



Be River Friendly It's Your Backyard

The Rappahannock River Basin Commission

INTRODUCTION TO THE HEALTHY WATERSHEDS FOREST/TMDL PROJECT

The 2014 Chesapeake Bay Watershed Agreement includes outcomes for protecting healthy watersheds, high-conservation priority wetlands, and forestland of highest value for maintaining water quality. To accomplish this, there is agreement among the signatories to use management strategies whose aim is to improve the knowledge of land conversion and associated impacts throughout the Watershed by developing a methodology and metrics to characterize the rate of farmland, forestland and wetland conversion, and by measuring the extent and rate of change in impervious surface coverage. The goal is to provide localities with the tools they will need to quantify potential impacts of land conversion and evaluate policy options, incentives, and planning tools that could continually improve their capacity to reduce the rate of conversion of agricultural lands, forestlands, and wetlands.

Throughout the Watershed, it is projected that the majority of future growth will result from development of agricultural and forest lands into residential and commercial urban uses. In Virginia, to meet EPA Total Maximum Daily Load (TMDL) requirements, the post-development land use must be treated with sufficient best management practices (BMPs) to meet the nutrient-neutral pre-development loads of nitrogen, phosphorus, and sediments.

The initial Project partners: the Virginia Department of Forestry (VDOF), the Virginia Department of Environmental Quality (VDEQ), the Rappahannock River Basin Commission (RRBC), George Washington Regional Commission (GWRC), The Nature Conservancy, the Chesapeake Bay Commission and the Virginia Water Resources Research Center (VWRRRC) at Virginia Tech hypothesized that retaining more forestland will protect and enhance healthy watersheds by reducing nitrogen, phosphorus, and sediment loads, thereby reducing the slope of the current TMDL 2025 projections for localities within the Chesapeake Bay Watershed. Therefore, if (1) localities, private land owners, and others take actions to retain forestland and those actions result in a decrease in actual load over the 2025 projected TMDL load allocation land cover; and (2) those decreases subsequently reduce probable future offset costs localities within the region could be facing in 2025, then (3) a way to credit localities and others for retaining forestland now through the Chesapeake Bay TMDL Model should be considered.

EPA and the Chesapeake Bay partners program agreed and a two phase project was developed. Phase I, was designed to prove the concept and was field tested in the George Washington Regional Commission service area within the Rappahannock River Basin. It was completed in September 2015 and validated the working hypothesis. Employing the EPA's Chesapeake Bay model methodology and using the same high resolution land use data that will be available throughout the watershed when the 2017 TMDL model is introduced, it was determined that \$125 million in potential offset savings was possible among the four localities and one city in the pilot study area compared to current EPA TMDL Model 2025 projections depending on the amount of forestland that was retained in various development scenarios.

Extrapolated out across the entire Chesapeake Bay Watershed, the potential savings could therefore be in the billions of dollars (savings to localities, private land owners, cost share programs, etc.)

Given the magnitude of the potential offset savings EPA asked Virginia to include Pennsylvania in phase II of the project in a Commonwealth-to-Commonwealth partnership. The coupling has many benefits. Virginia is a Dillon Rule state so authorities of localities are limited. Because of this some of the toolbox policies and incentives it may come up with working with localities in Virginia may not be applicable to the other Chesapeake Bay jurisdictions. Pennsylvania has thousands of small towns and villages each with their own authorities so they may come up with different approaches. EPA believes between the two Commonwealths which are the largest land area jurisdictions in the Chesapeake Bay Watershed, the suite of tools they collectively come up with should be applicable across the watershed and be diverse enough to be used nationwide by other states wrestling with TMDLs

The Virginia project team in phase II is operating under the sponsorship of the Rappahannock River Basin Commission (RRBC) and is currently engaged in a series of peer-to-peer discussions within the upper, middle and lower sections of the Rappahannock River basin watershed (as well as related stakeholders outside the watershed). These discussions involve groups of key elected officials, planning commissioners and planning and environmental management senior staff and other stakeholders, including land owners, NGOs and builders/developers. The objective is to identify administrative or legal obstacles, incorporate best practices and lessons learned elsewhere in Virginia (and beyond), develop solutions, and build the toolbox elements.

The Pennsylvania project team is working with Virginia's Phase I team members to learn how to replicate the VA Phase I land cover scenario analyses and related economic impact analyses corresponding to the different forestland retention scenarios and adapt them for application to its Yellow Breeches Creek watershed demonstration area within Cumberland and York Counties. Moreover, team members from both Commonwealths will meet or exchange information regularly throughout Phase II to share lessons learned concerning the potential tool box elements. The PA team will also meet with local officials in the PA target study area for the peer-to-peer review to discuss local interest in and measures used to promote and implement forestland retention, land conservation and "green infrastructure" stormwater management practices.

Phase I's findings are being shared with 1) local government officials in the study area to inform their decision making as it pertains to development patterns and forest retention; 2) state officials for consideration in milestone planning and attainment of Chesapeake Bay Watershed Agreement Outcomes; and 3) Bay Program officials to help inform the suite of growth models and advance efforts to account for and credit forest retention actions.

Phase II will be completed June 30, 2017 and its findings and recommendations will be similarly shared. It is the goal of the partners that this effort can provide encouragement for further study of public policy-sponsored forest retention efforts and lead to adoption of a forest retention BMP recognized by the Chesapeake Bay TMDL Model.