

Plant More Trees for Cleaner Water

By: Caitlin Verdu and Patti Nylander, Virginia Department of Forestry

Everyone needs water to live and Virginia is fortunate to have an abundant supply (Figure 1). Virginia's rivers provide irrigation for crops, water supply for various types of manufacturing, and energy through hydroelectric power. Over 30,000 miles of creeks, streams, and rivers provide endless recreational opportunities including fishing, canoeing, kayaking, swimming, and wildlife viewing. In addition, the waters of the commonwealth provide drinking water to residents either through private wells or municipal water supplies. Access to water, particularly clean water, is important for human health, environmental health, and economic growth.

To ensure Virginians have continued access to clean, affordable water, the Virginia Department of Forestry (VDOT) recently established a Watershed Program, operating with the core belief that trees are the answer to most of our environmental challenges, particularly when it comes to protecting our waterways and providing access to safe drinking water. So how do we get cleaner water? It's simple: we plant more trees.

As rain falls in the forest, the canopy intercepts the water droplets, reducing the velocity of the water as it hits the ground, which reduces erosion. The leaf litter and organic matter in the soil act like a sponge, soaking up the water and allowing it to infiltrate slowly back into the ground rather than allowing the rainwater to simply run off, carrying soil, excess nutrients, and other pollutants with it. In these ways, forests improve our water quality and increase our available water quantity.



Figure 1. Virginia is fortunate to have over 30,000 miles of creeks, streams, and rivers that provide numerous economic, recreational, and ecosystem services. Photo by: Jennifer Gagnon, Virginia Tech.

Even in urban areas, where there may not be space for a traditional forest, trees play a critical role. Urban areas have a lot of impervious surfaces (roads, sidewalks, buildings, etc.) that do not allow rainfall to soak back into the ground. Not only can this lead to destructive flooding during storm events, but it can also reduce groundwater supplies over time. Trees help soak up that excess water, slowing the flow and reducing flood damage.

So now that we know we need to plant more trees, what resources exist to help make that happen? The good news is there are a variety of partners working on this very issue. State and federal agencies work with communities, landowners, local governments, and non-profits to implement strategies that will reduce the amount of pollution that can make its way into our streams. Some examples include the VDOF's Virginia Trees for Clean Water Program (VTCW). This is a matching grant program for communities to establish more trees in urban spaces. Projects include new tree planting in urban areas that previously did not have any trees, riparian tree plantings (trees near streams), and planting trees to help reduce the impacts of storm water.

Another example is the James River Buffer Program which is co-managed by the James River Association and the VDOF. This program funds projects that may not qualify for state or federal cost-share assistance because the landowner is not an agricultural producer. State and federal cost-share programs are also available for producers to help implement conservation practices on agricultural land (no-till farming, planting a cover crop, rotational grazing, nutrient planning, and livestock exclusion).

Virginia is diverse and so are our land uses, from the rugged backcountry of Mt. Rogers to the hustle and bustle of Downtown Richmond. No matter where you may live, there is something you can do to help improve water quality at a local and watershed scale. If you live in a rural area near a creek, consider planting trees next to the creek to establish a buffer. If you live in a more urban part of the state, participate in a community tree planting, or consider adding new trees to your yard. If you would like more information on ways you can help protect and improve water quality, reach out to your local VDOF forester and visit our website at: www.dof.virginia.gov.

Caitlin Verdu is the Watershed Program Manager, caitlin.verdu@dof.virginia.gov;
Patti Nylander is a Watershed Stewardship Specialist,
patricia.nylander@dof.virginia.gov