

Establishing a Riparian Forest Buffer on the Bluestone River

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Although many landowners associate tree planting with the springtime flush of growth, the late fall dormant season is also a biologically appropriate season for tree planting. Some landowners who are faced with a lengthy springtime to-do list may actually prefer planting trees in late fall because of logistics or the availability of volunteer labor. This was the case for Tazewell County landowner Lloyd Evans, who completed a tree-planting project on his farm near Bluefield, Va., during the week of Thanksgiving.

Evans' goal was to establish a riparian forest buffer to improve water quality and wildlife habitat along the Bluestone River – a Virginia tributary to the New River that is challenged by water quality impairments from sediment, bacteria and PCBs. To achieve this goal, Evans sought the help of Justin Laughlin, a wildlife biologist, stream restoration specialist and local contact for the Virginia Department of Game and Inland Fisheries' Virginia Landowner Incentive Program, a cost-share program that can cover up to 75 percent of the stream restoration project costs in certain designated watersheds. Laughlin coordinated the planting of several hundred trees along the Bluestone River and the construction of a fence to restrict direct livestock access to the water.

On tree planting day, Laughlin recruited assistance from the East River Mountain chapter of Trout Unlimited chapter; the Natural Resource Conservation Service, and the Virginia Department of Forestry. The riparian buffer was a minimum of 35 feet wide, and the boundaries were marked with flagging tape before tree planting. The bare root seedlings for this buffer project were purchased from the Virginia Department of Forestry's hardwood nursery in Augusta County – healthy seedlings 12 to 18 inches tall with a thick mass of roots. The species selected for this project included buttonbush, silky dogwood, green ash, river birch, black walnut, yellow poplar and red maple – all riparian species that are well suited to conditions found along the edge of streams.



The buttonbush is a medium-sized deciduous shrub that produces small, round fruits (hence the name). The planting crew planted the buttonbush trees in the row closest to the river so that their overhanging branches would eventually drop their “buttons” into the water. According to Laughlin, these “buttons” are a preferred food of ducks and other waterfowl. Silky dogwood, a shrub, was also planted in the row closest to the river. Though the silky dogwood is genetically similar to the flowering dogwood, it bears little resemblance – a deciduous shrub with nondescript flowers. To many, its distinguishing feature is the maroon color of its young shoots and buds.

The ground was rocky and the progress slow. The adjacent fields appeared to have more rock than soil, and what little soil there was had been compacted by livestock. A co-worker joked that when the soil is this rocky, farmers set fence posts by balancing them on top of the rocky soil and then planting poison ivy and honeysuckle around the fence posts to keep them standing upright.

The tree planting crew worked in assembly line fashion. Once the sod was “scalped” (removed) from the surface of the ground, and a suitable hole had been dug, the seedling was placed in the hole and its roots were covered. The seedlings were planted at the correct depth and care was taken to remove any air pockets around the roots. Four-foot plastic tree shelters were then slipped over the seedlings and the shelters’ bottom ends were buried about two to three inches deep within the soil to protect against voles and other small rodents. The tree shelters, if properly maintained, should also provide some protection from deer browse or damage sustained from buck rubbings. In the final step, the tree shelters were staked upright using white oak stakes; two feet by two feet weed mats were laid out on the ground around the seedlings to reduce competition from weeds and grass, and small nets were slipped over the tops of the tree shelters to keep out birds.

By the end of three days of planting, the riparian buffer was nearly finished. According to the Virginia Cooperative Extension publications 420-151 and 420-152 – Understanding the Science Behind Riparian Buffers, this riparian forest buffer will benefit both water quality and wildlife habitat. Riparian forest buffers can reduce the volume of sediment, excess nutrients and other water-borne pollutants that impact water quality. Added cover, more nesting sites and an increase in food sources are just a few ways this buffer will benefit wildlife. Completing a riparian buffer project like this one requires several key elements, but it can only happen with the support of a landowner like Lloyd Evans, who elects to establish a riparian forest buffer in recognition of its many benefits.

The Virginia Landowner Incentive Program (LIP) is a federal grant program funded by the US Fish and Wildlife Service and administered by VDGIF. It can provide cost-share of 75% of conservation project costs to landowners willing to install and maintain stream restoration and riparian buffer projects on their property for a minimum of 10 years. These LIP projects are undertaken to improved degrading lands, reduce sediment in streams, and improve critical habitats for at risk species. For more information about the VA LIP program, visit the website www.dgif.virginia.gov/habitat/lip or contact Justin Laughlin: Justin.Laughlin@dgif.virginia.gov

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