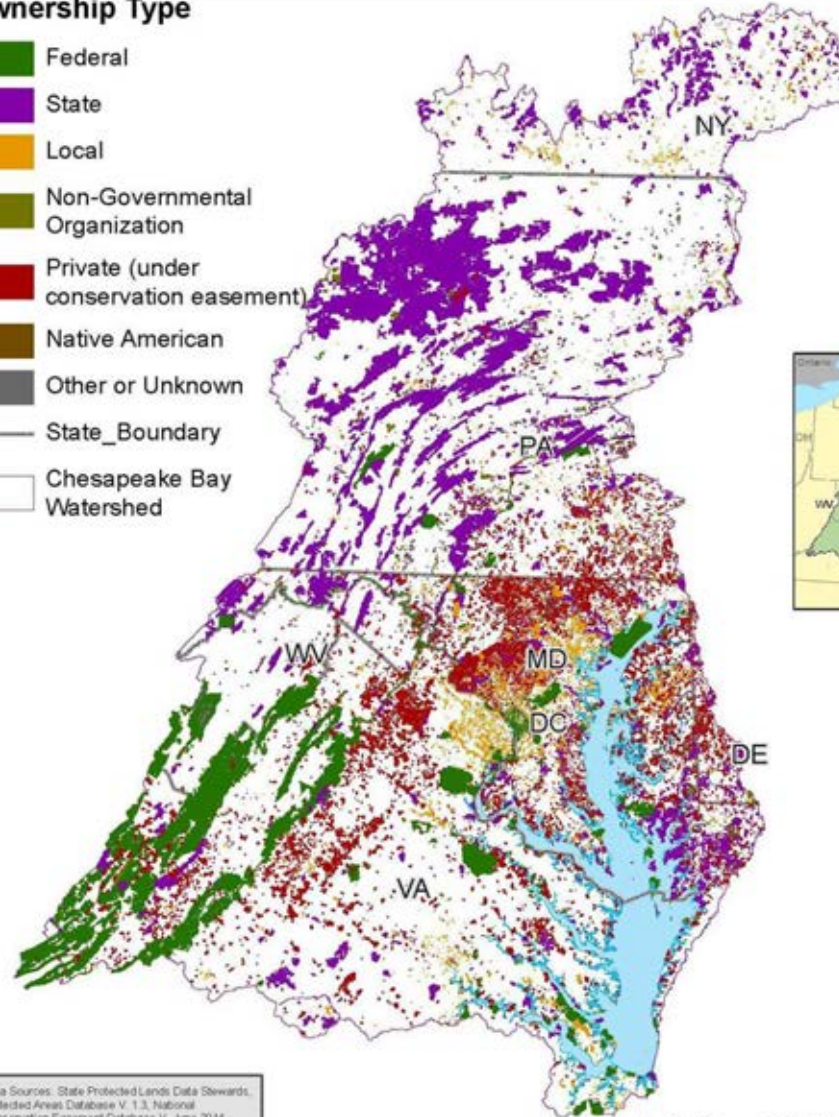
**Fostering collaborative action to
conserve culturally and
ecologically important landscapes
to benefit people, economies, and
nature throughout the six-state
watershed.**

Protected Lands in the Chesapeake Bay Watershed 2015_16



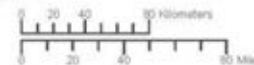
Ownership Type

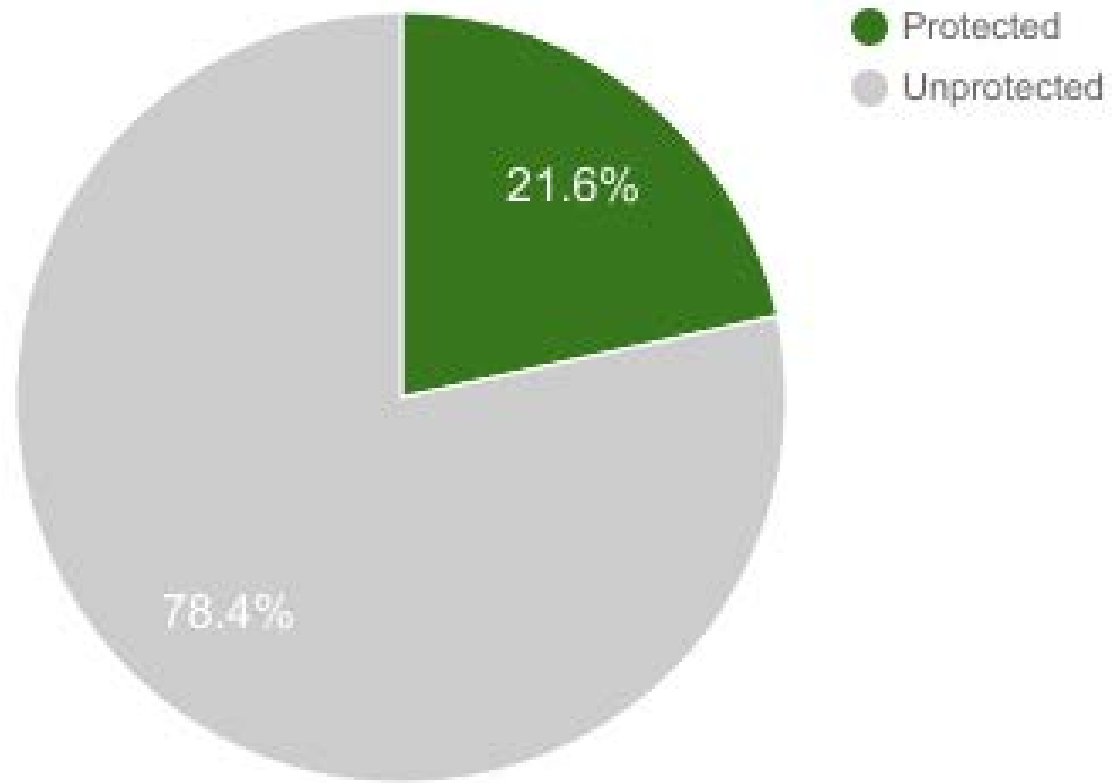
-  Federal
-  State
-  Local
-  Non-Governmental Organization
-  Private (under conservation easement)
-  Native American
-  Other or Unknown
-  State_Boundary
-  Chesapeake Bay Watershed



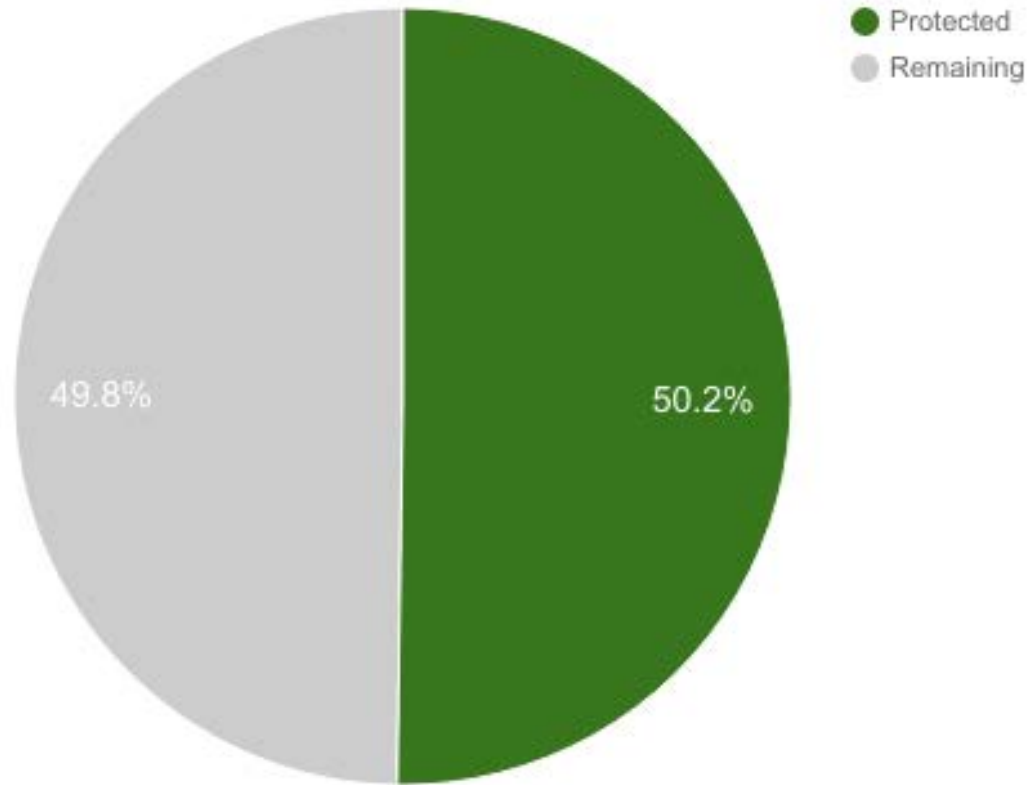
Data Sources: State Protected Lands Data Stewards, Protected Areas Database V. 1.3, National Conservation Easement Database V. June 2014.

For more information, visit www.chesapeakebay.net
Disclaimer: www.chesapeakebay.net/termsOfUse.htm





8,804,577 acres protected



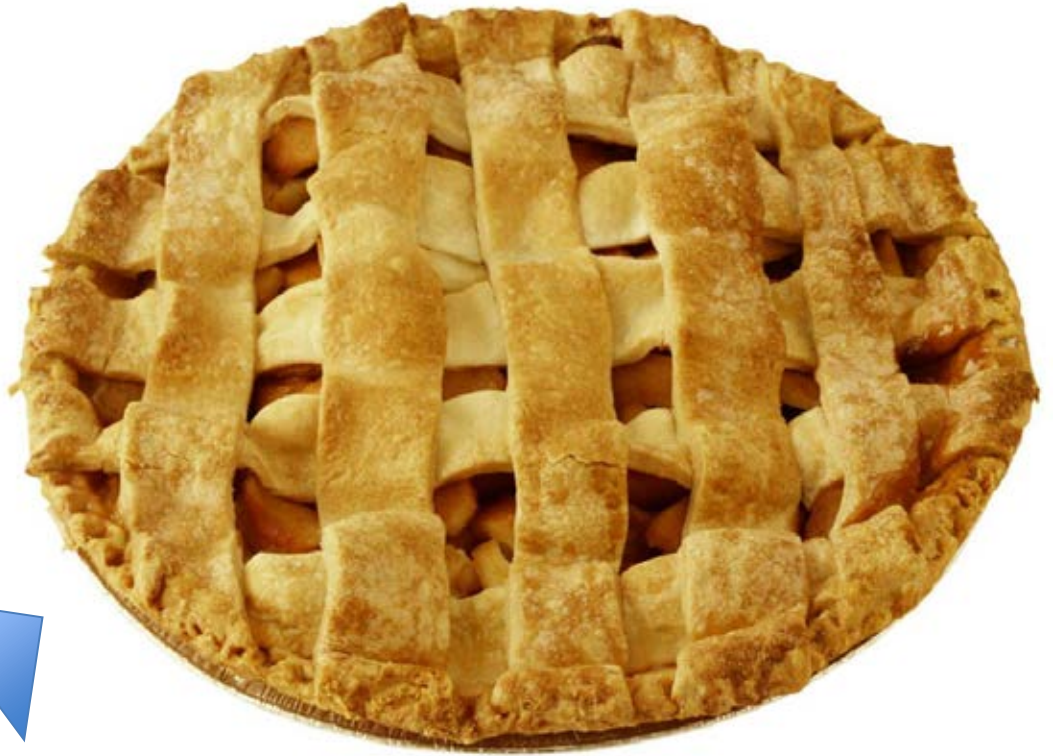
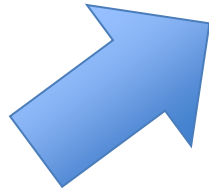
Progress toward 2 M acre goal

Advancing the New Case for Land & Landscape Conservation



- 1 Set Long-term Goals**
- 2 Document & Illustrate**
- 3 'Grow the Pie' Strategies**
- 4 Track Progress**

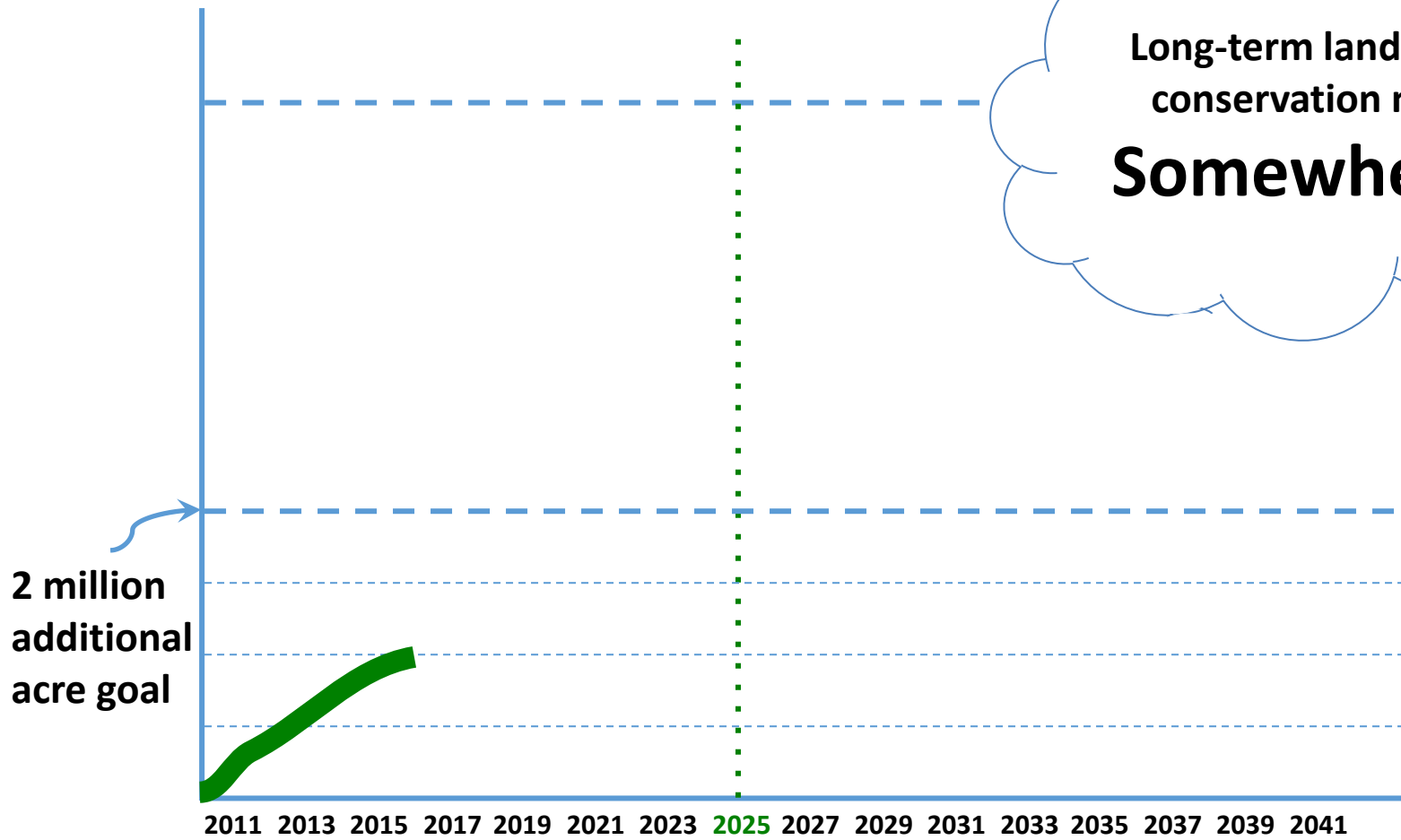




The long term ask



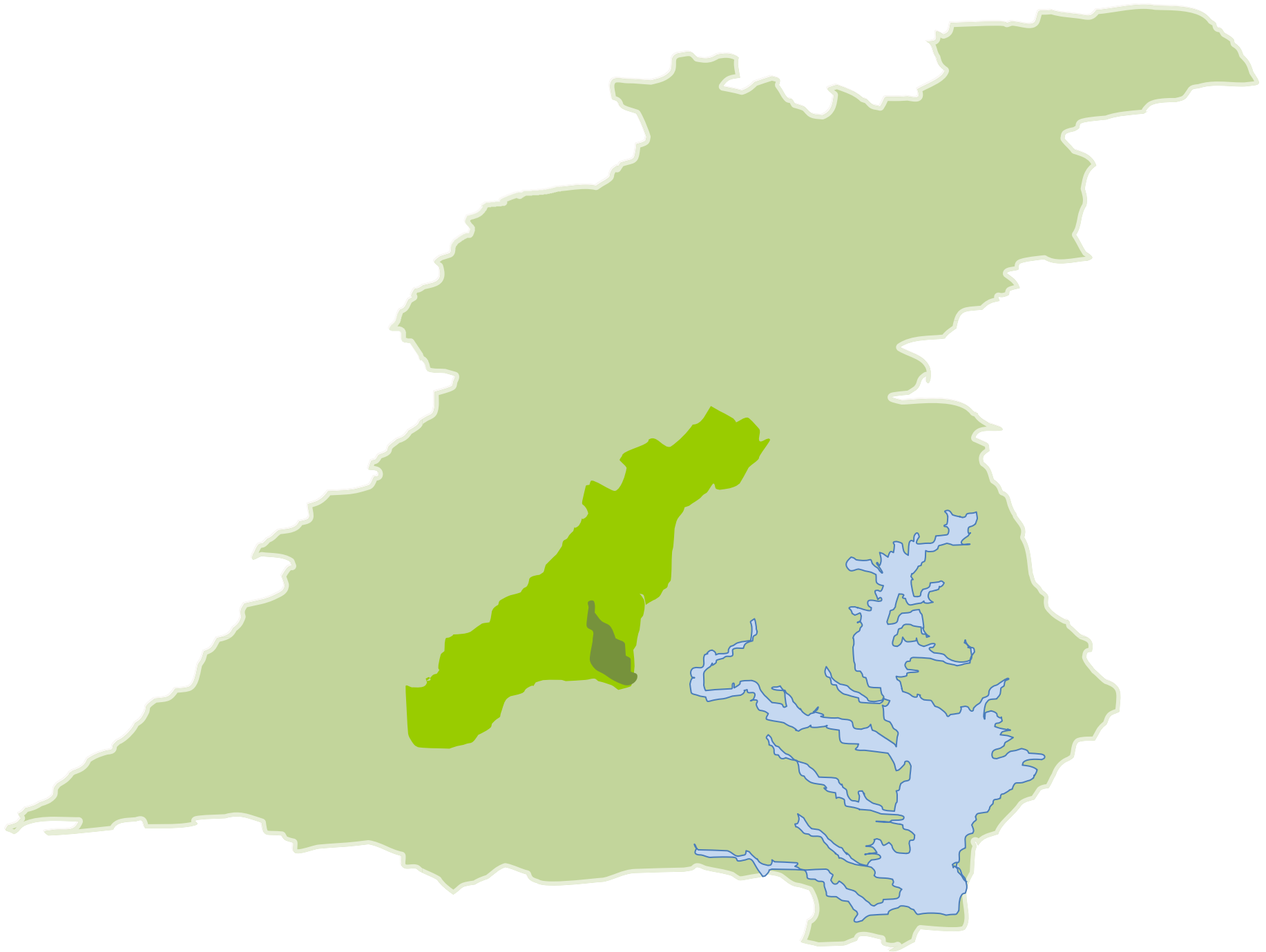




Long-term landscape conservation need
Somewhere

2 million additional acre goal

2011 2013 2015 2017 2019 2021 2023 2025 2027 2029 2031 2033 2035 2037 2039 2041



Our Guidelines

Pooling our priorities gives greater influence.

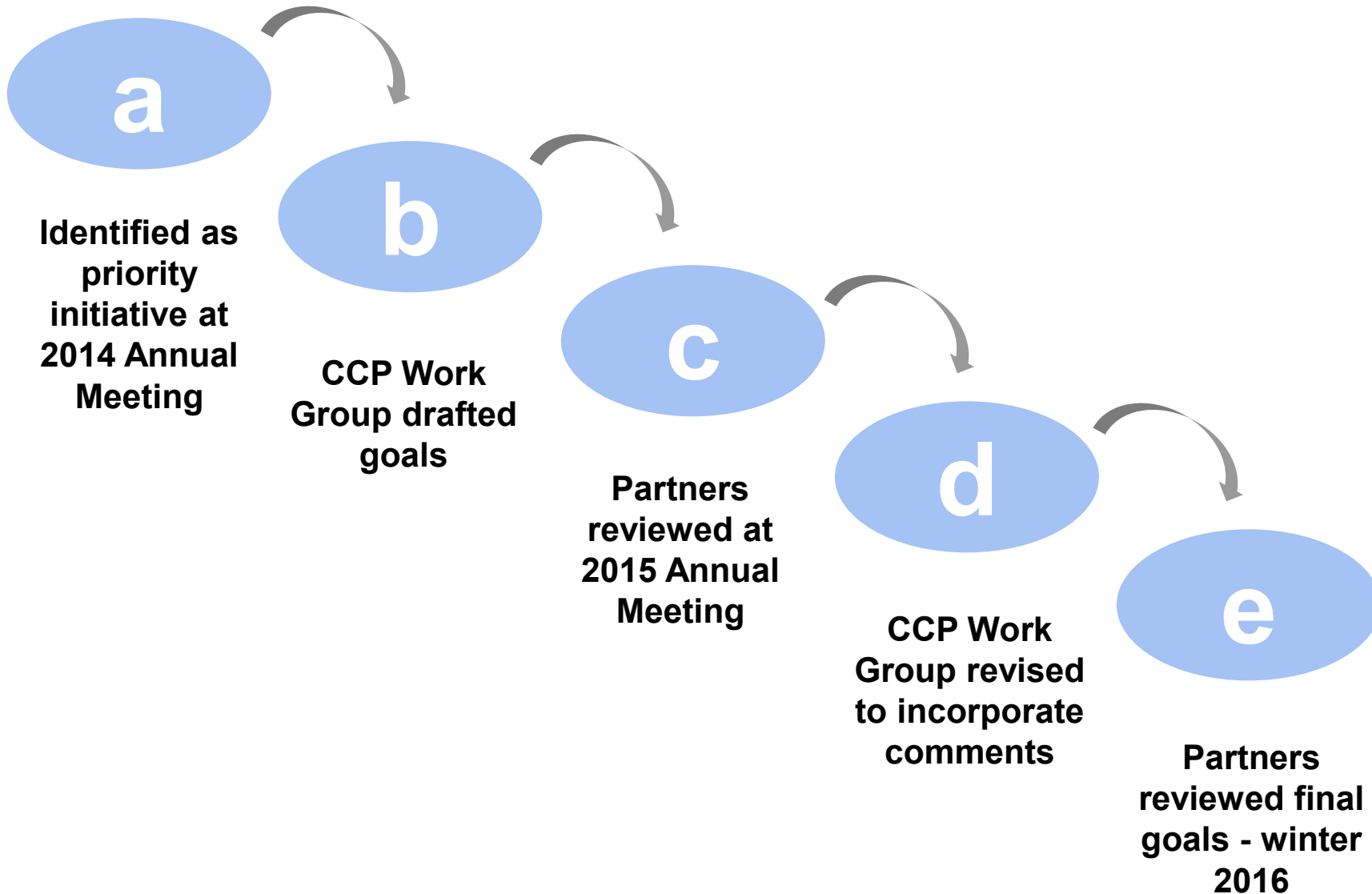
Everyone's land conservation goals and priorities are important.

The Partnership's landscape conservation goals must be inclusive of all partners' goals.

Dividing the pie is not our interest. Making the pie bigger is.



A set of **inclusive and **cumulative long-term** landscape conservation goals **reflecting what we all want** to conserve in the Chesapeake watershed.**



Farms

Forests

Habitat

Heritage

Health

Farms

Forests

Habitat

Heritage

Health



All interconnected:

Vibrant economy

Strong communities

Healthy people

Working farms/forests

Thriving native wildlife

Clean water

Healthy watersheds

Shared heritage

Recreation

Quality of life



Set Long-term Goals



Document & Illustrate



'Grow the Pie' Strategies



Track Progress



Existing Protected Lands

Long-term Conservation Need

How to get there?



Mapping 1.0 - October 2016

- Presented at Annual Meeting

Mapping 1.1 - March 2017

- Addressed Annual Meeting comments
- Improved data and cartography
- Published to LandScope



Farms

Protect the Chesapeake watershed's productive farms and prime farmland from conversion and secure space for urban farming to ensure permanent, sustainable 'close to home' sources of food for the region's population and to support the economic and cultural value of our working farms and farmers.



Farms

Farm Lands

-  Prime/Farmland of Importance, farmed
-  Farmed
-  Prime/Farmland of Importance, not farmed

Chesapeake

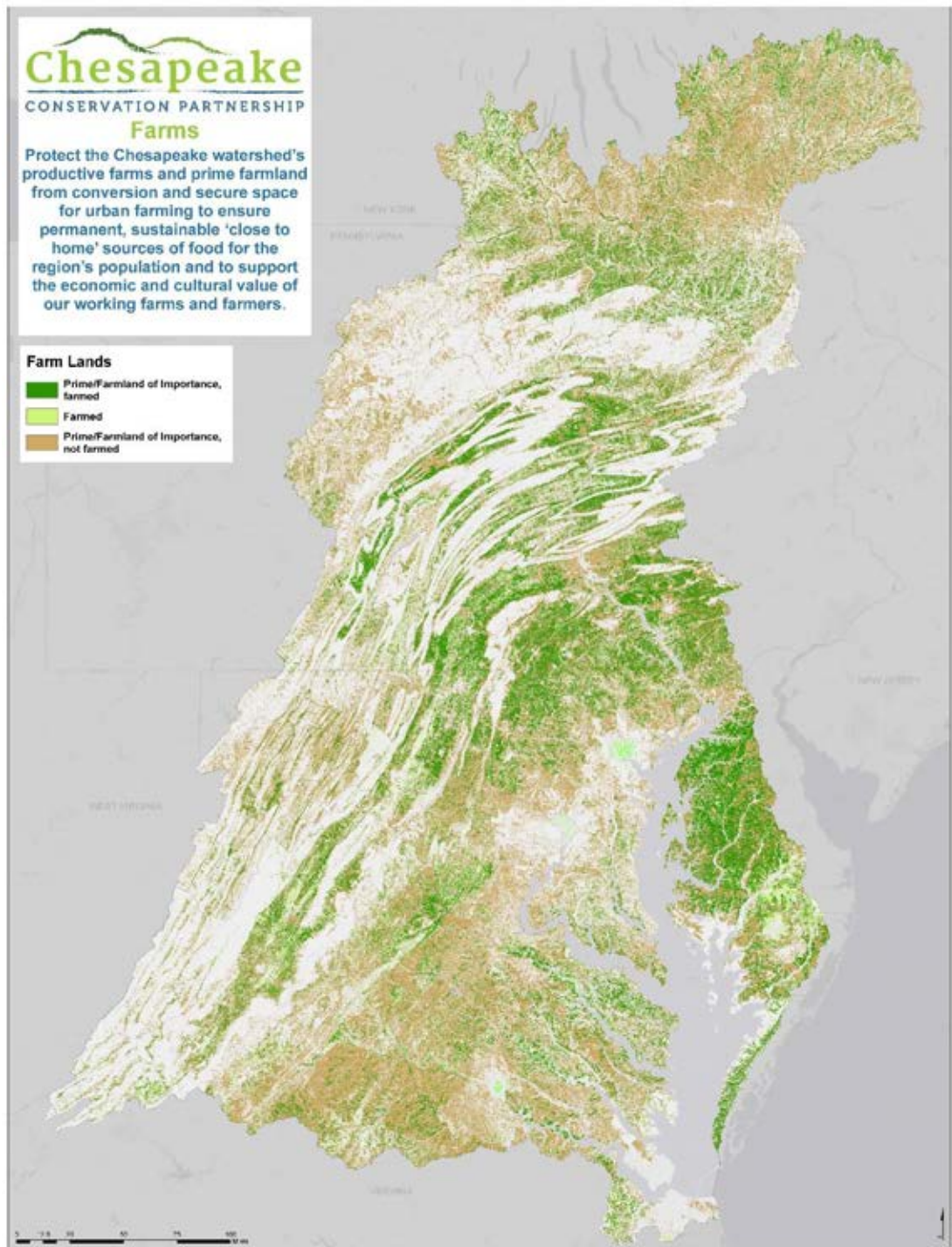
CONSERVATION PARTNERSHIP

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Farm Lands

-  Prime/Farmland of Importance, farmed
-  Farmed
-  Prime/Farmland of Importance, not farmed



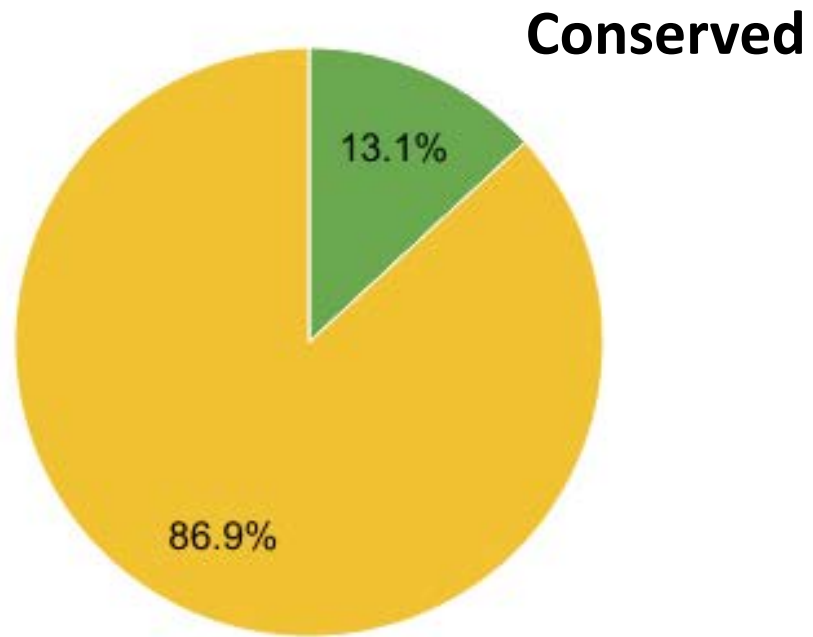


**Total Important
Farmland**

20,582,542 ac.
50% of watershed

6,923,975 ac. in production

Farms





Forests

Protect the Chesapeake watershed's most ecologically and economically valuable forest land from conversion-- headwater and riparian forests, large forest blocks, woodlots providing multiple values, and highly productive timber growing soils.



Forests

Developed in
collaboration
with CBP Forestry
Work Group

Headwater and Riparian Forests:

Headwater forests: Catchments with first-order stream in the top half of elevation values.

Riparian forests: Areas within a 10 meter buffer of streams.

Large Forest Blocks: Blocks of contiguous forest 500 acres or larger.

Multiple Value Woodlots: Blocks of contiguous forest between 50 & 500 acres.

Forests Conducive to Timber

Harvest: Areas of harvestable contiguous forest blocks 500 acres or larger with less than 30% slopes.



Forests

Concentration of Forest Values*

- One value
- Two overlapping values
- Three overlapping values

*Note: Due to forest patch size criteria, Large Forest Blocks and Woodlots are mutually exclusive, as are Productive Timber Growing Areas and Woodlots. Therefore, although there are four input layers, the maximum value in the composite layer is three. For instance, values of three could indicate overlap between Large Forest Blocks, Riparian/Headwater Forests, and Productive Timber Growing Areas. Woodlots can have a value of two only when they overlap with Riparian/Headwater Forests.

Chesapeake
CONSERVATION PARTNERSHIP

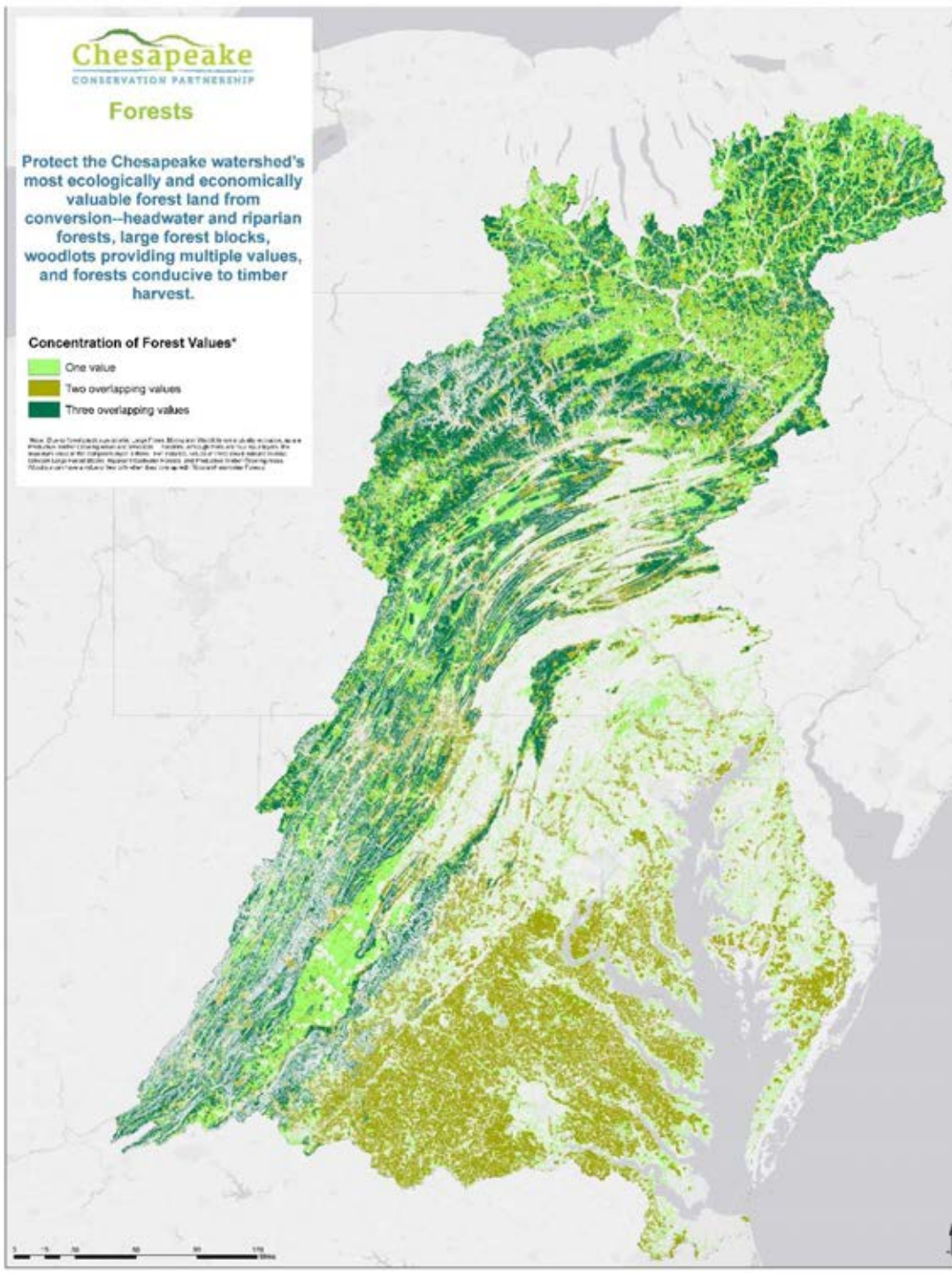
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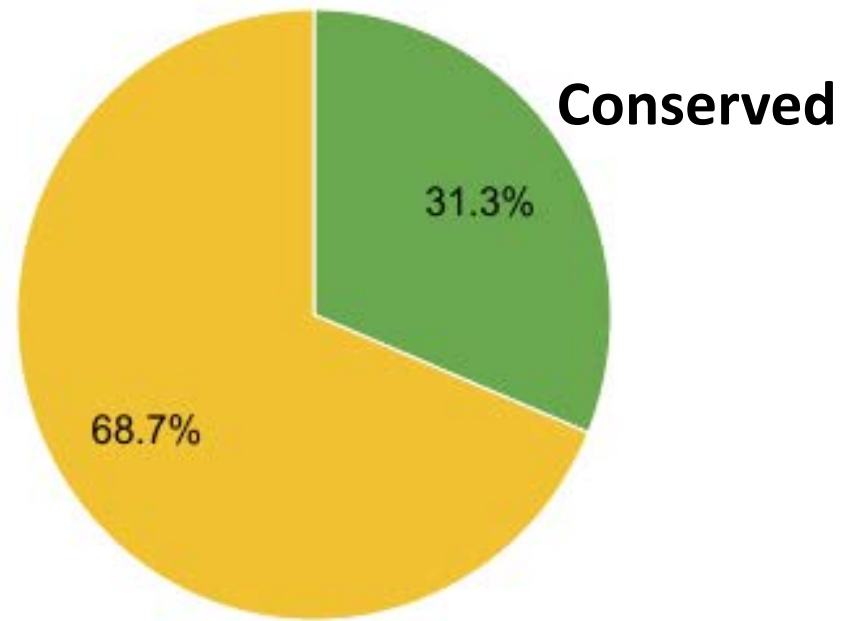
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Forests

Total Important Forests 22,124,849 ac.
54% of watershed





Habitat

Protect a network of large natural areas and corridors sufficient to allow nature to respond to a changing climate and land development and to support thriving populations of native wildlife, migratory birds, fish and plants and sustain at-risk species.



Habitat

Developed by North Atlantic LCC in consultation with the Regional Conservation Opportunity Areas Team of the Northeast Association of Fish and Wildlife Agencies. CBP Habitat Goal Team using same map.







Terrestrial and Wetland Core Areas: Intact, connected places supporting a diverse fish, wildlife, plants, and the ecosystems on which they depend.

Terrestrial Connectors: Connectors allow movement from one core area to another, and flow for ecological features and processes as conditions change.

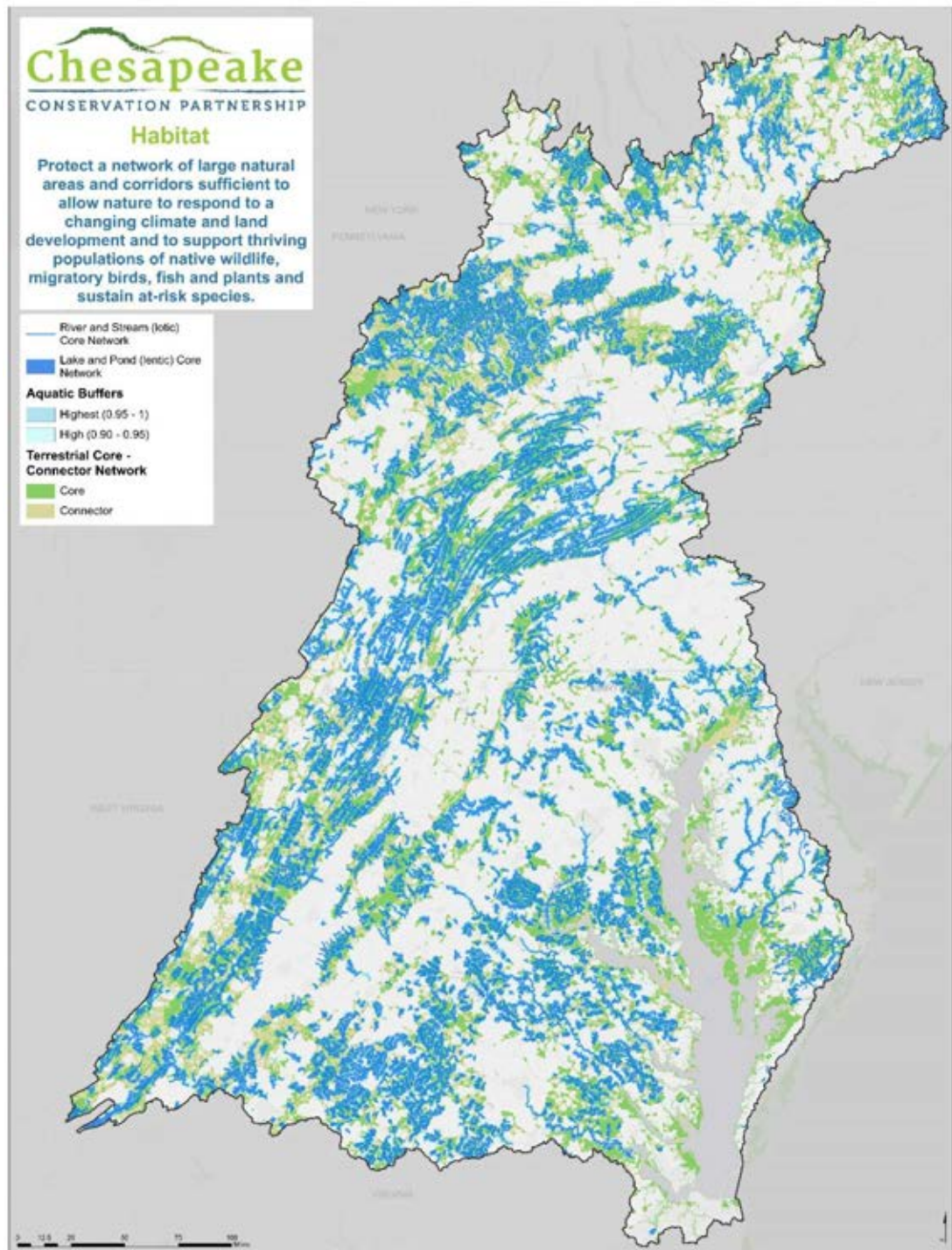
Aquatic Core Networks and Buffers: Includes lotic and lentic core areas (stream reaches, lakes and ponds) and aquatic core buffers.



Habitat

-  River and Stream (lotic) Core Network
-  Lake and Pond (lentic) Core Network
- Aquatic Buffers**
-  Highest (0.95 - 1)
-  High (0.90 - 0.95)
- Terrestrial Core - Connector Network**
-  Core
-  Connector

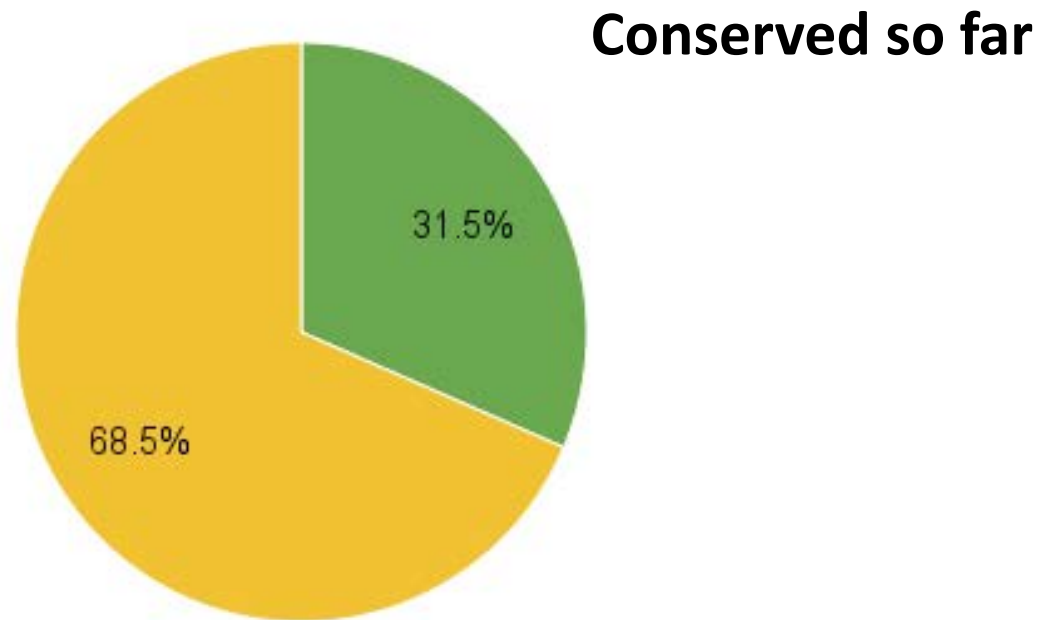
Developed by North Atlantic LCC in consultation with the Regional Conservation Opportunity Areas Team of the Northeast Association of Fish and Wildlife Agencies. CBP Habitat Goal Team using same map.





Habitat

*Total Important
Habitat* **21,096,374 ac.**
51% of watershed





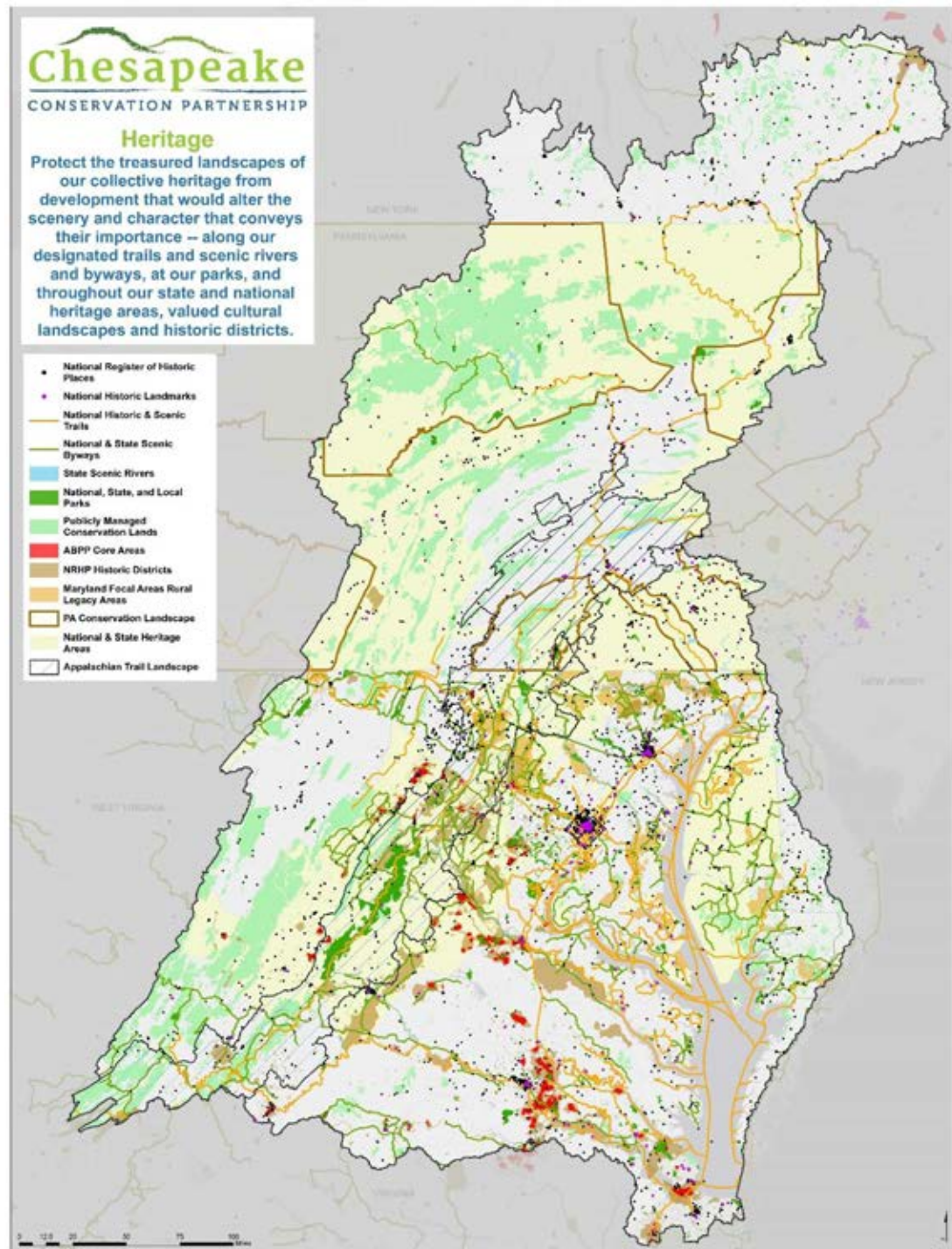
Heritage

Protect the treasured landscapes of our collective heritage from development that would alter the scenery and character that conveys their importance -- along our designated trails and scenic rivers and byways, at our parks, and throughout our state and national heritage areas, valued cultural landscapes and historic districts.



Heritage

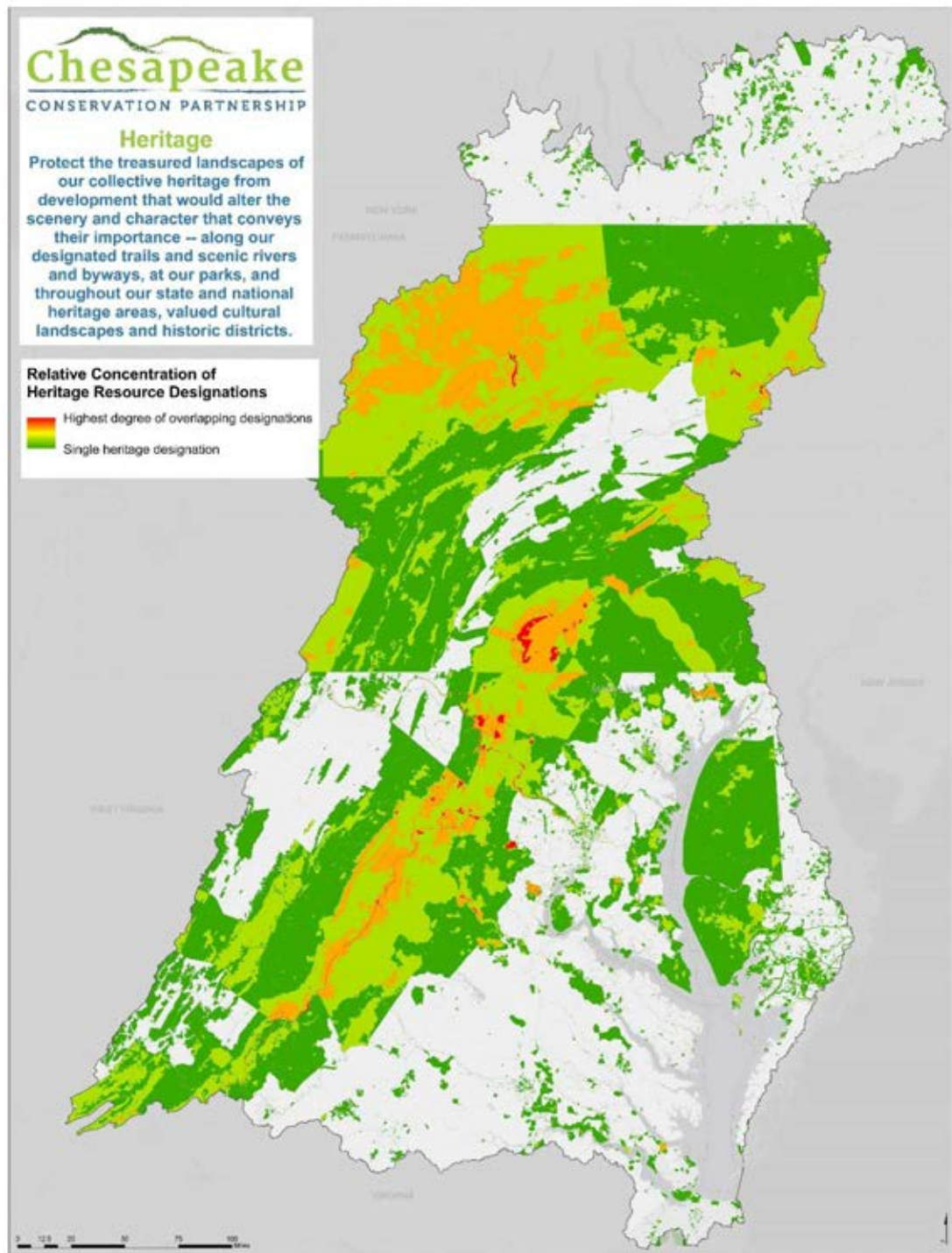
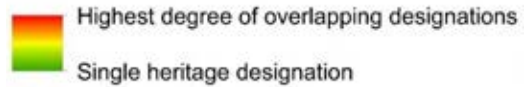
- National Register of Historic Places
- National Historic Landmarks
- National Historic & Scenic Trails
- National & State Scenic Byways
- State Scenic Rivers
- National, State, and Local Parks
- Publicly Managed Conservation Lands
- ABPP Core Areas
- NRHP Historic Districts
- Maryland Focal Areas Rural Legacy Areas
- PA Conservation Landscape
- National & State Heritage Areas
- Appalachian Trail Landscape





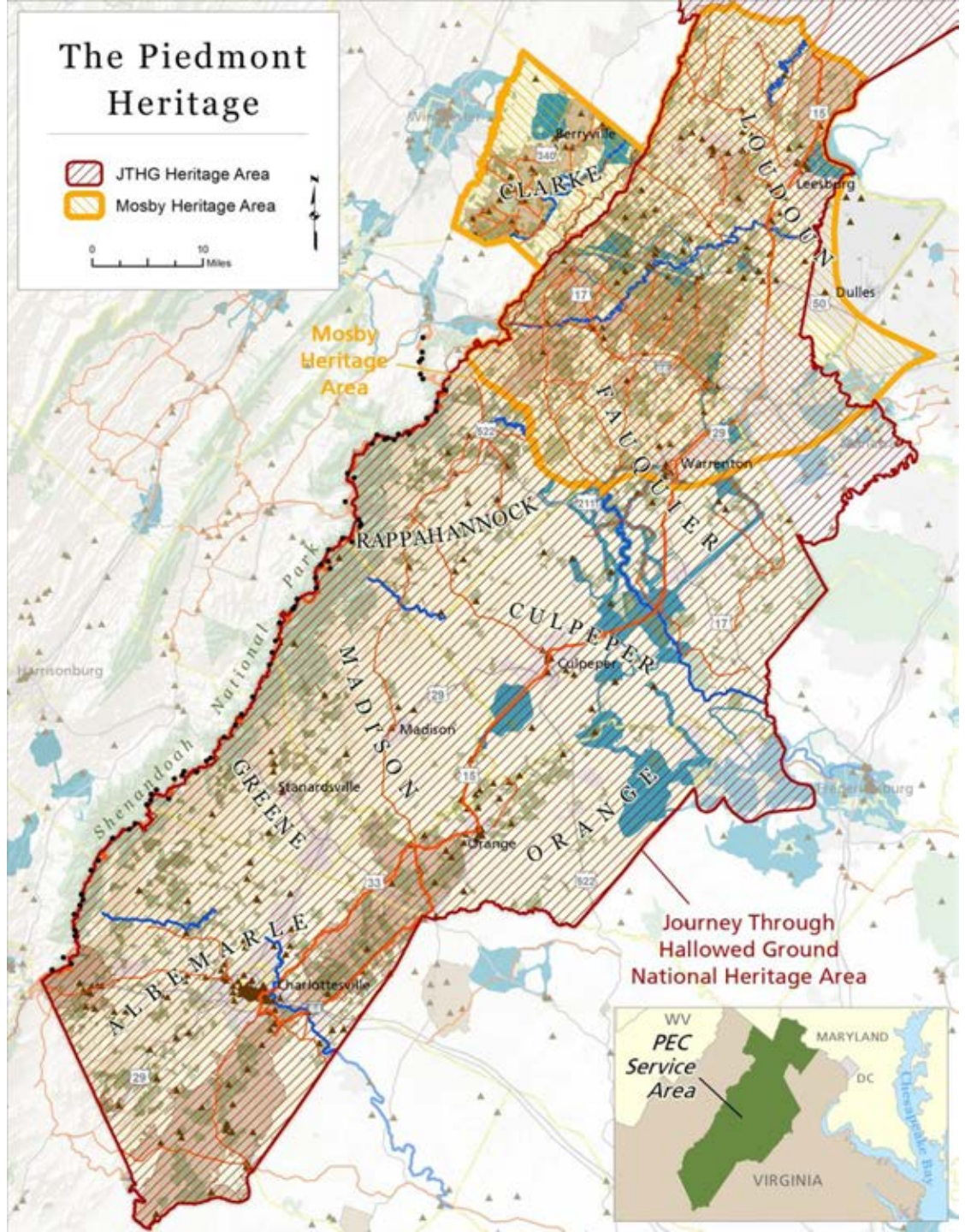
Heritage

Relative Concentration of Heritage Resource Designations



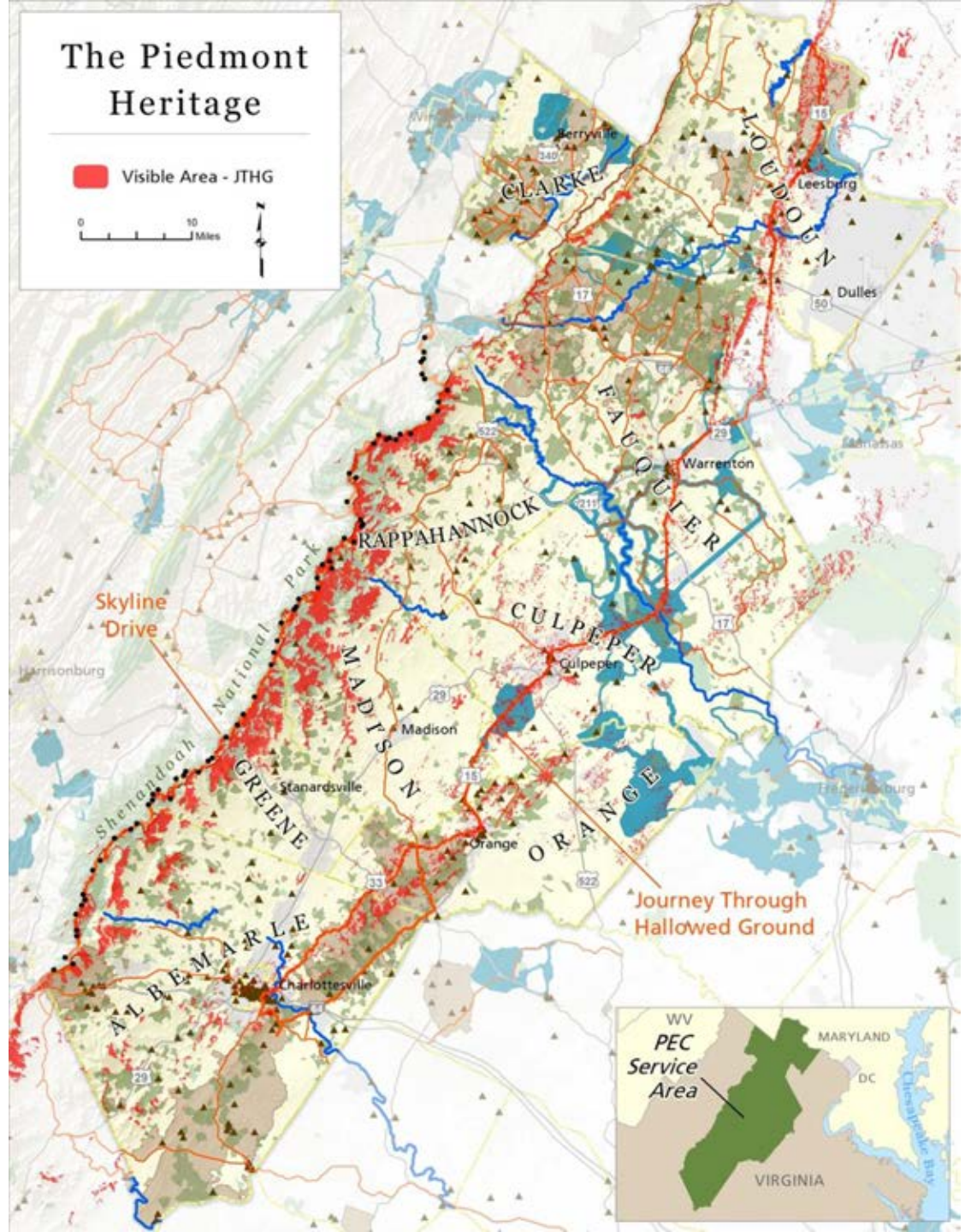


Heritage



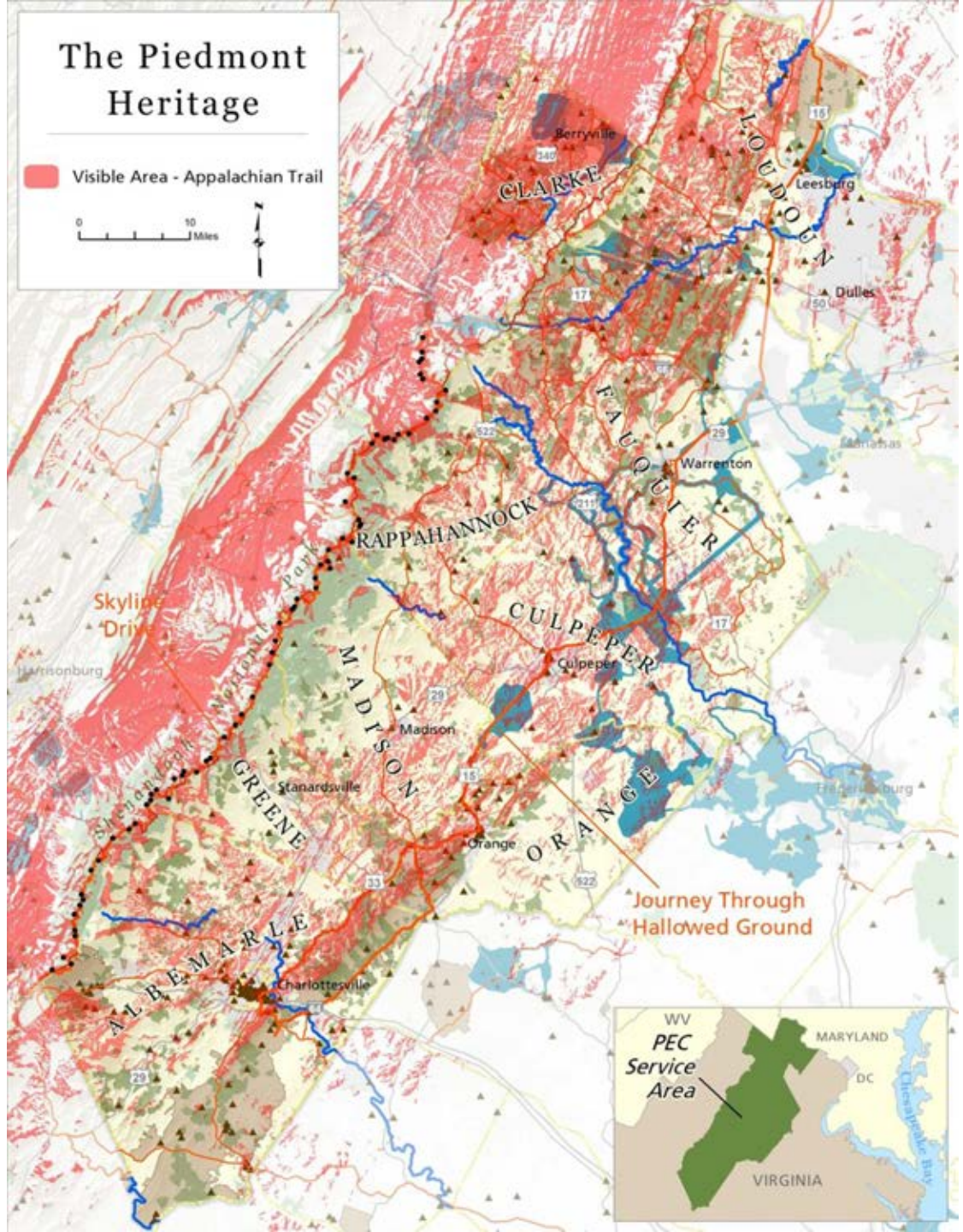


Heritage





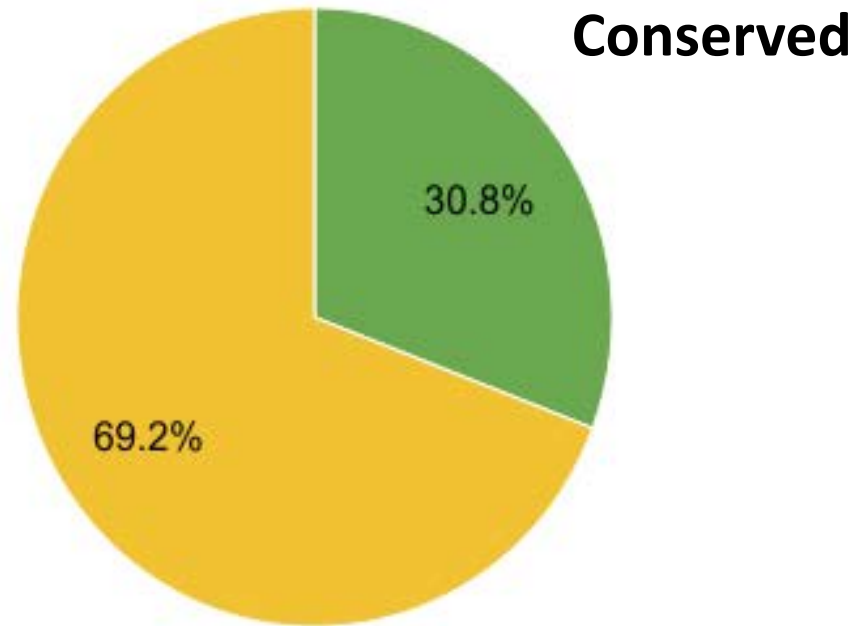
Heritage





Heritage

Total Important Heritage 20,651,048 ac.
50% of watershed





Human Health

Provide people access to parks and trail networks within walking and biking distance of their homes and communities. Provide sufficient opportunities along waterways to ensure nearly all residents are within 30 minutes of reaching a public access site at water's edge.

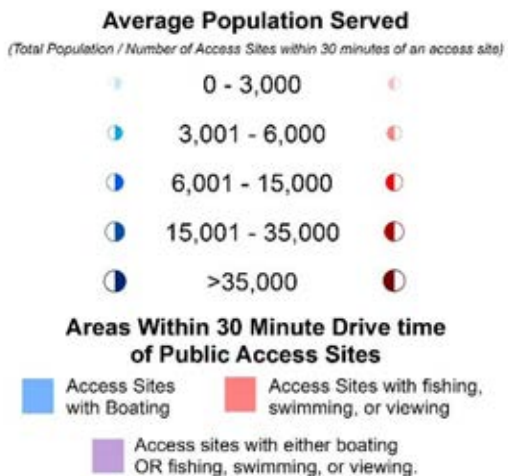
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2



Human Health

Availability of Public Access Sites at Water's Edge



*Note: Some access sites may have both boating and non-boating amenities and were included in both analyses

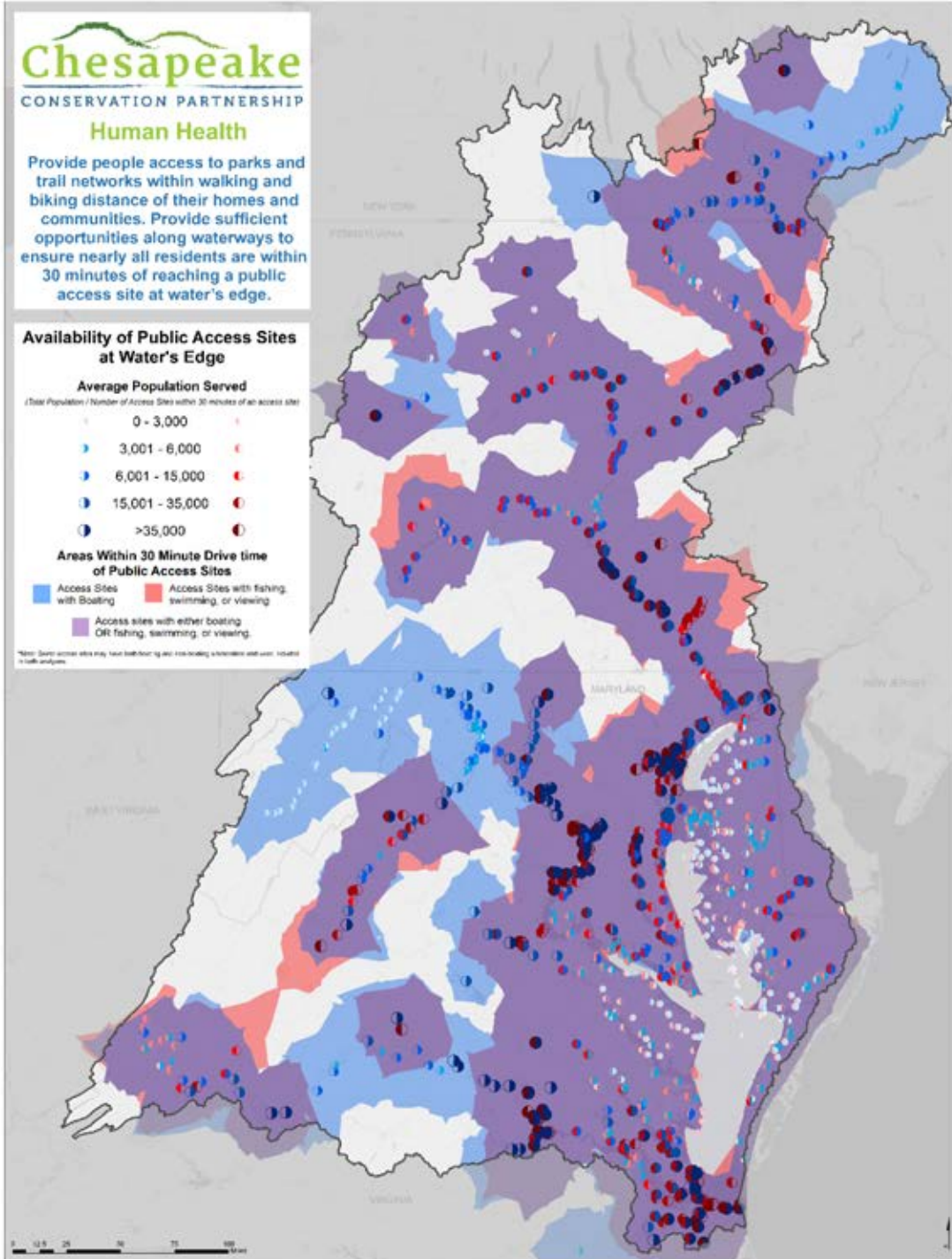
Chesapeake CONSERVATION PARTNERSHIP Human Health

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Availability of Public Access Sites at Water's Edge



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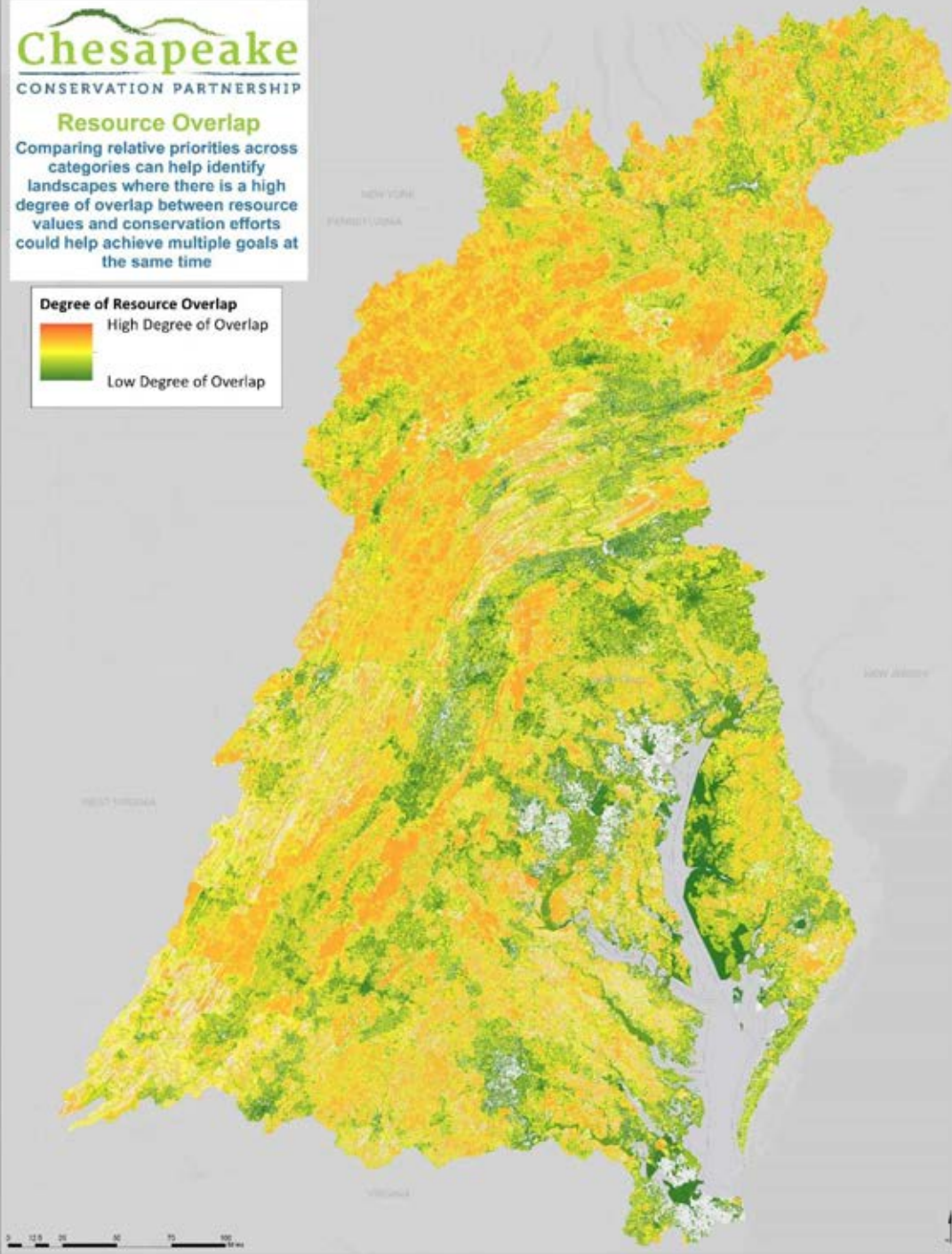


Chesapeake

CONSERVATION PARTNERSHIP

Resource Overlap

Comparing relative priorities across categories can help identify landscapes where there is a high degree of overlap between resource values and conservation efforts could help achieve multiple goals at the same time





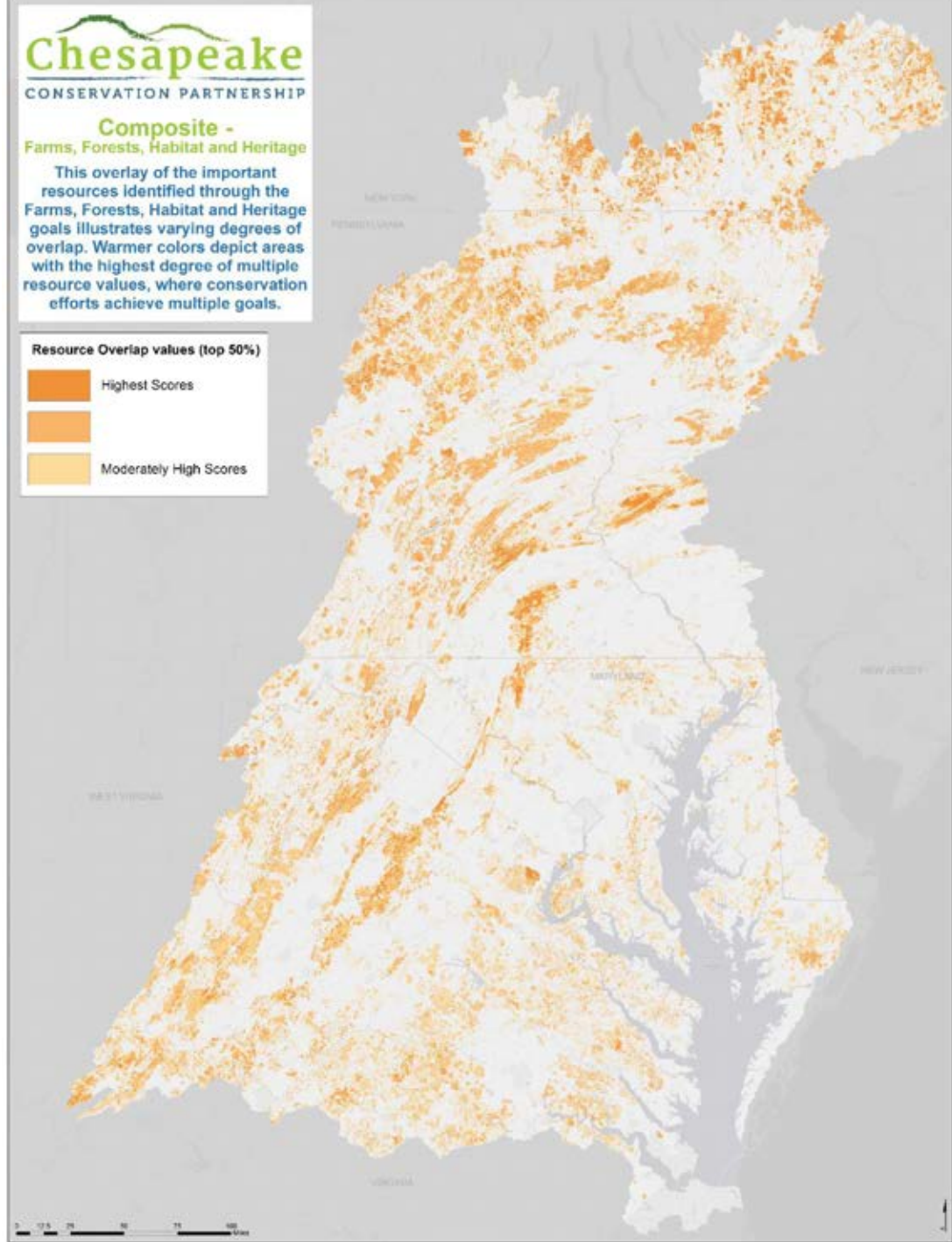
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Composite - Farms, Forests, Habitat and Heritage

This overlay of the important resources identified through the Farms, Forests, Habitat and Heritage goals illustrates varying degrees of overlap. Warmer colors depict areas with the highest degree of multiple resource values, where conservation efforts achieve multiple goals.

Resource Overlap values (top 50%)



What's Next?

March

Spring - Summer

Fall

✓ Farms 1.1

✓ Forests 1.1

✓ Habitat 1.1

✓ Heritage 1.1

✓ Human Health 1.1

✓ Protected Lands

✓ Composite : F,F,H,H

Long-term Conservation Need

+

Influences

Growth

Climate Impacts

Agriculture Expansion

Energy & Infrastructure

Regional Focal Areas

Protection Status

Areas of Urgency or Opportunity

← UPDATES

NEW FUNDING STRATEGIES
For
CONSERVATION/ RESTORATION



John Griffin, Program Manager

CHESAPEAKE CONSERVATION PARTNERSHIP

Current Focus on Two Strategies

- Crediting Conservation in the Bay Model Updates
- Mitigation for Linear Projects: No Net Loss & Net Benefit

Through the Chesapeake Bay Watershed Agreement, the Chesapeake Bay Program has committed to...

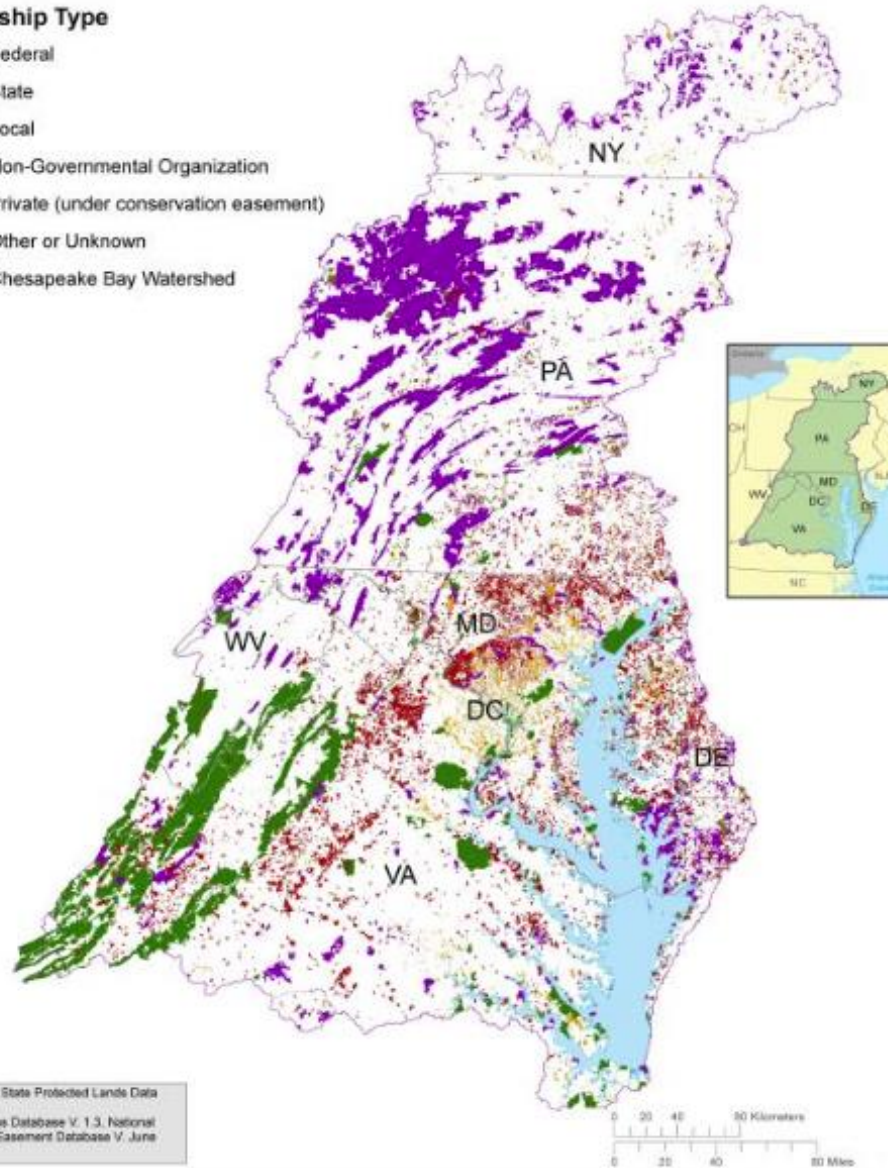
By 2025, **protect an additional two million acres** of lands throughout the watershed—currently identified as high-conservation priorities at the federal, state, or local level—including **225,000 acres** of wetlands and **695,000 acres** of forest land of highest value for maintaining water quality

Protected Lands in the Chesapeake Bay Watershed 2015 - 2016



Ownership Type

- Federal
- State
- Local
- Non-Governmental Organization
- Private (under conservation easement)
- Other or Unknown
- Chesapeake Bay Watershed



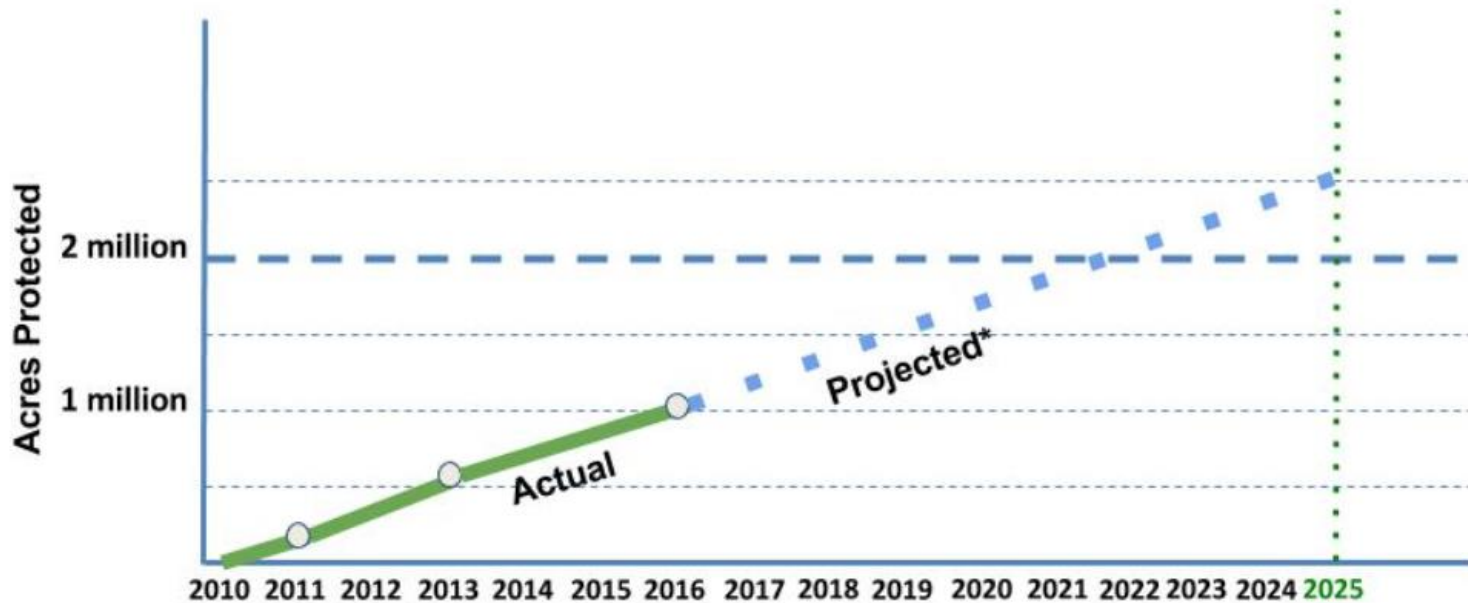
Data Sources: State Protected Lands Data
Stowards,
Protected Areas Database V. 1.3, National
Conservation Easement Database V. June
2014.



**8.8 million acres
and counting**

Are we on track?

Protected Lands Progress



* Based on 2010-2016 rate of progress

What We Want

Create Strong incentives for

- Permanently protected lands that include BMP's
- Permanent protection for larger landscapes that preclude conversion and future loads
- Long-term conservation policies

- Durability
- Additionality
- Prevention

Least

Most

1 Acre

1 Acre

1 Acre

1 Acre

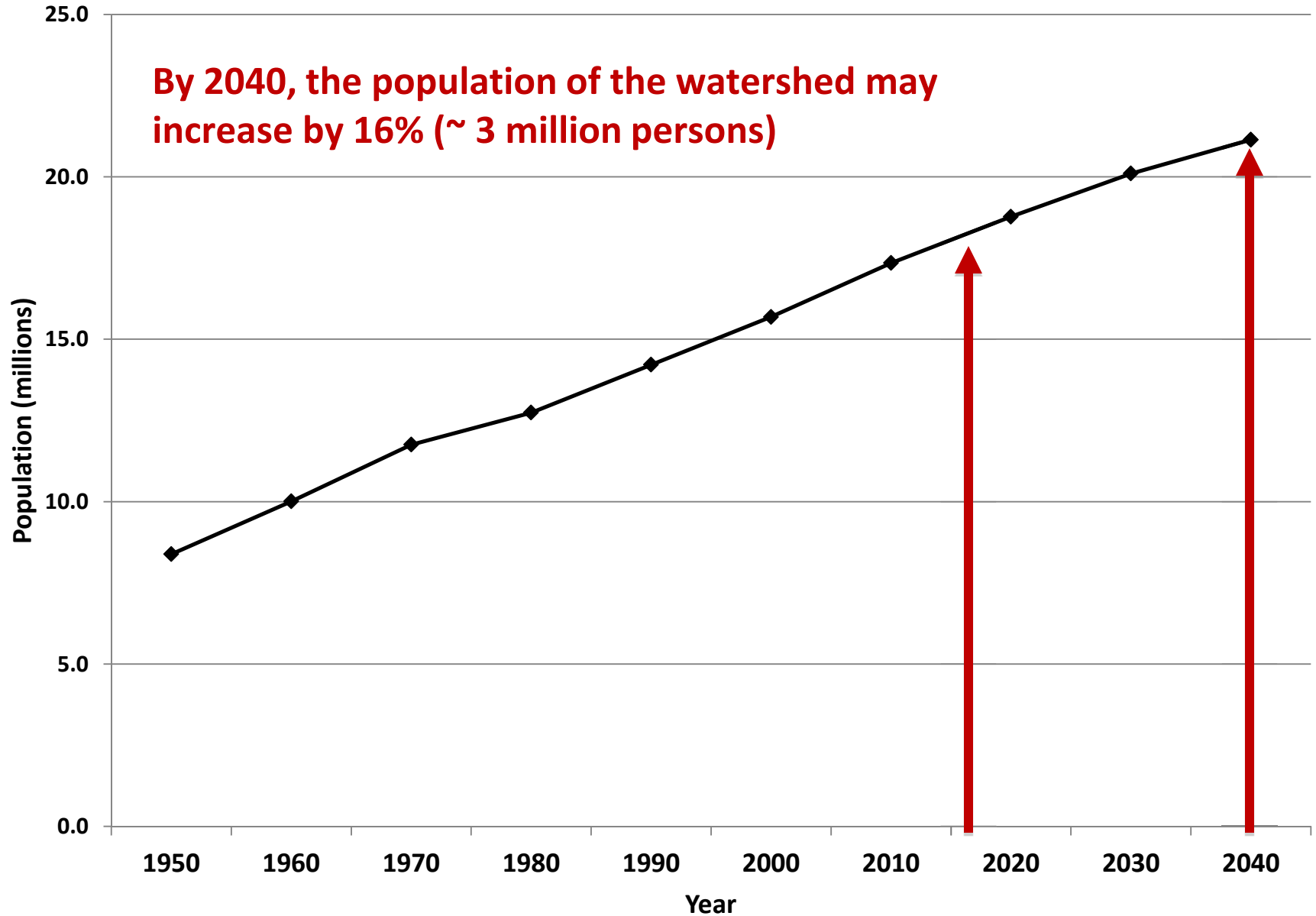
**Unprotected
No BMPs**

**Unprotected
with BMPs**

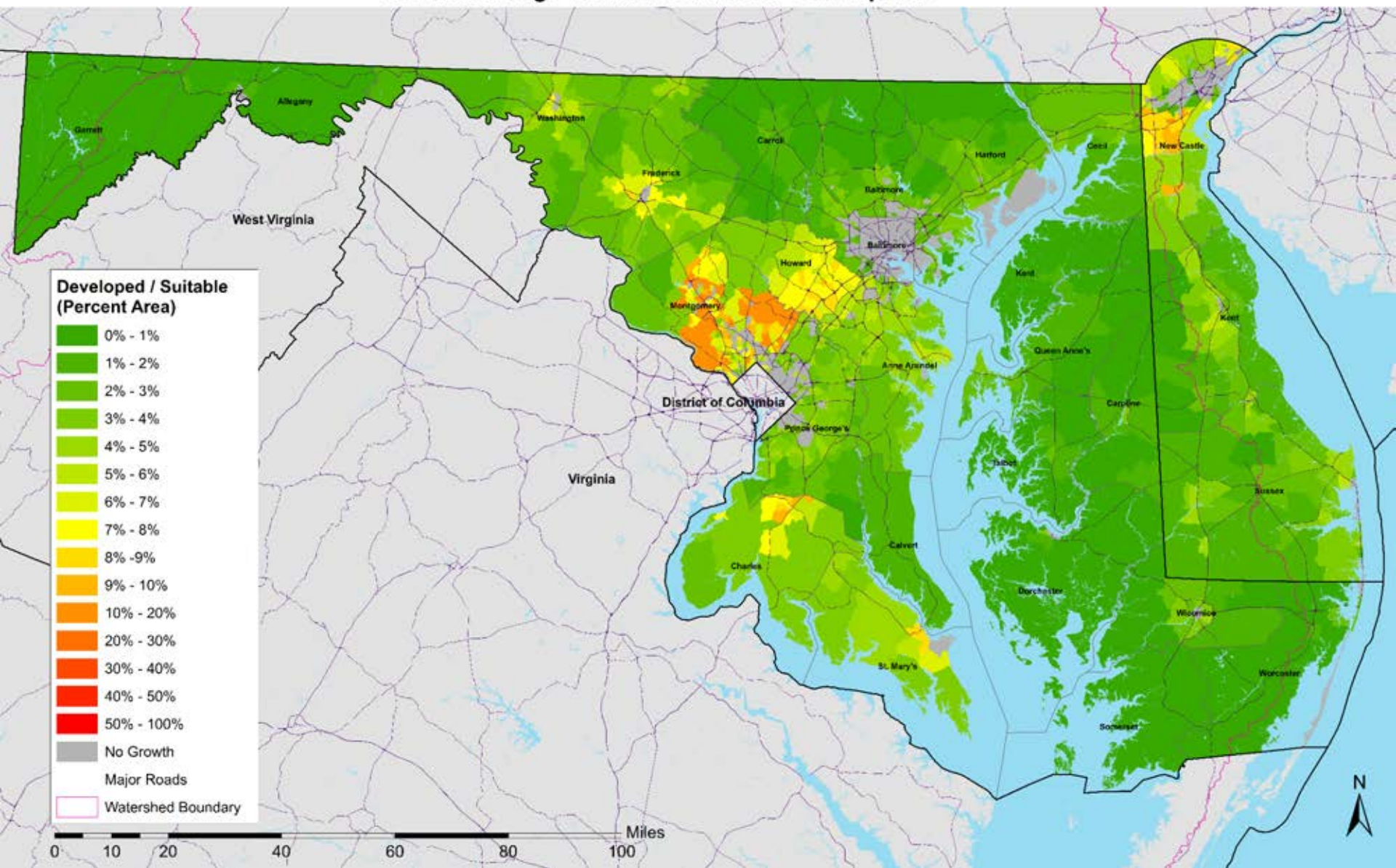
**Protected
No BMPs**

**Protected
with BMPs**

Future Watershed Population

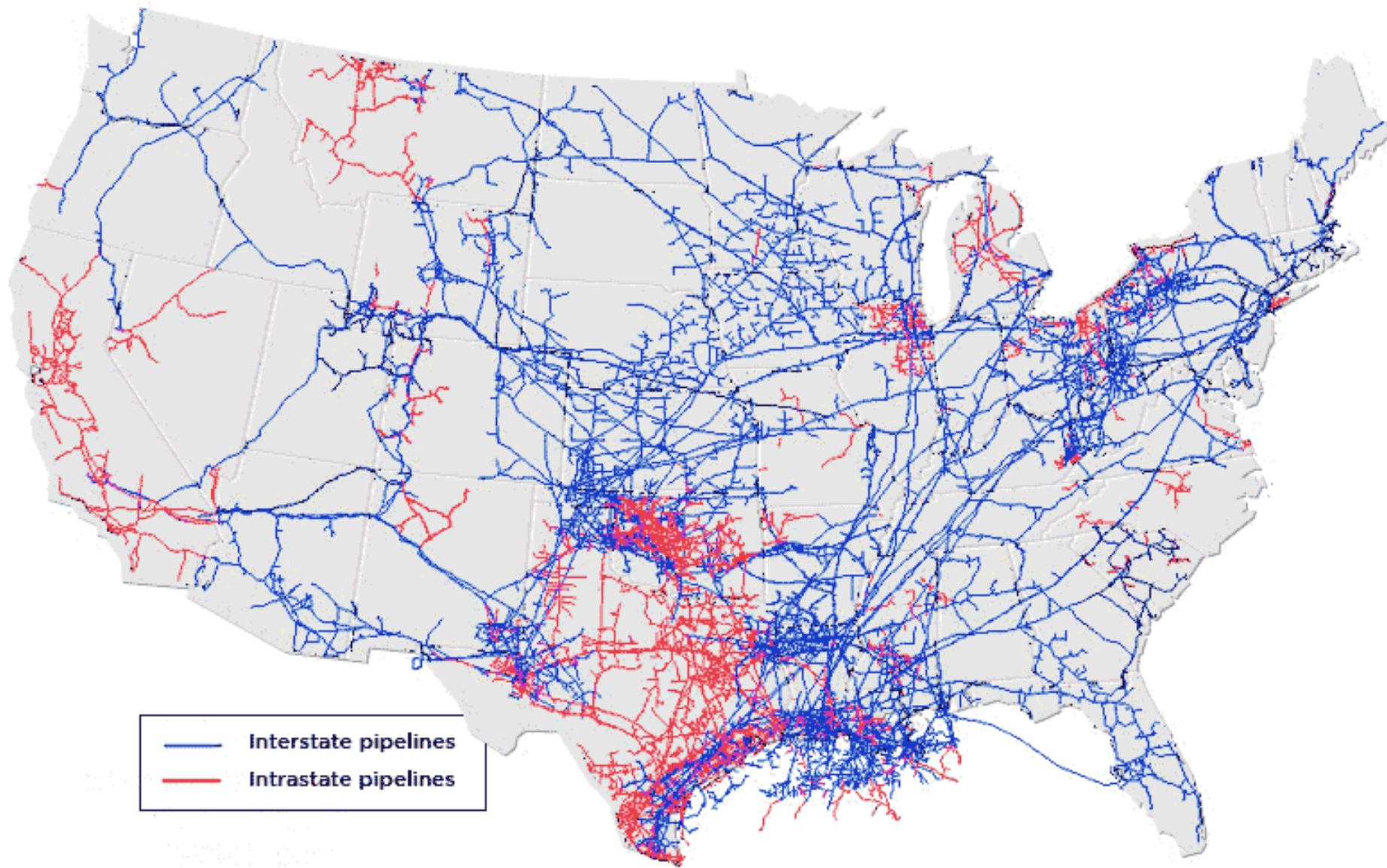


New Development in Maryland (2030) and Delaware (2040) as a Percentage of Land Suitable for Development



Status of Crediting Conservation

- Use of 2025 Growth/ Land Use Projections= Opportunities/ Demand for Land Conservation.
- Delta between 2025 and 2040 Projections = Magnitude of Offsets to Growth after 2025.
- Delta should assist localities to appreciate the cost/ benefits of land conservation at the landscape level and other " smart growth " policies.
- Focus on Areas Projected for Development by 2040-- Sprawl Zones.
- Credit for BMPs on permanently conserved lands still possible under offset policies.



Source: Energy Information Administration, Office of Oil and Gas, Natural Gas Division, Transportation Information System



Current Approach to Mitigation

- . Arbitrary, opaque
- . Reactive, piecemeal
- . Lack of defined outcome

The Mitigation Hierarchy

Avoid!

First

Minimize

Second

Offset

Third

Mitigation Policy Achieves Goals

Mitigation policy should **support conservation objectives** and **drive accountability** in applying the mitigation hierarchy

e.g.

No net loss

Net positive impact

Status of Developing New Mitigation Policies

- Progress by State of Virginia Administration on new policies.
- Pursuing grants to retain appropriate organization to research state statutes, regulations and policies and to recommend new or revised ones.
- Ready drafts for consideration in each state at appropriate times.

Questions?



Photo courtesy of US Environmental Protection Agency

Connecting Conservation for Bay Health
2017 Maryland Land Conservation Conference
June 8, 2017




THANK YOU!

Jennifer Miller Herzog
Land Trust Alliance
jmillerherzog@lta.org
Office/cell: 406.580.6410
www.lta.org/chesapeake

Jonathan Doherty
National Park Service
Chesapeake Bay
jonathan_doherty@nps.gov
Office: 410-260-2477
www.nps.gov/chba

John Griffin
Chesapeake Conservation Partnership
jgriffin@chesapeakeconservation.org
Office: 443-321-3610
Cell: 443-845-1613
www.chesapeakeconservation.org

Photo courtesy of William Johns/Flickr and Chesapeake Bay Program

An aerial photograph showing a wide river on the left, a dense forest in the center, and a residential area with houses and roads on the right. A semi-transparent white box with a light blue border is centered over the image, containing the text.

**Expectations:
What do you want to get
out of this session?
(one phrase)**

Photo courtesy of William Johns/Flickr and Chesapeake Bay Program