



Virginia Dept. of Forestry

Urban & Community Forestry Coastal Resilience

Bryant Bays, Regional Forester

**Robbie Lewis, Coastal Resilience Program Coordinator
& Senior Area Forester**

VDOF Urban Forestry Services:

- Community forest management plans & technical assistance
- Insect & disease monitoring
- Outreach & education
- Grants & cost share
- Tree City/Campus USA
- Urban Forest Strike Team



Virginia Trees for Clean Water program

- Encourages local government & citizen involvement in creating long-term tree canopy cover.
- Plant trees where they are needed most to improve and protect water quality.
- Projects include tree planting activities of all types:
 - Riparian buffer tree planting
 - Community and neighborhood tree plantings
 - Turf to trees

Emerald Ash Borer Cost share

- Reimbursement program for protection of ash trees 12 inches or greater in diameter.
- No more than 30% canopy loss.
- Open enrollment April 1 – June 22, 2020
- [VDOF Emerald Ash Borer story map](#)

Virginia Urban Wood Program



- Provide options to landowners and municipalities to utilize dead or dying trees.
 - Recycle dead or dying trees
 - Reduce removal costs
 - Create markets for removed trees
- Improve management of small lot and urban forests

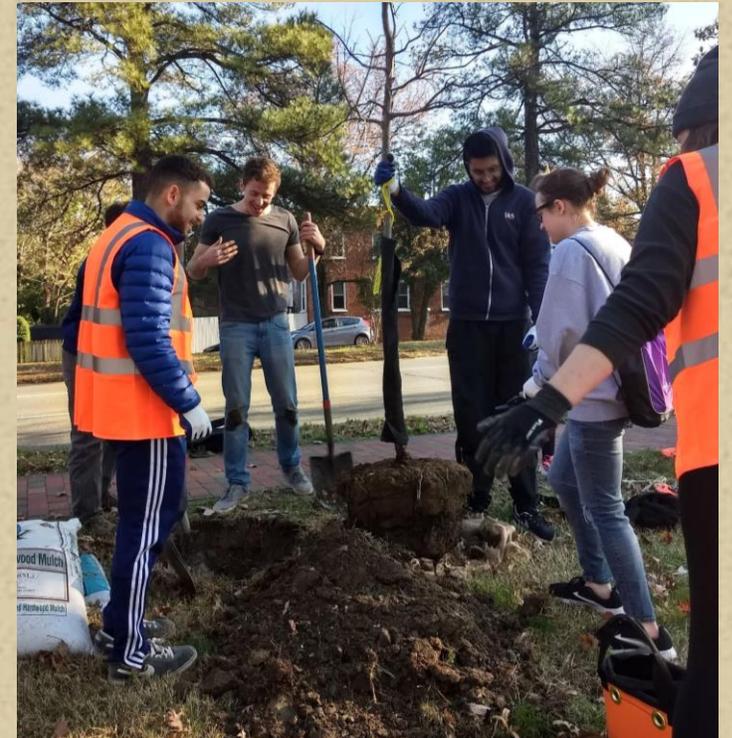


Virginia Urban Wood Program

- Outreach & education
 - [Virginia Urban wood website](#)
 - [Urban wood use videos](#)
 - Urban wood workshops
 - Quarterly newsletter
- Develop service providers for small lot forestry.
 - [Contractor & business listings](#)
- Technical assistance
 - Urban wood plans & technical assistance

Virginia Community Tree Planting Map

- Allows citizens to voluntarily track and report trees planted
- Tracks urban tree plantings to be counted toward WIP III goals.
- Test sites -Friends of the Rappahannock and Virginia Beach
- Anticipated live date for this tracking website is fall 2020.



Virginia Community Tree Plantings

Trees count for a healthy Chesapeake Bay watershed. Submit the trees you plant to help Virginia reach its WIP goals.

- [Our Trees](#)
- [Trees and Water Quality](#)
- [Add Your Tree!](#)



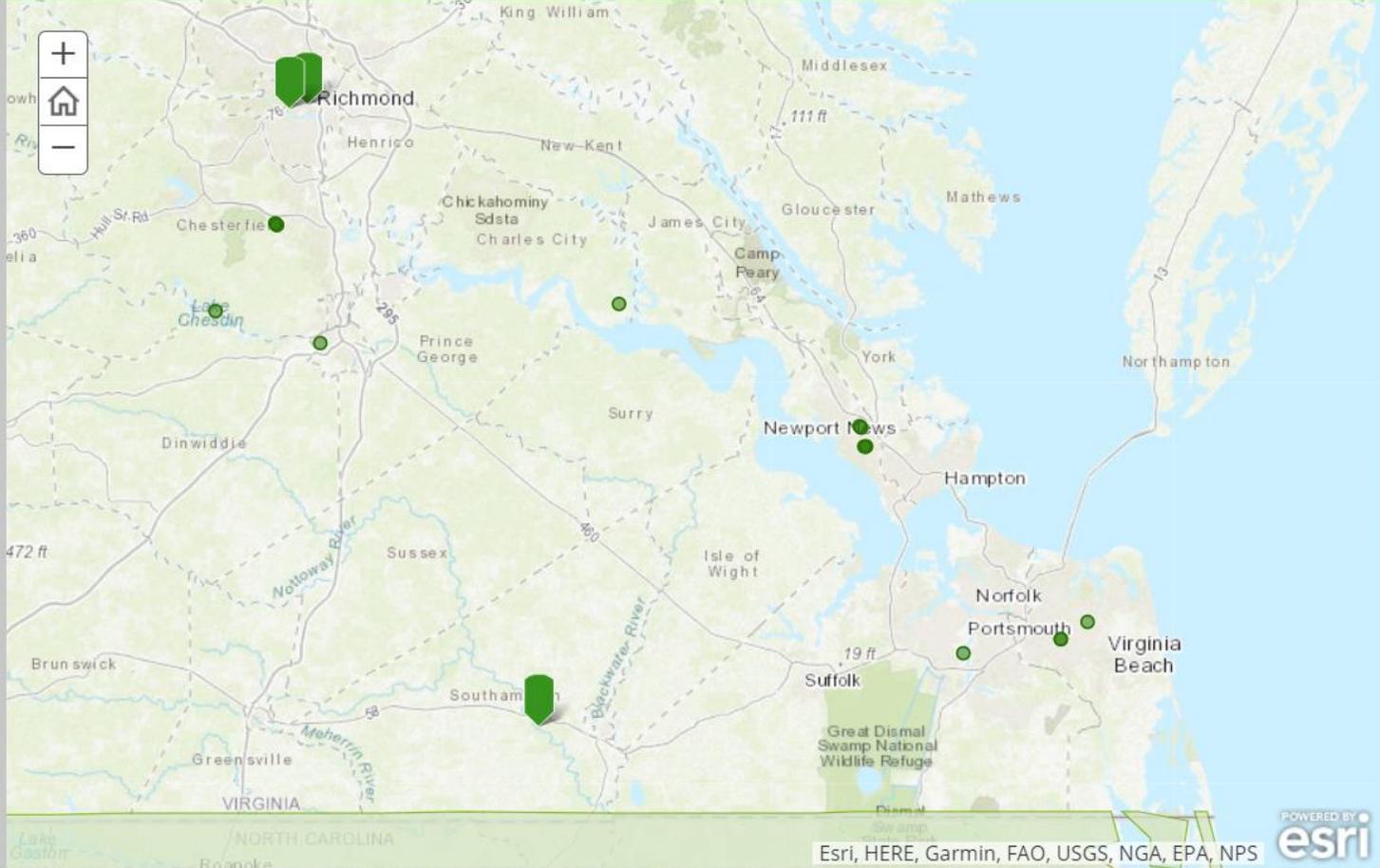
Carver Tree Project



Longleaf Pine Planting



Cary Elementary Food Forest



Virginia Community Tree Plantings

Trees count for a healthy Chesapeake Bay watershed. Submit the trees you plant to help Virginia reach its WIP goals.

Our Trees

Trees and Water Quality

Add Your Tree!

Do you have a tree planting story to share?

Use our [Survey123 App](#) on a computer, smartphone, or tablet to send us your information - you could be featured on our map!

When you plant a tree in your neighborhood or town, you are helping keep our Chesapeake Bay watershed clean and healthy. When you report your tree planting, we use that data to help inform what is going on with the water quality in our state.

For help planning a tree planting project or choosing the right tree for the right place, check these links:

[Trees Planting Guide](#) (Arbor Day Foundation)

[Right Tree in the Right Place](#) (Arbor Day Foundation)



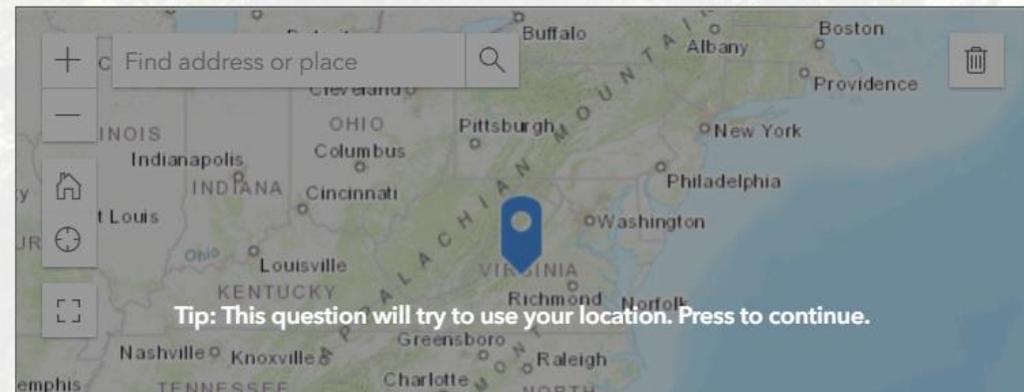
Trees Count

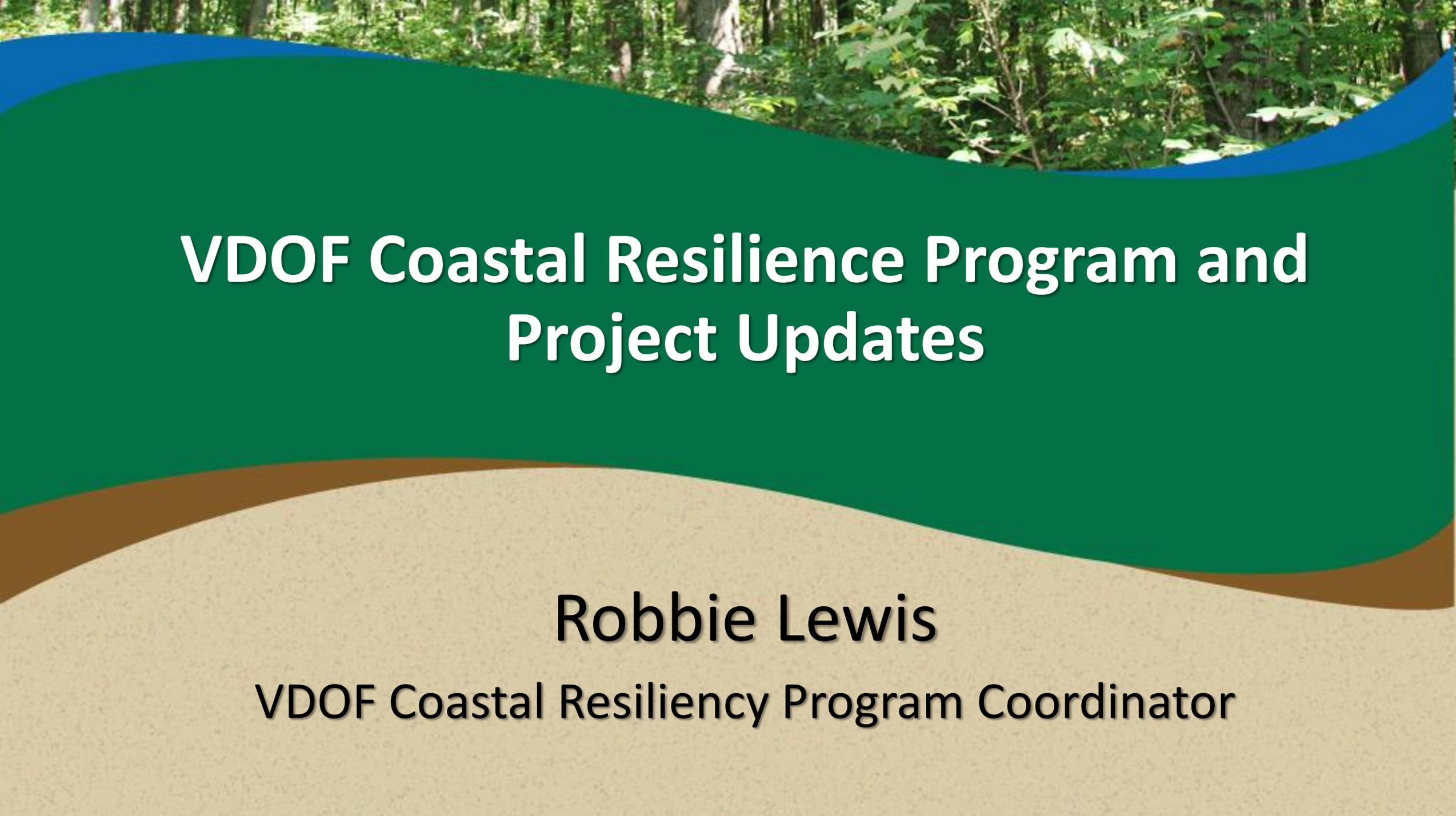
Report your local tree planting projects: from one backyard tree to a community-wide work day, every tree planted helps improve our environment. This data helps state and local governments report on tree planting goals for improving water quality in the state and the Chesapeake Bay watershed.

Let us know if you would like your work featured on our [interactive story map](#).

Tree Location:

Where did you plant your tree(s)?





VDOF Coastal Resilience Program and Project Updates

Robbie Lewis

VDOF Coastal Resiliency Program Coordinator



Project 1.

Resilient Coastal Forests

York River Watershed

VDOF, U.S. Forest Service, & Green Infrastructure Center

Virginia Study Area



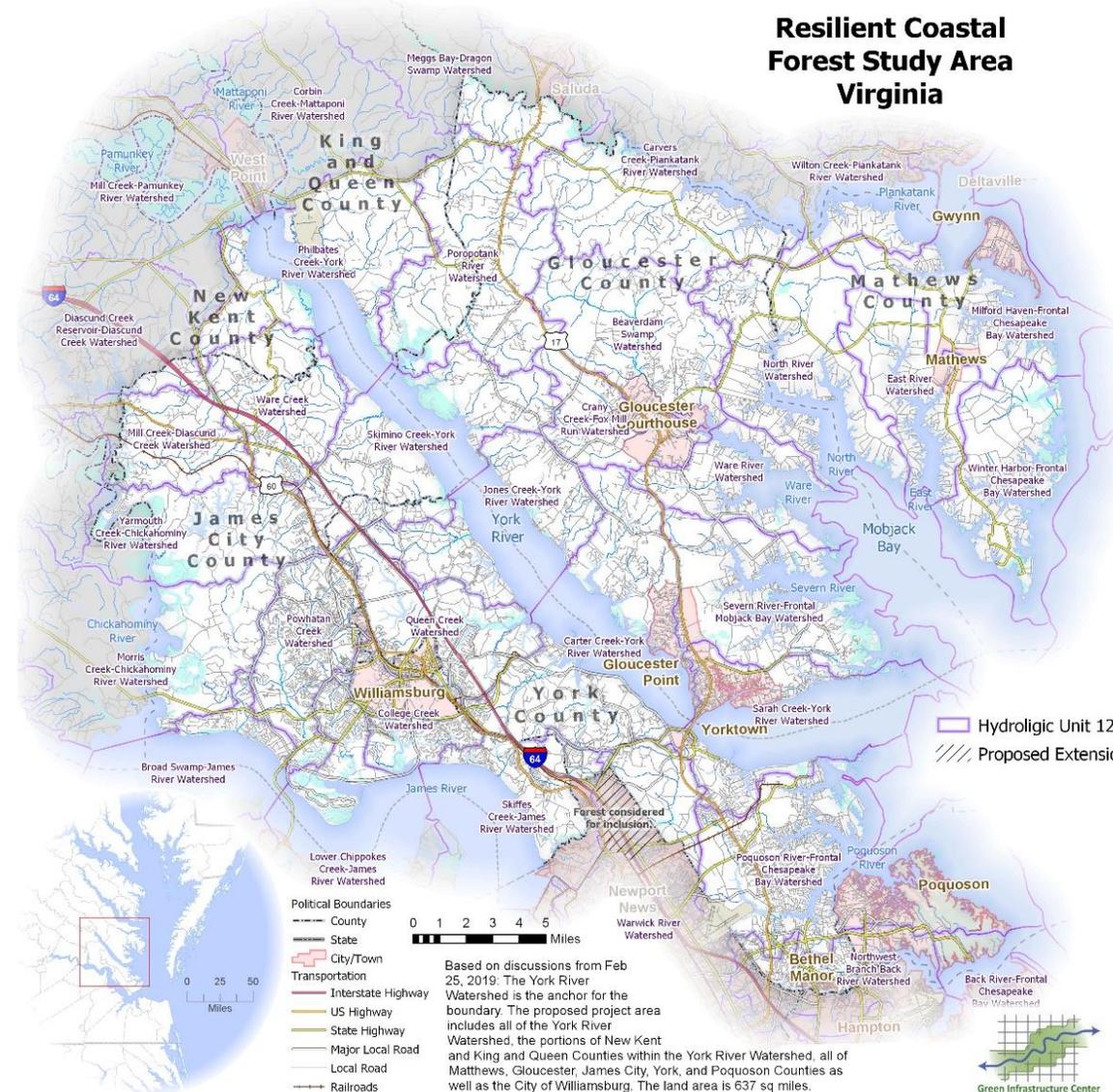
Counties:

- Gloucester County
- James City County
- King and Queen County
- Mathews County
- New Kent County
- York County

Cities/towns:

- Bethel Manor
- Gloucester Courthouse
- Gloucester Point
- Gwynn
- Mathews
- Poquoson
- Williamsburg

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Green Infrastructure Center

Resilient Coastal Forests Project



1. Select pilot communities for project. - **DONE**
2. Form local advisory group of various stakeholders: local and regional governments, NGOs, academic institutions, state government, etc. - **DONE**
3. Create detailed landcover maps showing high valued habitat cores. - **DONE**
4. Calculate benefits provided by the forest landscape. – **In Progress**



Resilient Coastal Forests Project



5. Evaluate multiple and interacting threats to southern coastal forests: - **In Progress**

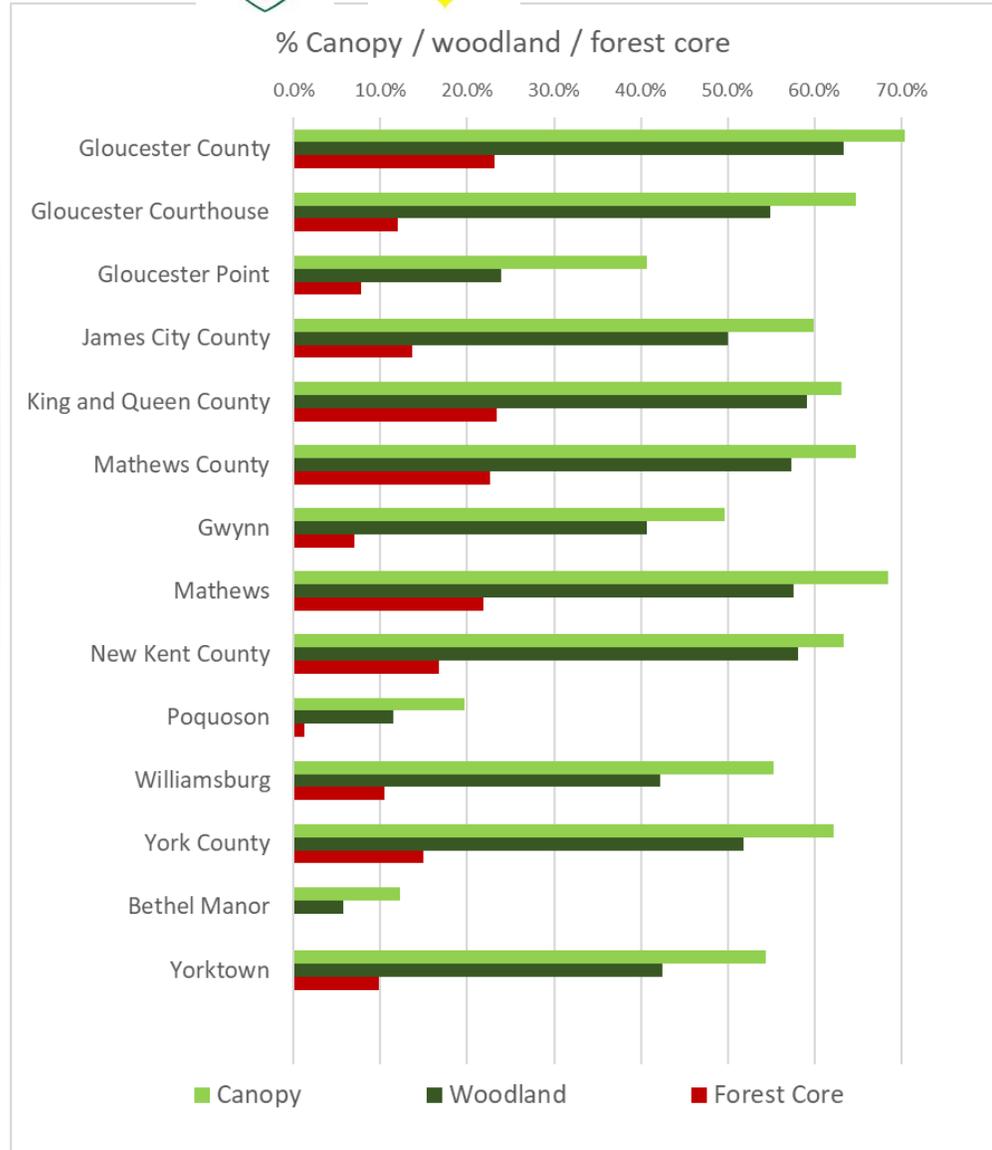
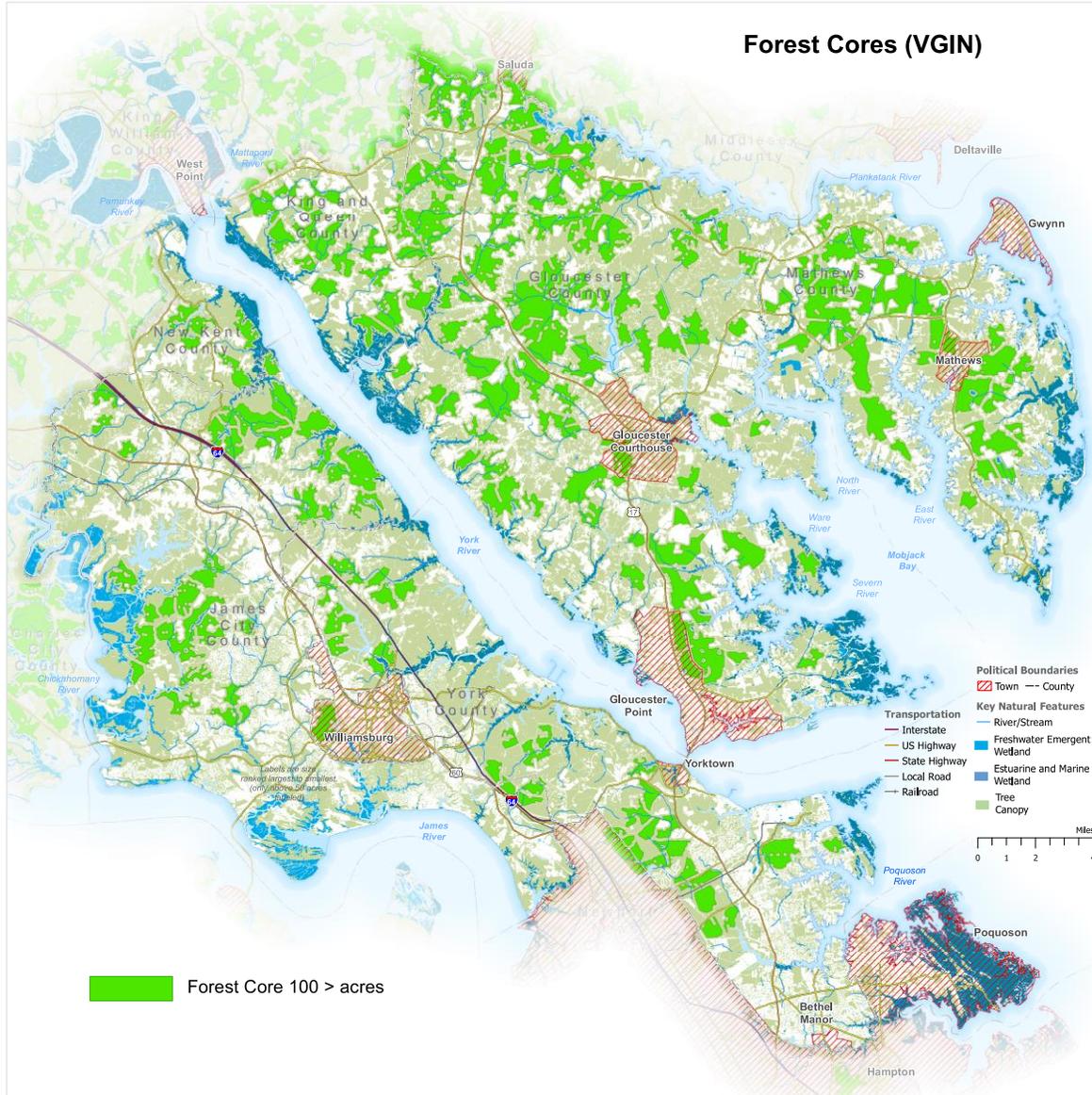
Fire, pests, development, droughts, storms/sea rise, poor management, pests, etc.

6. Create an adaptive plan for forest resilience in partnership with state forestry agencies in Georgia, South Carolina, and Virginia.

7. Implement training workshops and presentations to share the work.



Draft Canopy Distribution by Jurisdiction

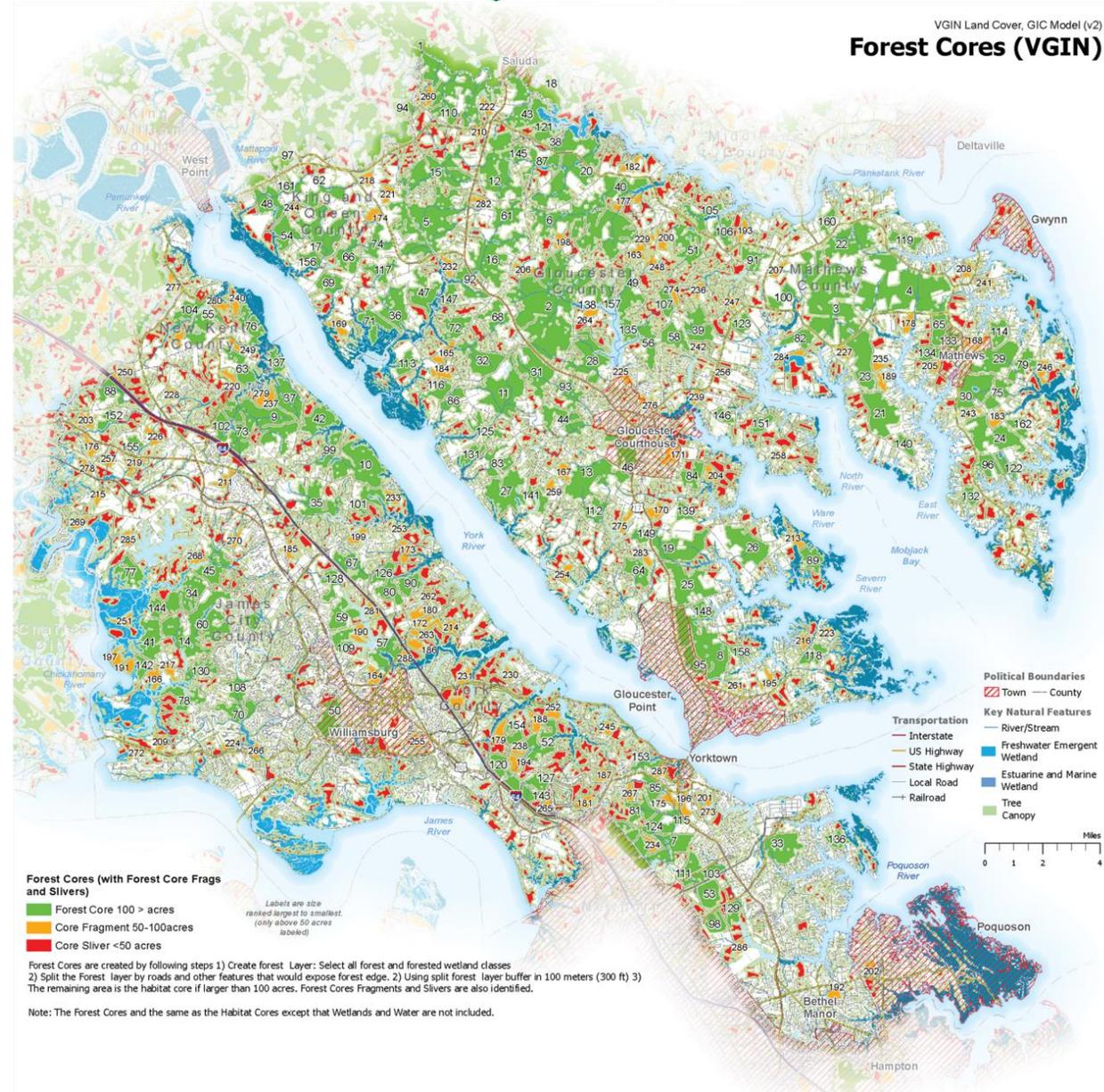


Fragmentation Metrics



Ranking Forest Cores:

- Green forest cores are higher quality due to size and provide greater value for forest dependent species.
- Red and orange patches are smaller than 100 acres. Smaller forest patches have more edge habitat which can promote invasion by non-native species.
- However small forest patches can be critical in linking large intact forests together through corridors!
- We are using a Nature Conservancy model to map terrestrial connectivity across the landscape.



Examples of Management Recommendations



Urban Forests

- **Plant trees to increase canopy cover**
- **Examine ordinances for tree protection**

Development and Land Ownership

- **Look at ways to strengthen rural zoning**
- **Identify tracts of forests for protection**

Recreation and Culture

- **Access to Parks**
- **Preserving Historical Significance**

Hydrology and Water Quality

- **Identify areas to plant stream buffers**
- **Identify forests at risk from sea level rise**

Ecology and Biodiversity

- **Recommend new pest management strategies**
- **Conduct a tree inventory**

Natural Resources and Economy

- **Sustaining Forest Productivity**
- **Retaining small family forest land-owners in forestry**

Contact Information



More specific questions or comments reach out to our project partners at:

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Project 2.

Virginia Beach Adaptation Strategy

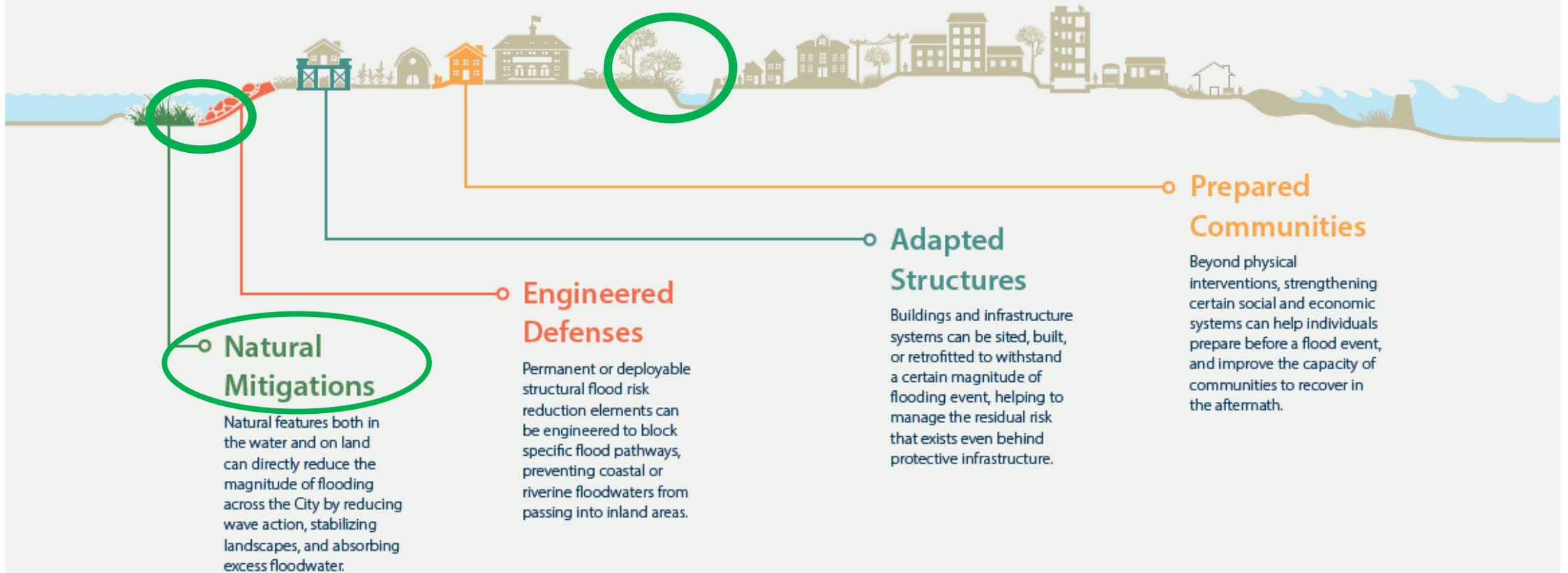
Natural Mitigations

Virginia Beach, The Nature Conservancy, VDOF

Multiple Layers of Adaptation

The Adaptation Framework presents a holistic method for addressing flood risks across the City, and consists of four complementary layers. Each layer presents a specific approach to flood risk management—working through the lenses of natural mitigations, engineered defenses, adapted structures, and prepared communities.

The layers are designed to support each other, integrating structural and non-structural measures to ensure comprehensive flood protection across a range of environmental conditions.



Preserve Environmental Assets

Protect and expand green infrastructure networks through land conservation and renaturalization programs.

Virginia Beach already boasts an expansive green infrastructure network of public and privately owned wetlands and open spaces.

With increasing development trends and pressures, it is vital that Virginia Beach facilitates the long-term maintenance and expansion of this green infrastructure network that provides flood mitigation benefits. This can be done both through the preservation of existing natural buffers and open spaces as well as through the acquisition and renaturalization of developed land.

The Virginia Beach Department of Parks and Recreation, Federal and State Governments, and The Nature Conservancy together own and manage most of the protected open space throughout the City, largely in flood-prone areas. Similarly, the City's Agricultural Reserve Program allows farmers to conserve valuable agricultural lands in the southern portion of the City, with over 9,700 acres currently enrolled. In addition to these already protected lands, the City can employ numerous financial and regulatory tools to expand green spaces with a focus on currently unprotected privately-owned spaces.

Resident Perspectives

89 percent of polled residents strongly supported creating incentives to encourage the use of natural features to absorb water and mitigate flooding impacts.

Protected and unprotected green spaces throughout the City.

- Conserved Lands
- Conservation Easements
- Unprotected Open Space
- Green Infrastructure Network
- Agricultural Lands

Strategy: Integrate Forest Infrastructure Into Stormwater Management

Quantifying the Flood Reduction Potential of Urban Forests: Phase I Final Report

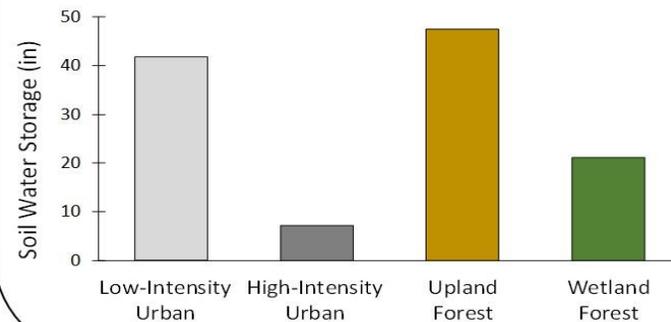
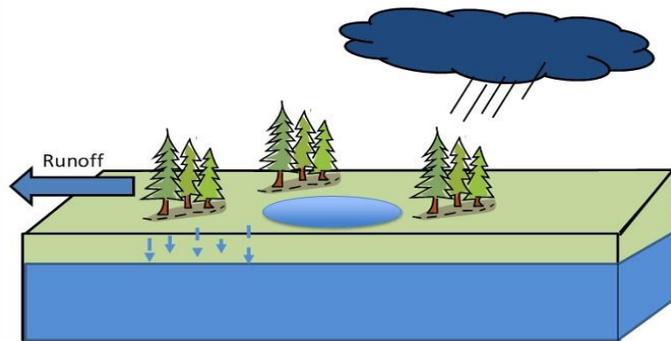
Daniel McLaughlin¹, Yang Shao², Alfred Wan², Brian van Eerden³

¹Department of Forest Resources and Environmental Conservation, Virginia Tech

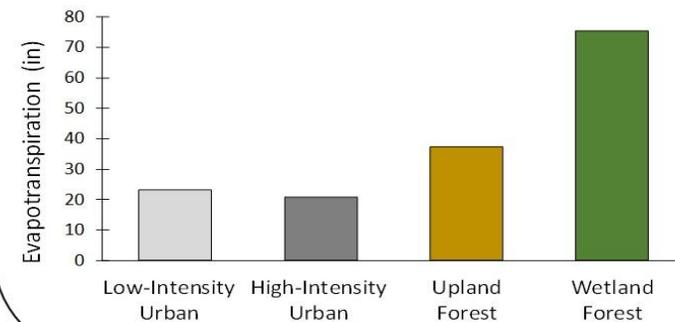
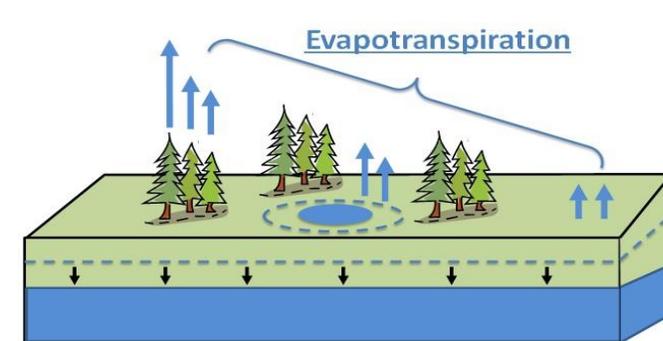
²Department of Geography, Virginia Tech

³Virginia Pinelands Program, The Nature Conservancy

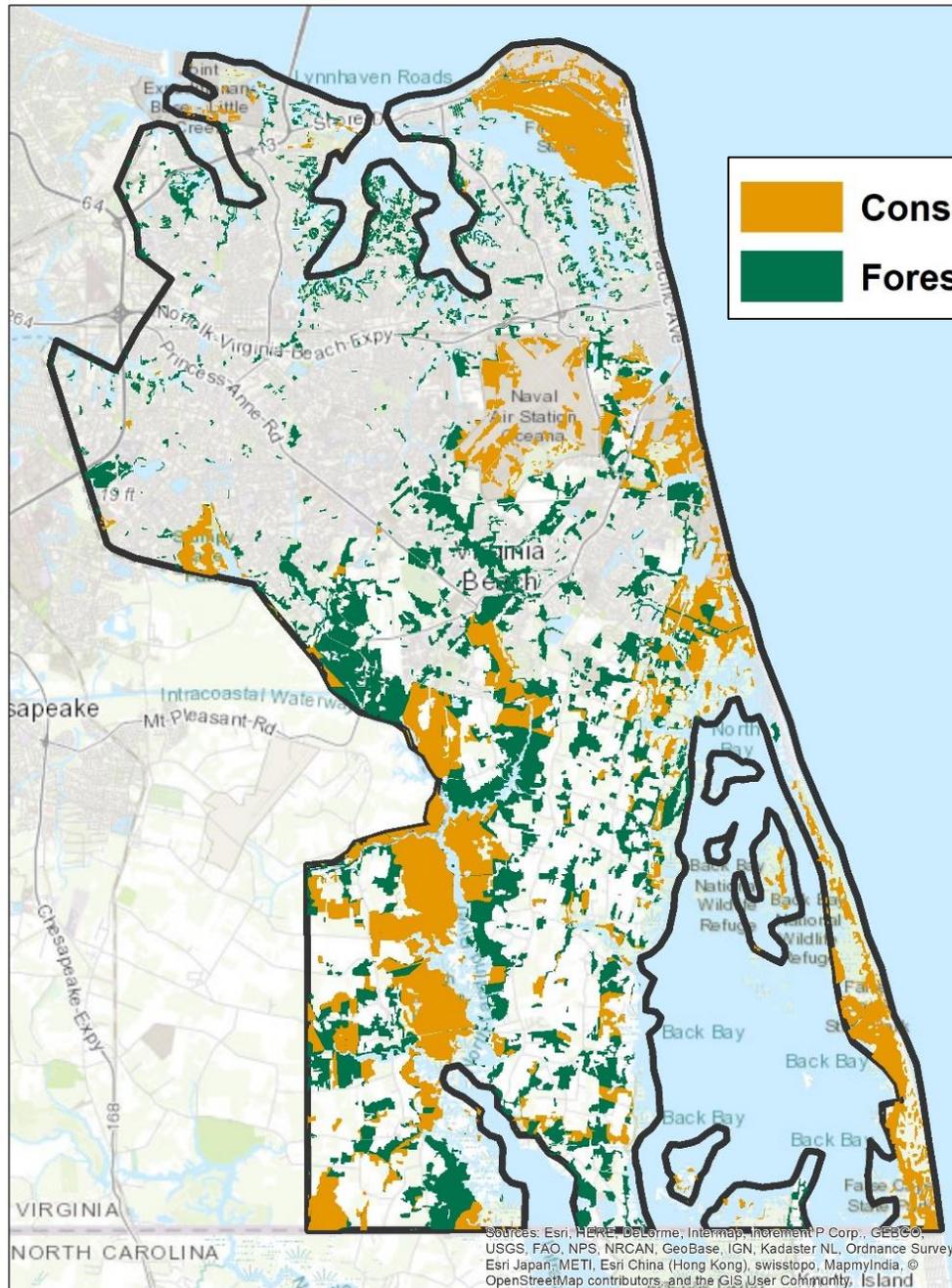
Water Storage



Water Use



Conserved forest lands



- **Approx. 50% of forest under conservation ownership.**
- **Approx. 57% of wetland forest conserved.**
- **Approx. 38% of upland forest conserved.**

2006 NLCD

VDOF contacts



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