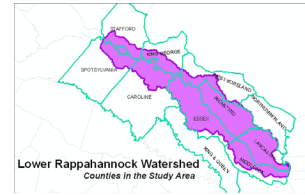


VDOF Creates GIS Tool to Increase Riparian Buffers Protection in the Lower Rappahannock Watershed
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This winter, the Virginia Department of Forestry unveiled a Geographic Information Systems (GIS) tool that was created to classify riparian areas in the Lower Rappahannock Watershed. The tool enables local natural resource professionals to better serve landowners by offering a bird's eye view of the riparian areas on their property. With the GIS mapping tool, riparian areas unprotected by forested buffers are easily identified. Once identified, landowners have the option of entering into cost-share programs that assist with the planting of forested buffers and provide annual benefits for maintaining the buffers.



The Lower Rappahannock Watershed: The Lower Rappahannock Watershed covers 1,157 square miles in 11 counties of northern Virginia. The counties that have areas that fall in the watershed include Stafford, Spotsylvania, Caroline, King George, Westmoreland, King & Queen, Essex, Northumberland, Richmond, Middlesex and Lancaster and the City of Fredericksburg. Within this watershed study area, 14 percent of the area is covered in water compared to 4 percent of the Chesapeake Bay Watershed! The watershed was targeted for this GIS study because of its low participation in the state and federal riparian buffer programs as compared to other areas of the state as well as the potential for an effective concentrated effort of increasing riparian forested buffers.

Riparian Forested Buffers: The Chesapeake Bay program defines a riparian forested buffer as...“An area of trees, usually accompanied by shrubs and other vegetation, that is adjacent to a body of water which is managed to maintain the integrity of stream channels and shorelines, to reduce the impact of upland sources of pollution by trapping, filtering, and converting sediments, nutrients, and other chemicals and to supply food cover, and thermal protection to fish and other wildlife.”

The Tool: The Lower Rappahannock Watershed (LRW) tool was created to identify riparian areas in Lower Rappahannock River and its tributaries. Aerial photos taken in 2002 with high resolution were used to classify land use in riparian areas. The accuracy of this technology dramatically increased the value of the tool as older maps and aerial photos have much less accuracy. The area classified spanned a buffer of 100 feet around every water body, wetland, and stream in the watershed. The land cover classes helped to define what different areas were on the map. Examples of these classes are water, impervious surface, forest, grassland/pasture, cropland, barren, wetlands and recreational. County ownership data was applied as a layer onto the map.

Using a coordinated approach, the Virginia Department of Forestry, the Natural Resource Conservation Service, and local Soil and Water Conservation Districts can help identify and work with interested landowners who would like to enhance their properties with the planting of a riparian forested buffer. Through these buffers, landowners increase the water quality of their land, assist with statewide protection of water supplies, and increase the wildlife and aesthetic values.

The LRW tool can now serve as a model to be applied to watersheds across the state and beyond. The VDOF will evaluate the effectiveness of the model based upon the work of the 2007-targeted LRW initiative program.

The Initiative: The Virginia Department of Forestry (VDOF) hired Lucy Mallinak to serve as the Lower Rappahannock Watershed Initiative Coordinator for 2007. During this time, Lucy is assisting local natural resource professionals to apply the tool to practical field projects. Lucy is working one-on-one with the LRW-area VDOF county foresters, NRCS district conservationists, and local Soil and Water Conservation District specialists by assisting them to identify potential buffer projects. She is facilitating collaboration amongst the various agencies to establish, restore and preserve forested riparian buffers in the LRW.

The success of this project is a product of the cooperative effort among the agencies involved in the initiative; however, the Chesapeake Bay Foundation provided the funding that made the creation of this tool and hiring of a coordinator possible.

Conservation Reserve Enhancement Program- CREP: The Conservation Reserve Enhancement Program is a cost-share program that is administered by NRCS. The district conservationists in each county can help landowners determine eligibility and to enter the program. VDOF area foresters can assist landowners by making recommendations on tree

species selection, planting specifications, and can assist with ordering or scheduling the buffer to be planted.

The riparian forested buffer practice typically plants various hardwoods at 110 trees per acre with tree tubes and will now allow a limited number of pine shelter trees to be planted. The CREP contracts tend to last 10 or 15 years and eligible lands include pasture and cropland adjacent to streams, intermittent streams, seeps, springs and ponds.

CREP is a program of the 2002 Farm Bill. This Farm Bill will terminate Dec. 31, 2007. This may be the last year to sign up for the riparian forest buffer plantings that offer landowners a great deal to increase their buffer size and to establish new buffers. This

program – in tandem with other government incentives – can, in many cases, pay almost 100 percent of the establishment cost and provide an annual incentive for maintaining the buffer.

Contact your local USDA- NRCS or VDOF office today if you are interested in the CREP Program and finding out if the Lower Rappahannock Watershed Tool is available for looking at buffers on your farm.

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