

# Demonstrating the Value and Building the Policy Architecture to Retain Forestland in the Chesapeake Bay Watershed

Healthy Watersheds  
Forest/TMDL Project

Chesapeake Bay Management Board  
Presentation  
January 14, 2016

# The Challenge




- **FOREST COVER** - is recognized as one of the best land uses for achieving Chesapeake Bay goals and outcomes.
- **BUT** - localities in the watershed say forestland conservation cannot compete effectively against other priorities
- **UNLESS** - a near-term financial incentive such as a TMDL credit is available for retaining forestland.
- **WHY** - because the value of that incentive can be passed through and shared with landowners and developers now thereby creating a win/win situation.
- **LAND CONSERVATION BECOMES MORE PROFITABLE** to land owners and localities save through avoided infrastructure costs later.

**THIS PROJECT SEEKS TO ANSWER THAT CHALLENGE**

# Project Goals

**PHASE I:** Build economic case through regulatory and policy changes at the federal, state and local levels to stimulate forestland retention actions by localities and have those actions valued in the TMDL.

**PHASE II:** Build consensus from the locality level up on a toolbox of policies, practices and incentives necessary to stimulate land use decisions required to achieve CBWA healthy watershed goals by retaining high conservation value forestland.



# Project Partners: Phase I



Be River Friendly  
It's Your Backyard

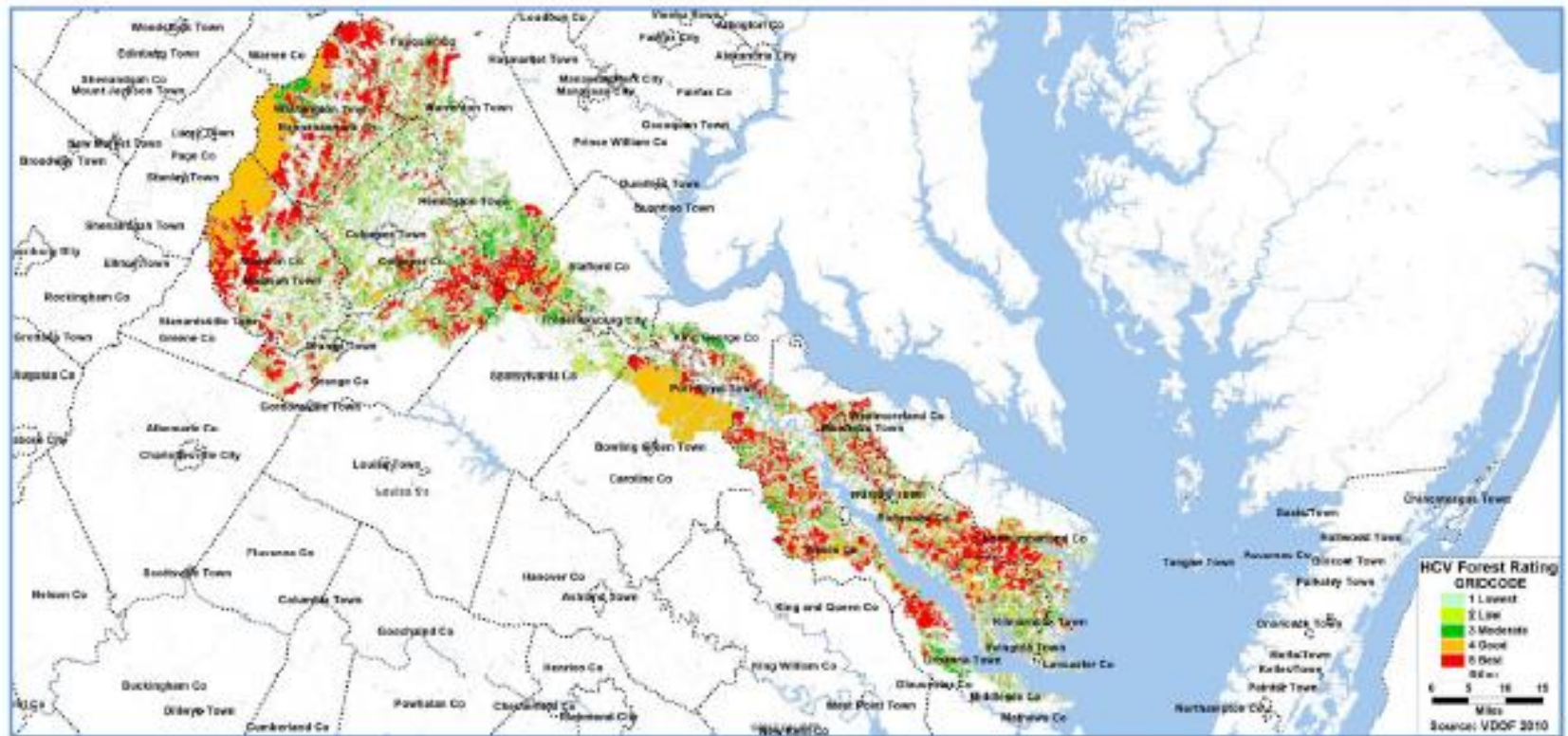
The Rappahannock River Basin Commission





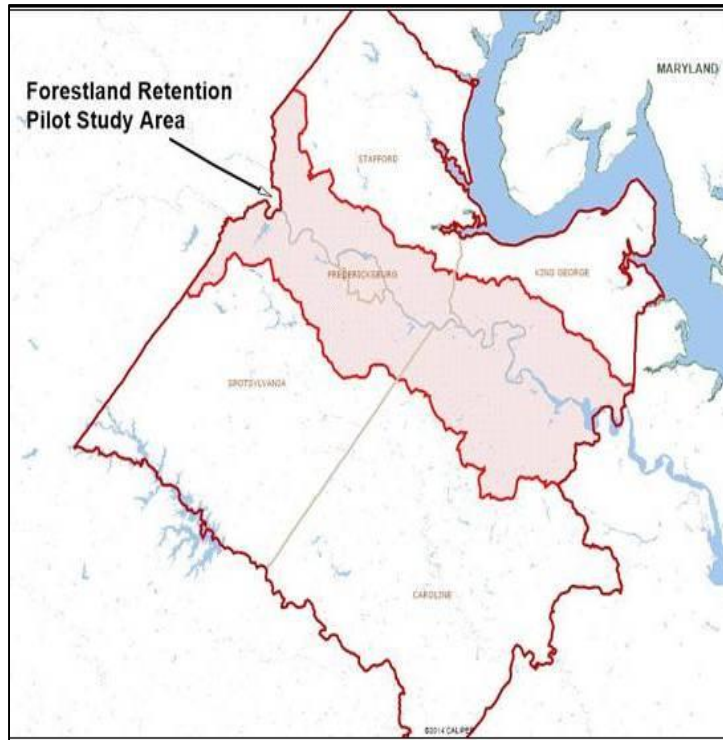
# Virginia Study Area: Rappahannock River Basin

HCV Forest Rating in Rappahannock River Watershed



Source: Developed by RDS, LLC from 2010 HCV Forest data provided by Va. Dept. of Forestry.

# Phase I Pilot Study Area



- ▶ GWRC service area within RRB
  - Land Use: forest, agriculture, urban, rural
  - Areas of high density development growth
  - Home of George Washington Regional Commission
  - Much needed data already available
  - 100 percent in Virginia

# Phase I Project Objectives

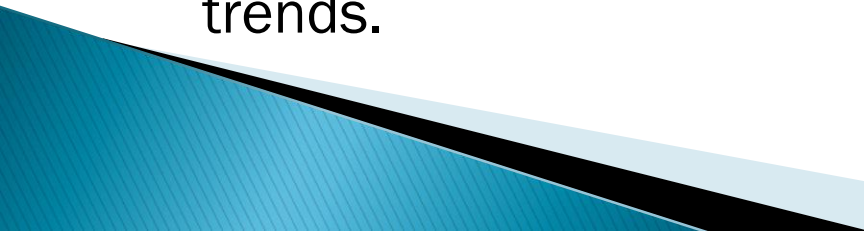


- Model alternative growth trend scenarios in pilot region to:
  - ✓ Determine load changes from conversion of forests to a mix of pervious and impervious lands.
  - ✓ Model resulting load increases
  - ✓ Compare to TMDL model projections and assess costs associated with offsetting these increases
- Conduct literature review of forest types and attributes to evaluate spatial variability of water related ecosystem service values
- Share findings with localities and state officials to inform land use planning and decision making
- Provide information to EPA for consideration in 2017 TMDL model revisions

# Phase I Alternative Land Use Modeling Scenarios


1. Current TMDL 2025 predictions for each pilot area locality: “Business as Usual/Decentralized Growth”
2. Comprehensive Plans Implementation Model: “Community Plans”
3. GWRC Green Infrastructure Model: “Greenprint/Forest Retention”
4. Hybrid Model between (2) and (3): “Phased Development Impact on Greenprint/Forest Retention”

In addition, 2010 and 2015 scenarios were run to identify trends.



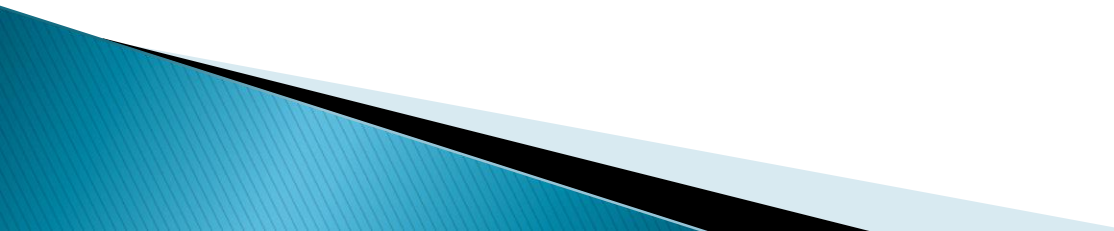


# Phase I Healthy Watershed Findings

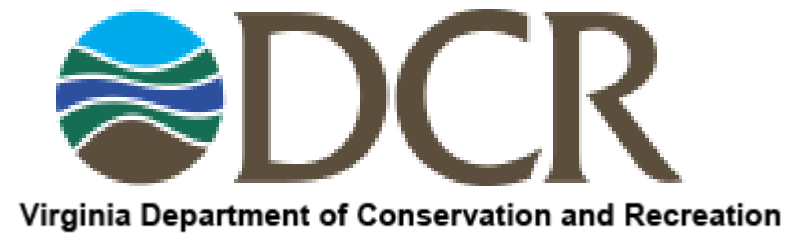
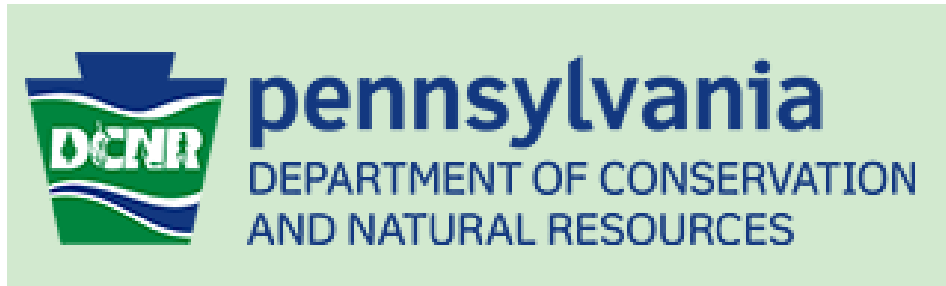
- ▶ Produced regional demonstration of how alternative development methods that increase high value forestland retention can help reduce the offset requirements of development.
  - ▶ Results confirm water quality and healthy watershed value of forestland retention and demonstrate range of potential offsets are possible depending on investment made early in BMPs that retain forestland.
  - ▶ This could in turn reduce BMP treatment costs needed to comply with Virginia's nutrient neutral stormwater regulations, while maximizing the ecosystem services provided by forests.
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# Phase I Economic Findings

**\$125 Million in possible future  
offset savings among the four  
localities and one city in the Pilot  
Study Area compared to  
current EPA  
TMDL Model 2025 Projections**



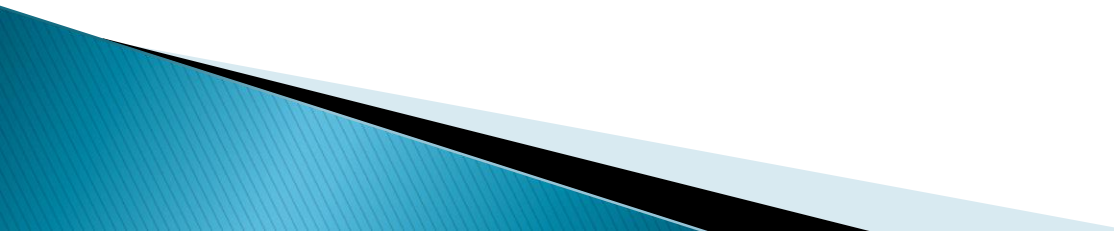
# PHASE II: Additional Partners and Collaborators



C E N T E R   F O R   E N V I R O N M E N T A L   S T U D I E S

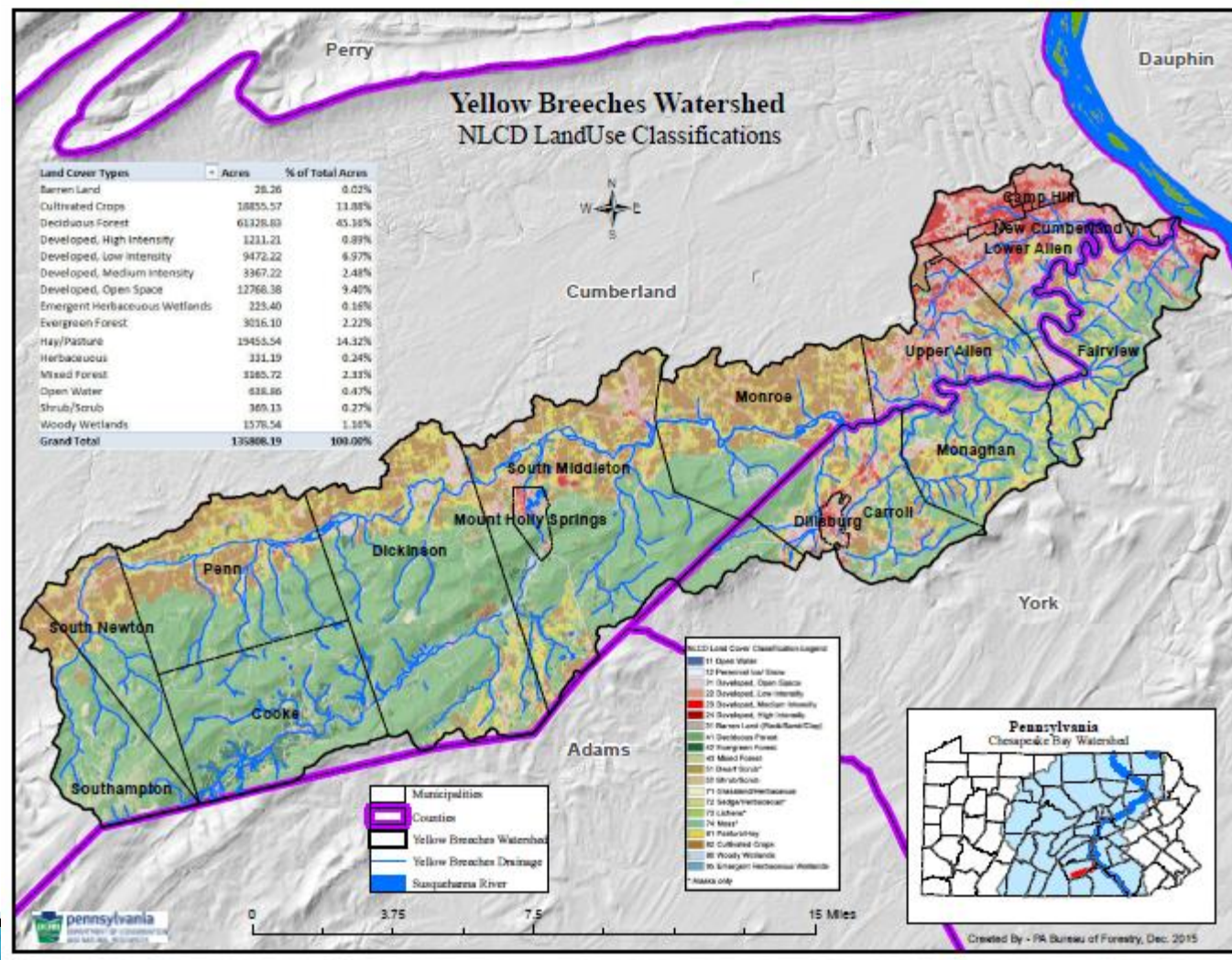


# Phase II Goal: Engagement

- ▶ Work extensively with local government officials and community leaders in both VA and PA study areas to develop the tool box of criteria, incentives, etc. that could be used in land use policy and zoning situations to accurately identify and assign appropriate values to high conservation value forest lands.
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# Pennsylvania Study Area: Yellow Breeches Watershed

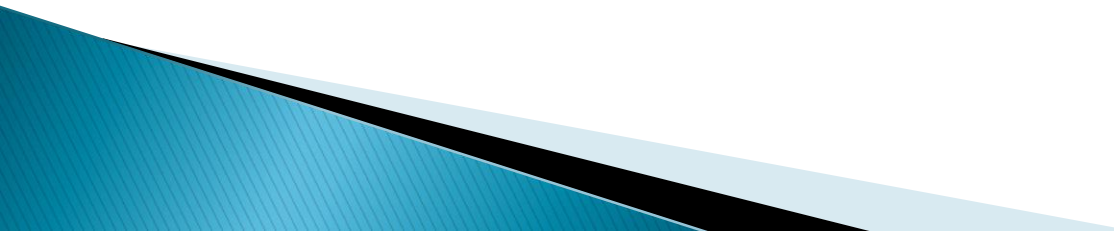


# Key Benefit of VA/PA Partnership

Differences between PA's various municipal government environment and VA's Dillon Rule government environment mean the forest retention incentives toolbox resulting from these two State governance models is expected to be different

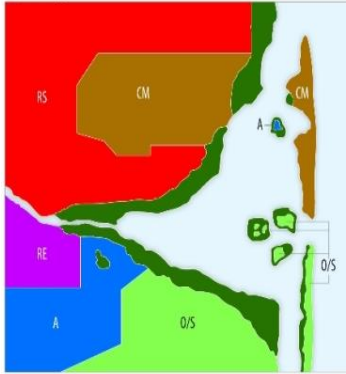
With both Commonwealths working on the same objective, if successful, the project should finish with a suite of planning, policy and land use decision tools that any state could choose from to develop its own land use decision architecture.

This information could then be made available to inform the national TMDL program

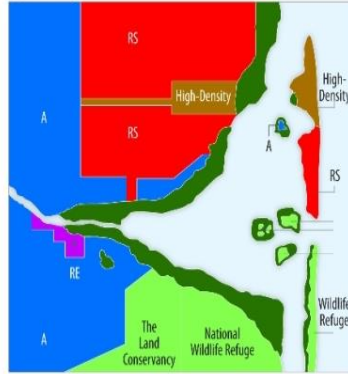


# Success Outcomes

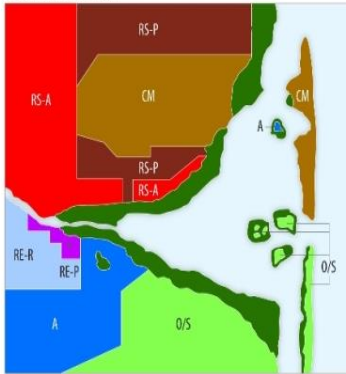
(a) Zoning



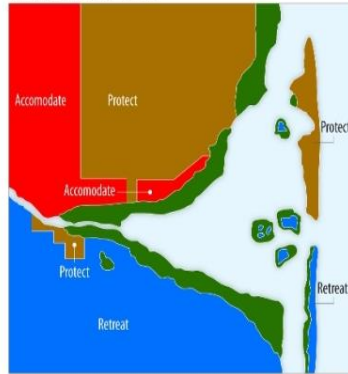
(b) Existing Land Use



(c) Revised Zoning



(d) Shore Protection Plan



A: Zoning	B: Land Use	C: Revised Zoning	D: Shore Protection Plan
Commercial/High-Density Mixed Use (CM)		RS-P	Protect
Residential Single Family (RS)	RS-A	Accommodate	
Rural Estate (RE)		RE-P	
		RE-R	
Agriculture (A)			Retreat
Open Space and Conservation (O/S)			
Wetlands			

*Adding R, A, or P to an abbreviation means "retreat," "accommodate," or "protect," respectively*

- ✓ Governments empowered with planning tools and incentives to balance growth and forestland retention goals capable of initiating change locally to create quality communities and keep current healthy watersheds healthy.
- ✓ State and local regulations & statutes contain mix of incentives and requirements to promote forestland retention.
- ✓ TMDL Value for Forest Retention

# For further information:

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