

**Secretary of Natural Resources'  
Chesapeake Bay Stakeholders Advisory Group  
November 7, 2018**


**Deep Dive - Stormwater Local Assistance Fund**

**What We Learned During the VDOF/RRBC Healthy Watershed/TMDL Project**

- **Overview of Phase 1 and 2 of Project**
- **Goal of Current Phase 3**
- **Policy & Action Recommendations At Completion of Phase 2**
- **Importance of SLAF and the Need to Evolve to Meet 2025 Obligations**



### Project Approach




- **Phase I:** Build economic case for crediting land conservation in the TMDL
- **Phase II:** VA/PA partnership - Worked with localities to identify policy tools and incentives
- **Phase III:** Implement tools in the field and develop large-scale county level transferable public/private financing models

### Phase I, II, or III Project Partners

George Washington Regional Growth Commission  
 DEQ Virginia Department of Environmental Quality  
 Pennsylvania Department of Conservation and Natural Resources  
 Pennsylvania Department of Public Safety  
 Berkeley Group  
 The Nature Conservancy  
 ACRE  
 WATER RESOURCES  
 CENTER FOR WATERSHED PROTECTION  
 Working Lands Investment Partners, LLC

### 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
  - High resolution data already available
  - 100 percent in Virginia

### Phase 1 Project Approach in Virginia

1. Evaluated growth trends in pilot region
2. Compared to TMDL model land use change projections
3. Conducted literature review and factor in findings
4. Modeled alternative growth patterns
5. Shared findings with localities and state officials
6. Provided data to EPA for possible TMDL model revisions

### Phase II Project Study Areas:

**Virginia**  
 Rappahannock River Basin

**Pennsylvania**  
 Yellow Breeches Watershed

### Phase II Objectives

- PA validated VA Phase I Modeling effort
- VA/PA/localities developed toolkit of incentives and land use policy changes
- Made recommendations to EPA and Chesapeake Bay Program Jurisdictions

### Phase I Economic Findings:

Millions \$\$ in Potential Future BMP Offset Savings

### Phase II Potential "Tool Box" Recommendations

Land Use Policies, Zoning and Regulations	Local Spending and Tax Policies
Land Acquisition	Voluntary Land Protection Techniques

### Phase III Goal

**Create policy and financial infrastructure needed to facilitate forest and agricultural land conservation/retention on a landscape scale, long-term, sustainable basis.**

### Phase III Tasks

**TASK ONE:** Implement Phase II Policy and land use recommendations in Orange and Essex Pilot Communities. Record Lessons Learned

**TASK TWO:** Develop, model and pilot long-term funding mechanisms supported by the private sector that may be scaled up and implemented on a landscape scale.

**TASK THREE:** Coordinate with other CBP workgroups and GITs to integrate findings and deliverables with those of other initiatives to institutionalize changes and actions

## Summary of Priority Recommendations

### Healthy Watersheds Forest Retention Project Phases 1 and 2 Final Report

The Chesapeake Program Partnership Principals' Staff Committee (PSC) at its October meeting is expected to make a number of decisions pertaining to updates to version 6 of the Chesapeake Bay model including actions that credit conservation actions as a strategy for achieving TMDL progress. Conservation of existing forests ranks very high as a land use beneficial for meeting TMDL requirements while also offsetting the economic burden on landowners and localities associated with alternative, more expensive BMP investments.

The recommendations that follow are made assuming that the value of conserving existing forestland will be recognized within version 6 of the Chesapeake Bay model. Such an enhancement to the Model will incentivize localities to implement the local recommendations below as well as enhance the effectiveness of the State recommendations that follow. **The Commission is therefore asked to express to the Principals' Staff Committee (PSC) its support for recognition of the value of retaining existing forestland as a strategy for achieving TMDL progress.**

#### **I. Recommended Local Government Efforts:**

1. Planning activities should utilize existing and emerging resources to identify high conservation value (HCV) forests, wetlands and other green infrastructure assets. The following is a list of resources which are currently available. (page 131, 1.a and c)

##### a) Existing Resources (VA):

- Virginia DOF, High Conservation Value (HCV) Forest Land Map (2010)
- Virginia DOF, Urban Tree Canopy Studies
- Virginia DCR, Va. Natural Lands Assessment ("VNLA"), Natural Heritage data
- Virginia DEQ, Coastal GEMS environmental GIS portal
- Regional Green Infrastructure (GI) Plans/Maps (e.g. PDs 8, 9, 16, 15, 19 and 23)
- Local Comprehensive Plans, Environmental/Open Space Elements
- Inventory of lands under Agricultural/Forestal Districts, Forest Land Use, Federal, State and Local parklands, conservation and open space easements
- Local inventory of properties with prior-converted wetlands and associated drainage structures
- Designated flood plain (FEMA)

(VDOF staff is available to provide technical assistance in identification of local HCV forests.)

##### b) New Resources:

- 2013 High Resolution Land Cover imagery
- LIDAR data
- ESRI, free Green Infrastructure Initiative (see: <http://www.esri.com/about-esri/greeninfrastructure>)

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#### 2. Assess current local planning efforts and policies. (p.131, 2).

##### a) Comprehensive Plan –

- i. Do you have a policy statement on the importance of conserving HCV forests?
- ii. Do you have an Environmental Assessment Chapter?
- iii. Does your Plan place a value on open space conservation, especially high conservation value forest land and wetlands?
- iv. Does your Plan provide or permit the establishment of sending and receiving zones to guide TDR and PDR actions?
- v. Does your Plan follow your public water and sewer master plans, and do these plans guide development where the Comp Plan proposes urban growth? In other words is there clear linkage from the Comp Plan to these utility master plans?
- vi. Does your Plan identify and define where urban growth or urban service areas will be located?

##### b) Land Development Ordinances-

- i. Are your land use ordinances (zoning and subdivision, etc.) carrying out the environmental public policy directives featured in the Plan?
  - \* Zoning & Planned Development Ordinances: do they place a premium on forest and tree retention in defining the standards for development?
  - \* Do you utilize cluster zoning and PUDs to facilitate conservation of forest and agriculture lands?
- ii. Consider creating a forest retention overlay zoning district, using defined VDOF HCV map and/or regional or local green infrastructure plans, to set development standards, which might include the limited application of a tree protection ordinance as allowed under § 15.2-961.
- iii. Use the overlay district as the area for TDR and PDR application.
- iv. Natural Resource Protection Overlay Ordinance (e.g. Virginia's Chesapeake Bay RPAs)
  - \* How do established RPA areas coincide with defined forest and woody wetland and other wetland (e.g. NWI) boundaries?
  - \* Consider possible amendment of RPA boundaries based on hi-resolution land cover, and LIDAR data to better delineate RPA.
- v. TDR & PDR Ordinance(s) –
  - \* Has your community developed and/or adopted either a TDR or PDR ordinance?
  - \* Do these ordinances define HCV forestland or green infrastructure cores and corridors as sending zones, allowing landowners to sell-off and retire (PDR) or sell-off and transfer (TDR) the by-right development units allowed under current zoning?
  - \* Has your community considered holding easements or have you identified a local land trust or other entity to hold easements or work with to help implement your TDR/PDR programs?
- vi. Tree Protection Ordinance –
  - \* Does the community have a tree protection ordinance?

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\* If one exists, is it followed and enforced?

3. Soil and Water Conservation Districts (p.132, 3)
  - a) Is there coordination between your locality and the District on reporting TMDL efforts and progress?
  - b) Coordinate with the District in all activities under #1 and 2 above; District can be crucial to engaging key constituencies (farmers, forest landowners, Farm Bureau, etc.).
  - c) Draw on VDOF technical expertise in support of District forest-related efforts, including District activities and District support of local activities.
4. Local Board/Council engagement with Commissioner of Revenue to evaluate and consider how to enhance tax preference efforts such as Land Use Value Taxation (LUVT) and Agricultural and Forestal Districts (AFD). (p.133, 4 a and b).

#### II. Recommended State Efforts:

1. Strengthen the LUVT (p.104-107, 6) by addressing the Composite Index policy conflict.

*It was noted that to be successful, additional K-12 funding would need to be included in the state budget to hold the losers "harmless." One person commented that additional K-12 funding for this purpose would represent an increase in education funding for Chesapeake Bay cleanup and as such, it could be a multi-benefit investment. It could strengthen the LUVT program locally by offsetting some of the negative budget impact of the program.*

An alternative recommended by one forest landowner was for direct payments by the Commonwealth to localities for the deferred revenue for land use assessment on forest land (p.105). A variant of this approach could be to link such payments to LUVT associated with Agricultural and Forestal Districts (AFD) forest properties. AFD forestlands have a multiyear term associated with forest use, four to ten years. If the TMDL progress recognition could be granted for the term of the AFD designation that recognition credited in the Chesapeake Bay model could benefit the Commonwealth in all AFDs outside of areas regulated by an MS4 permit. Therefore the Commonwealth could provide some compensation to non-MS4 localities for making a land use decision that reduces the state's overall TMDL obligation.

2. Clarify LUVT language to specifically say multi-year revalidation or registration for landowner participation is authorized. Some have interpreted that it is implied but others are not certain of that interpretation. The Code could be clarified but there is risk in putting forth such legislation. If it is defeated then the more flexible interpretation is in jeopardy. As an alternative, the flexible interpretation by counties such as Essex County, should be shared with other Commissioners of the Revenue.

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3. Continued State funding for non-point source pollution programs including ag BMPs cost share and the Stormwater Local Assistance Fund (SLAF) (p.108, 8). Specific recommendations:
  - a. Combined Funding targets should be set at a minimum of \$150 million annually including ag BMPs identified in the most recent Agricultural Needs Assessment Report for agricultural cost share and technical assistance (\$100 million) and \$50 million for local stormwater.
  - b. Greater flexibility in the administration of SLAF grants would promote greater use by all localities including non-MS4s. Incentivizing non-MS4 localities to implement stormwater management improvements has multiple benefits, including the Commonwealth being credited for TMDL progress for completed projects that include program approved practices. The Commonwealth therefore has a built-in incentive to incentivize non-MS4 localities. In addition, allowing a portion of the grant to be set aside for project administration/management costs and allowing a portion of the local match to be in-kind would alleviate some of the fiscal challenges localities currently face. (Note: the HB1774 work group is also looking at similar changes to SLAF and/or establishing a new subfund of SLAF for non-MS4 localities.)
4. Continue to explore strategies to capitalize on the willingness to explore win-win-win opportunities (p.102, 118)

*Discussions with the stakeholders across the basin revealed common interests: a willingness of local governments, rural and urban/suburban, MS4 and non-MS4; to work together for their mutual benefit in efforts to address water quality goals of the Chesapeake Bay TMDL if the outcome is a “win-win”. In this context, the “win” that MS4 jurisdictions seek is lower cost per pound to meet water quality permit requirements, while the “win” that non-MS4 jurisdictions seek is turning green assets (such as forests and wetlands) into an economic driver that benefits rural landowners and the local tax base. As this opportunity emerged a caution also emerged – that the economic trading transaction envisioned must truly reflect water quality improvement at the local, basin and Bay scales (another “win”). The project team’s finding is that an opportunity exists for all parties to continue exploring strategies, possibly through the on-going WIP III planning process, to enable transactions with “win-win-win” outcomes. (p.102)*

*The following concept is modeled after GreenTrees<sup>61</sup>, currently the largest carbon reforestation project in North America. That project is focused on reforesting one million*

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61 See: <https://www.green-trees.com>

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*acres in the Mississippi Alluvial Valley. The area is a flyway for 60 percent of all birds on the North American continent, drains 41 percent of the United States and is a major commercial artery. It is financed through carbon credit purchases made by the Norfolk Southern Corporation and Duke Power. Healthy Watersheds Forest team members met with the project sponsors and asked them for suggestions on how a similar model could be designed and employed in the Rappahannock River basin, and more broadly in the Chesapeake Bay Watershed. (p.118)*

5. Consider expanding local authority to adopt an ordinance for tree replacement during land development (15.2-961) to all localities within the Chesapeake Bay Watershed. Currently limited to localities with densities greater than 75 persons per square mile.
6. Improve the 1-meter land cover imagery analytical tools to make them more user friendly relative to jurisdictional boundaries (p.125).

*Currently, the high-resolution land cover data is hosted on a web server by the Virginia Geographic Information Network (VGIN) as a mosaic of tiled image files which require significant technical capability to create more useful locality-specific datasets for the 134 independent cities and counties and 190 independent towns of the Commonwealth. The Virginia HWF/TMDL project team recommends that the Commonwealth pre-process such large spatial datasets to create downloadable files at the independent city, county and town level, providing more “user-friendly” data more closely aligned to the political geographies of the jurisdictions that make land use and stormwater management decisions.*

Note: VDOF and RRBC staff are exploring grant opportunities to support a Phase III project which could include multiple efforts:

1. Training/technical assistance for one or more basin localities to conduct an evaluation (with the governing body, planning commission and staff) of the Comp Plan and the land development ordinances for possible revisions as outlined in I above,
2. Provide training as requested to local jurisdictions on how to use the “tool box” of incentives, policies, etc. currently available to incentivize landowners and localities to retain forestland and
3. Design, develop and pilot test in collaboration with the Virginia state government and designated Chesapeake Bay Program Goal Implementation Teams and Workgroups, a credit mechanism that encourages optimization of land use planning decisions such as forest retention actions that reduce projected future TMDL requirements. Balancing CB water quality clean up objectives with economic requirements of localities so a win/win situation is created is essential to meeting Bay cleanup goals but an injection of funding



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other than through grants, etc. is needed. A means to monetize incentives for landowners and localities so they will make land use decisions that retain forestland, result in healthy watersheds, and reduce TMDL model loadings as projected if the TMDL model changes from a 2010 baseline to a 2025 baseline as expected is needed. The financial incentive driver is the potential avoided BMP infrastructure cost to the state and developers if development actions/strategies result in less development by 2025 and beyond than the TMDL model projects. Staff will engage the Mississippi Alluvial Valley Reforestation project sponsors to investigate such opportunities.

