PROTECTING & EXPANDING VIRGINIA'S DWINDLING TREE CANOPY

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EXECUTIVE SUMMARY

Virginia is losing vast tracts of forests as well as urban tree canopy to development, redevelopment, and disease. This loss reduces the state's capacity to address climate change, improve community health, and improve air and water quality. Forests and urban trees, first and foremost, need additional protection to preserve what we have left. Increased funding for planting new trees and maintenance of existing trees is also necessary to achieve needed canopy goals.

CHALLENGE

As the COVID-19 pandemic has shown, people need equitable access to greenspace for mental and physical health. Trees scrub the air of harmful particulates that induce asthma and other respiratory illnesses. Trees also cool our streets and reduce heat-related illnesses, particularly in formerly redlined communities that have lower canopy than more affluent neighborhoods in the same city.[1]

We also need trees to improve water quality; trees cost-effectively reduce stormwater runoff by intercepting rainwater, which is why Virginia's Watershed Implementation Plan established a goal of 30,000 additional (net) acres of canopy by 2025.

The impacts of climate change are being felt across the state as warmer air and increasing precipitation cause more heat-related illnesses and flooding. Trees combat climate change not only by capturing and storing carbon, but also by reducing energy usage for cooling and heating buildings.[2]

Despite these well-documented benefits, mature hardwoods, which mitigate stormwater pollution, capture carbon, and improve air quality most effectively, are being lost to development, redevelopment, roads, and disease.

The Chesapeake Bay Program 2014–2018 preliminary land cover dataset[3] indicates a 184,665-acre net loss in tree canopy within Virginia's Chesapeake Bay watershed between 2014 and 2018. That means that, on average, approximately 72 square miles of canopy (the size of the cities of Staunton & Hampton combined) were lost *each year*. Of the lost tree canopy acreage, 9,993 acres became impervious surface - road, parking lots, and roofs - that add to stormwater runoff and that can't be replanted. This dataset covers 97 of the 104 localities within the Chesapeake Bay portion of Virginia.

> **Virginia lost 184,665-acre net loss in tree canopy between 2014 and 2018, approximately 72 square miles each year.**

In Arlington and Virginia Beach, two of the most recent municipalities to conduct tree canopy assessments, canopy is holding steady on municipal property but trending downward on private property due to infill, redevelopment, and homeowner removal.

Loss of biodiversity is another critical challenge we face which may impact ecosystems as much as climate change, pollution, and other major forms of environmental stress.[4] Trees provide food, habitat, shelter, and breeding areas needed to restore and sustain Virginia's wildlife biodiversity.

SOLUTION

We need to prioritize the preservation of intact forests as well as individual mature trees during development. For example, during the engineering process, consider how to protect natural resources first and adjust site plans accordingly.

Because tree canopy loss in urban areas occurs primarily on privately-owned property, state and locality budgets need to provide funding for tree giveaways, which will rebuild canopy percentages over time.

Virginia will need to expand planting programs not only in new construction but also in underused turf areas on municipal and state-owned property such as schools, parks, and along roadways.

In all infill and redevelopment land use decisions, creating incentives for vertical, not horizontal, development would preserve tree and green spaces to reduce energy costs and greenhouse gas emissions, improve quality of life, and decrease stormwater runoff & recurrent flooding.

Planting programs should address inequities in urban tree canopy to ensure vulnerable communities such as Indigenous people, low income communities, and people of color are provided equitable access to green spaces, tree canopy, and the resulting health benefits these areas provide.

State and federal government agencies, the horticultural industry, and NGOs should work together to ensure there is an adequate supply of tree seedlings to meet Virginia's WIP tree canopy goals.

POLICY RECOMMENDATIONS

Expand on and build stronger protections for existing tree canopy, such as conducting a natural resources inventory as the first step in the site planning process to preserve existing trees.

Remove "Planning District 8" from Conservation of Trees during Land Development,[5] which would enable all localities to collect fees to supply trees to community based organizations to increase canopy on private property.

Amend Conservation of Trees during Land Development and Replacement of trees during development process[6] to give localities the authority to establish their tree canopy replacement and conservation goals to address equity in formerly redlined areas, increase flood resiliency, realize local comprehensive plan goals, and meet water quality permit requirements.

River Steward Planting Trees in Monroe Park - Goldvein, Va
Image credit: Carleigh Starkston