

Support Senate Bill 537 to enhance localities' flexibility to conserve and restore tree canopy

Virginia continues to lose tree canopy at an astonishing rate. Recent preliminary data suggest that 50,000 acres of forest and non-urban tree canopy are lost per year in Virginia due to timber harvest, urbanization, agricultural expansion, and other drivers.¹

This loss of mature trees, particularly in urban and suburban localities, hinders Virginia's efforts to manage stormwater and achieve its commitments to restoring the Chesapeake Bay.

Many local governments have expressed the desire to use tree canopy to cost-effectively reduce flooding, manage stormwater, and reduce the health impacts of urban heat islands on their residents, but have limited authority to do so.

SB 537 extends statewide the authority for localities to develop tree canopy programs—that is, programs that require developers to preserve or plant trees that are, or would be, lost as a result of development.

If any locality has an existing tree program, there is no change—SB 537 just offers new possibilities for localities.

The legislation prioritizes on-site tree preservation and replanting but affords some opportunities to meet canopy requirements in nearby under-resourced communities—including formerly redlined neighborhoods—to help offset urban heat islands.

The bill also allows larger tree canopies to be required when development occurs in forested and other environmentally sensitive areas or when a locality agrees to a somewhat reduced local parking lot, setbacks, and similar requirements.

The bill expands the opportunities for localities, as well as non-profit and other organizations, to establish tree canopy banks and tree canopy funds. These will assist in meeting tree canopy goals, including planting and maintaining trees on public and other property, and advancing pollution reduction, stormwater management, flood mitigation, and other environmental goals.

Additionally, the legislation requires the State Forester to adopt standards to be used by localities in determining how to achieve tree canopy percentages.

Conserving and expanding urban tree canopies will help restore our waterways and communities, and enhance the health and quality of life for Virginians.

For more information, please contact Peggy Sanner at 804/543-9768 or psanner@cbf.org.



How Trees Benefit Communities

Trees reduce inland and coastal flooding and improve resiliency to climate change.

Forests are sponges. A one-inch rainfall on a one-acre parking lot results in 27,154 gallons of water entering low-lying areas and streams. By contrast, one inch of rain falling in a forest releases only 750 gallons of runoff.

Trees protect Virginia's waterways, including the Chesapeake Bay. In developed settings with high levels (>10%) of impervious surfaces, streams often receive large volumes of water at the same time. This causes streambanks to erode and deposit dirt into the waterway. Trees manage these impacts by intercepting rainfall from reaching the ground. One example: A single 10-inch diameter red oak will intercept more than 1,200 gallons of stormwater per year in Virginia.²

Trees also help reduce runoff by absorbing water and nutrients directly, promoting soil infiltration, and stabilizing highly erodible soils. As a result, trees represent one of the most cost-effective ways to prevent polluted runoff from reaching waterways.

Trees cool us and reduce energy use. Trees cool the air by shading heat-absorbing asphalt on concrete streets and parking lots. A Science Museum of Virginia study found a 16-degree temperature difference between the higher canopy neighborhoods of Richmond and neighborhoods with less tree canopy.

The study also found that 94 percent of studied areas display consistent elevated temperatures in formerly redlined areas relative to their non-redlined neighbors. These heat islands correlate to increased hospital visits for heat-related illnesses.³



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Sources:

¹ Preliminary data produced by Chesapeake Conservancy, University of Vermont, and U.S. Geological Survey suggest changes in the watershed's land use between 2014 and 2018

² <http://www.treebenefits.com/calculator/ReturnValues.cfm?climatezone=South>

³ Hoffman et al. 2020, Climate. <https://www.mdpi.com/2225-1154/8/1/12/htm>