



Metropolitan Washington Regional Tree Canopy Workgroup

Progress Report

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Climate, Energy and Environment Policy Committee
Chesapeake Bay Policy Committee

Joint Meeting

July 24th, 2013

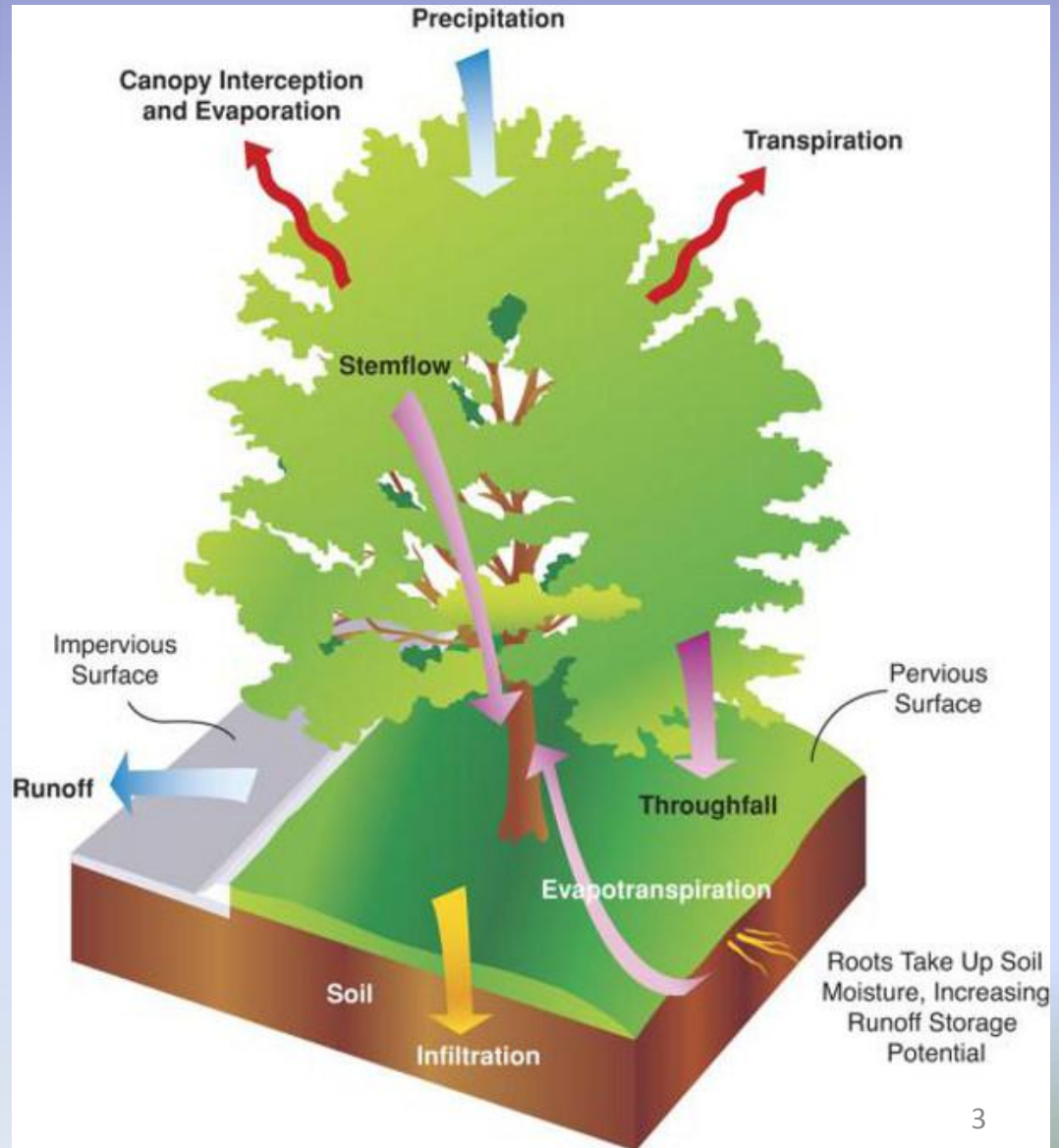
The Challenge of the Regional Tree Canopy Working Group

In what ways can the region accommodate growth while maintaining and enhancing forests, tree canopy and other green infrastructure?

- Preserving forest cover, parkland and other open space
- Elevate the value of forests / forest cover in local & regional planning
- Recognition of the benefit value of forests

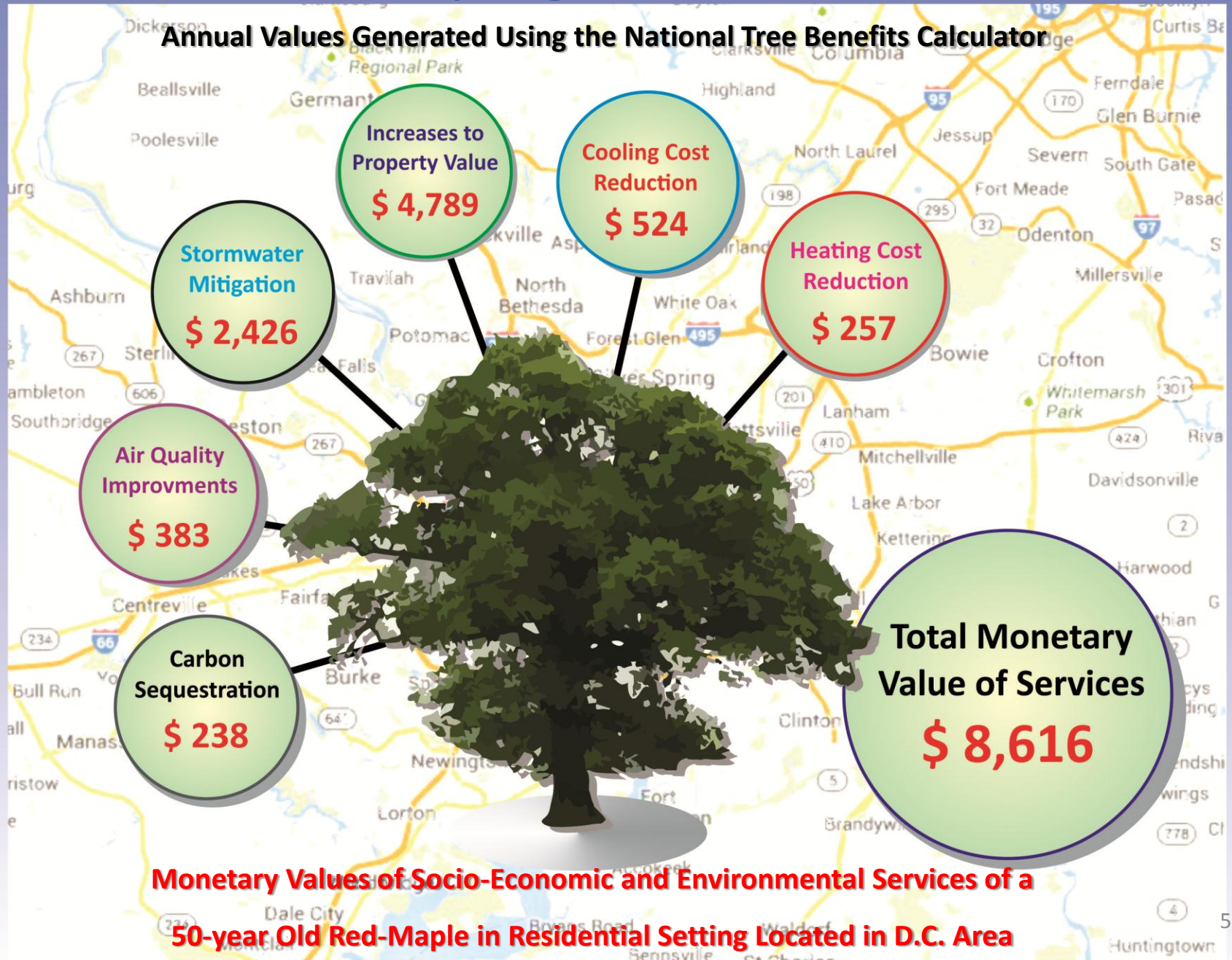
Benefits of Trees

- *Mitigate heat island effects*
- *Greenhouse Gas Reduction*
- *CO² & O² Exchange*
- *Carbon Sequestration & Storage*
- *Nutrient absorption*
- *Interception of precipitation*
- *Increased Infiltration*
- *Reduced stormwater runoff*
- *Evapotranspiration*
- *Reduced Heating/Cooling Costs*
- *Noise Attenuation*
- *Biological Diversity*
- *Wildlife Habitat*
- *Stress reduction*
- *Aesthetics*
- *Increased Property Values*
- *Increased Business*
- *Reduced Crime Rates*
- *Wood Products*



Quantifying Tree Services

Annual Values Generated Using the National Tree Benefits Calculator



Monetary Values of Socio-Economic and Environmental Services of a 50-year Old Red-Maple in Residential Setting Located in D.C. Area

Benefits - Costs

- USDA Forest Service study associates tree planting & maintenance with a 3.74:1 benefit–cost ratio (*McPherson, et. al. 2006*)

Reality Check! Urban forest services come with a price tag.

- In addition to costs of planting, maintenance and removal programs, trees have potential to:

- Damage buildings & property
- Damage underground sewer & stormwater pipes
- Clog sewers, dry wells, & flood-control systems
- Require clean-up after weather events
- Cause conflicts with power lines

*Research indicates that stormwater mitigation, increased property values, reduced energy use, & provided carbon sequestration services that **offset costs***



Trees and the Bay

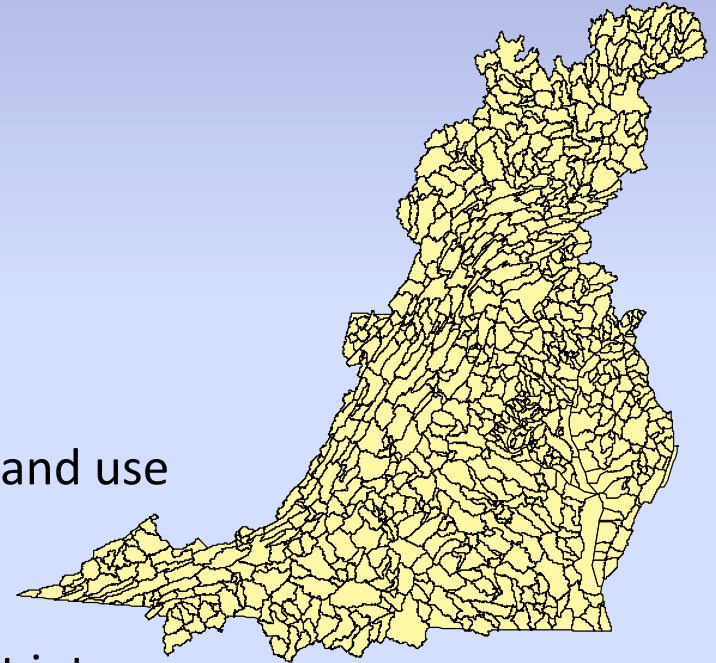


Tree cover plays an important role in the current water and air quality regulatory framework

- TMDL's - Total Maximum Daily Load (TMDL)
- WIP's - Watershed Implementation Plans
- MS4 Permitting - Municipal Separate Storm Sewer Systems
- Air Quality / SIP - State Implementation Plans

Urban Tree Canopy Role in the Bay TMDL

- CBP Watershed Model is accountability tool for TMDL
- Current land uses (Version 5.3.2) include:
 - Pervious Urban
 - Impervious Urban
 - **Wooded / Open**
 - **Disturbed Forest (Harvested)**
 - Various Ag Land Uses
- Proposal to add “**Urban Tree Canopy**” as new land use class in Version 6.x, under development
- Opportunity for greater local government input into Bay TMDL Accounting Process



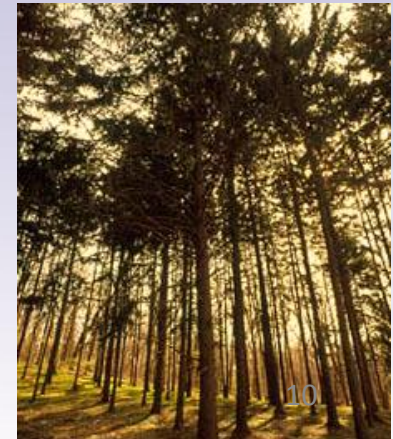
Watershed Model Loading Rates

Bay Watershed Model Version 5.3.2

Land Use	Total Nitrogen	Total Phosphorus
■ Forest	2.0	0.15 (Lbs./ac./yr.)
■ Ag (average)	20.0	2.0
■ Urban (average)	10.0	1.0

Proposed Model Version 6.x

■ Forest	2.0	0.15
■ Urban Tree Canopy	$2 > x < 10$	$.15 > x < 1.0$
■ Urban	10.0	1.0

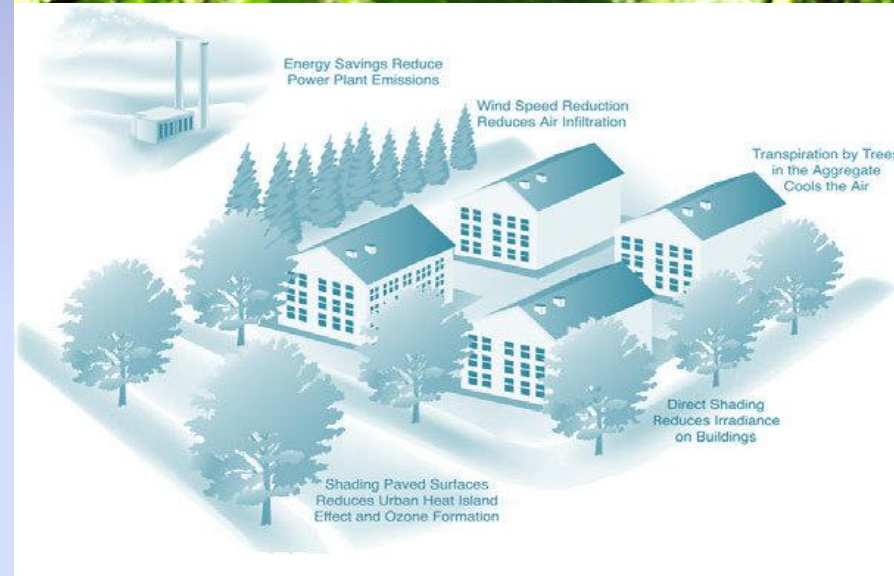


Forests are the best land cover for improving water quality!

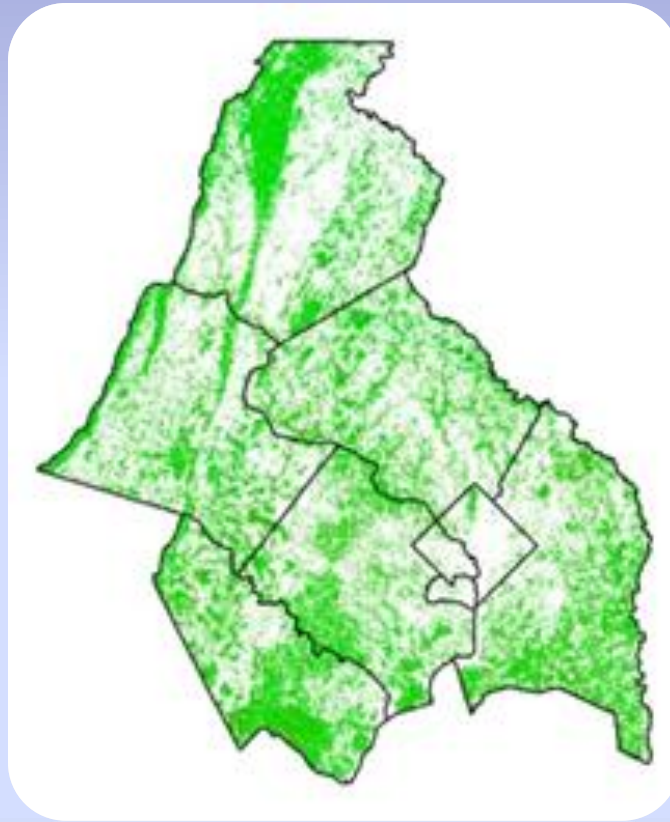
Air Quality Benefits

Air quality benefits from trees result from shading lowering summertime air temperatures and pollutant absorption

- Slow the temperature-dependent reaction that forms ground-level ozone
- Reduce evaporative emissions, primarily VOCs (precursors to ground-level ozone) from sources such as vehicles
- Reduce the amount of electricity generated for cooling, thereby reducing air pollutant emissions from power plants



Regional Trends



A Growing Region

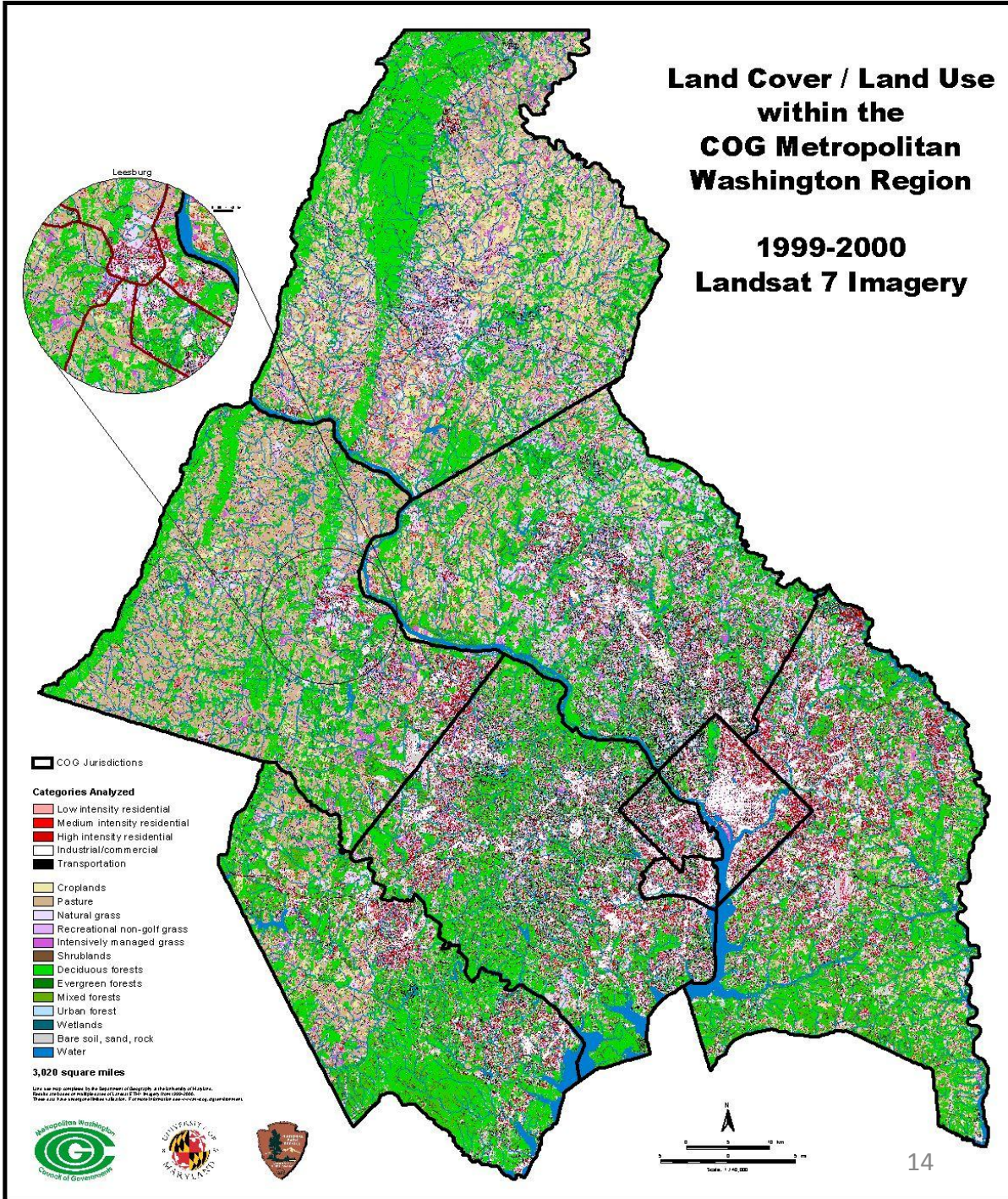
- Population growth in the COG region projected to grow 24% from 4.5 to 5.6 million by 2030
- The COG region is losing at least 28 acres per day (16 mi²/yr) of open space *
- *Chesapeake Bay Program estimates a bay-wide loss of 100 acres of day*
- Preserving open space can help to meet needs for water quality, air quality, local food supply, recreation and wildlife habitat in the coming years

* Margaret Maizel One Image, LLC - Green More or Less (Washington Post).

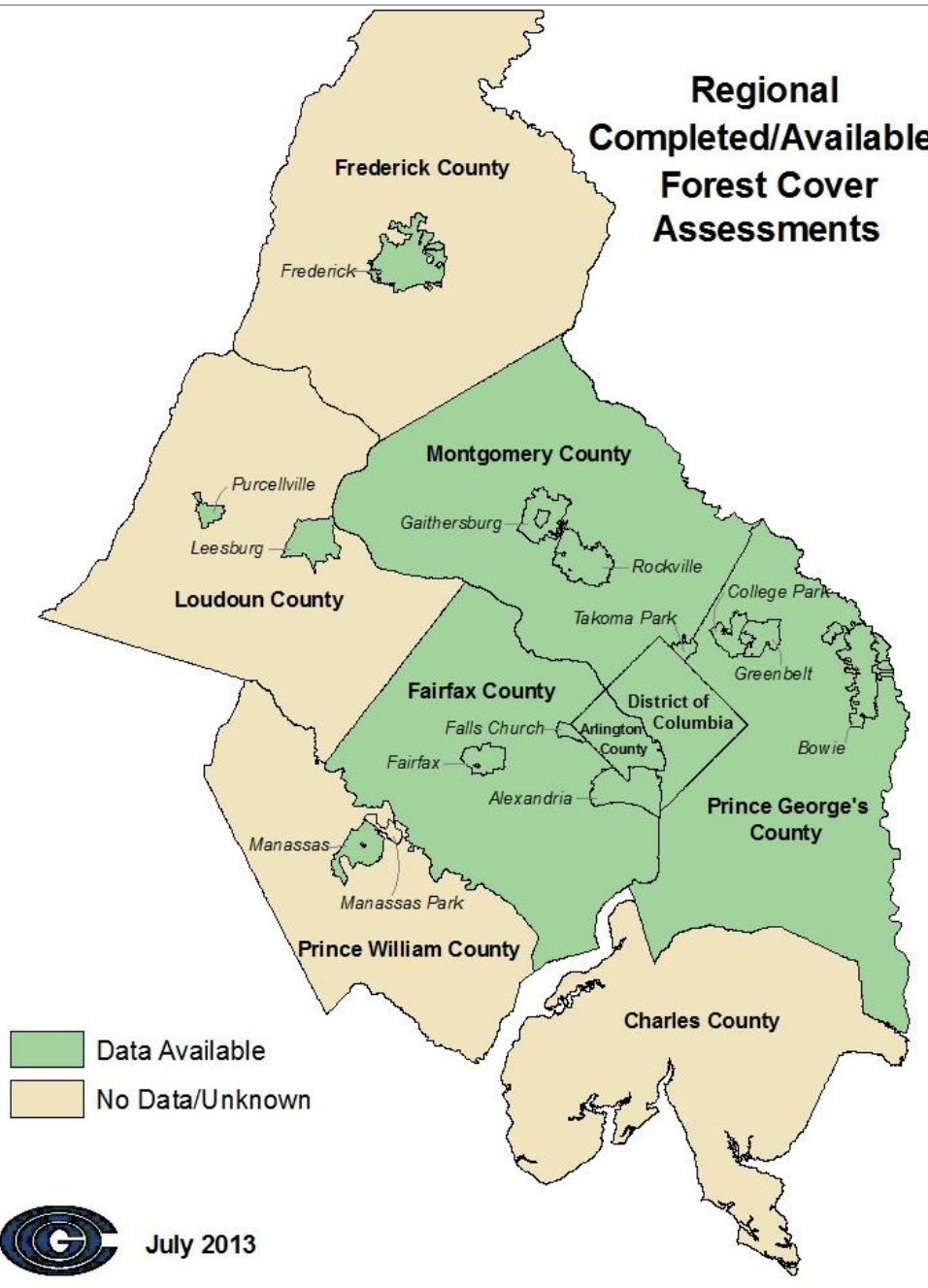
Red, Pink & White =
Impervious Surfaces &
Populated Areas

Light Green = Forest Cover

Brown = Agricultural Areas /
Field / Meadow



Regional Completed/Available Forest Cover Assessments

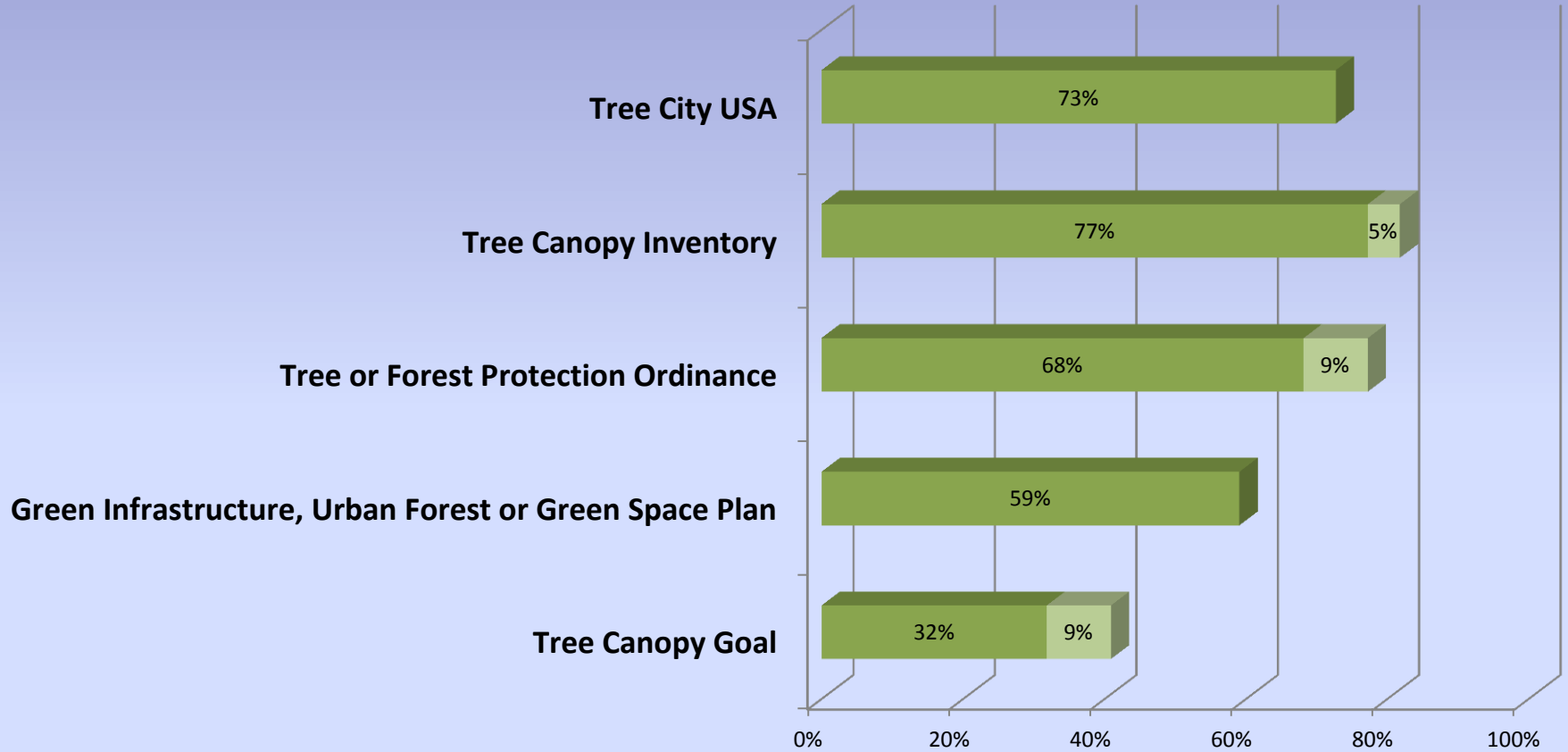


July 2013

COG Member Tree Canopy Policy and Program Status

■ % Jurisdictions Implemented

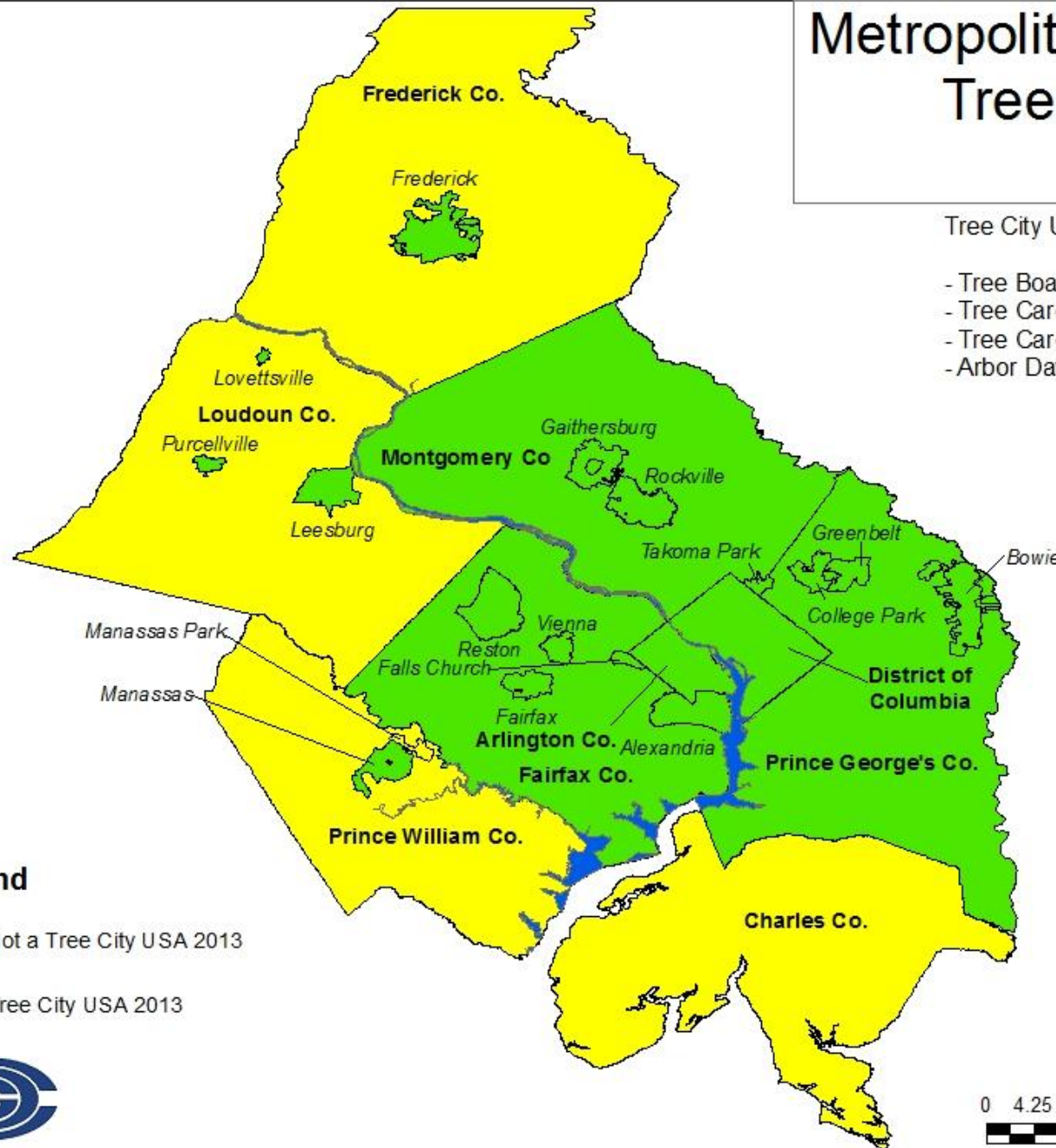
■ % Jurisdictions In Progress/Partial



Metropolitan Washington Tree City USA 2013


Tree City USA Requirements:

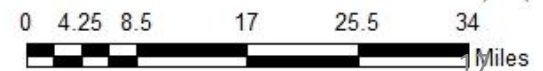
- Tree Board or Department
- Tree Care Ordinance
- Tree Care Budget > 2 \$ per Capita
- Arbor Day Observance



Legend

 Not a Tree City USA 2013

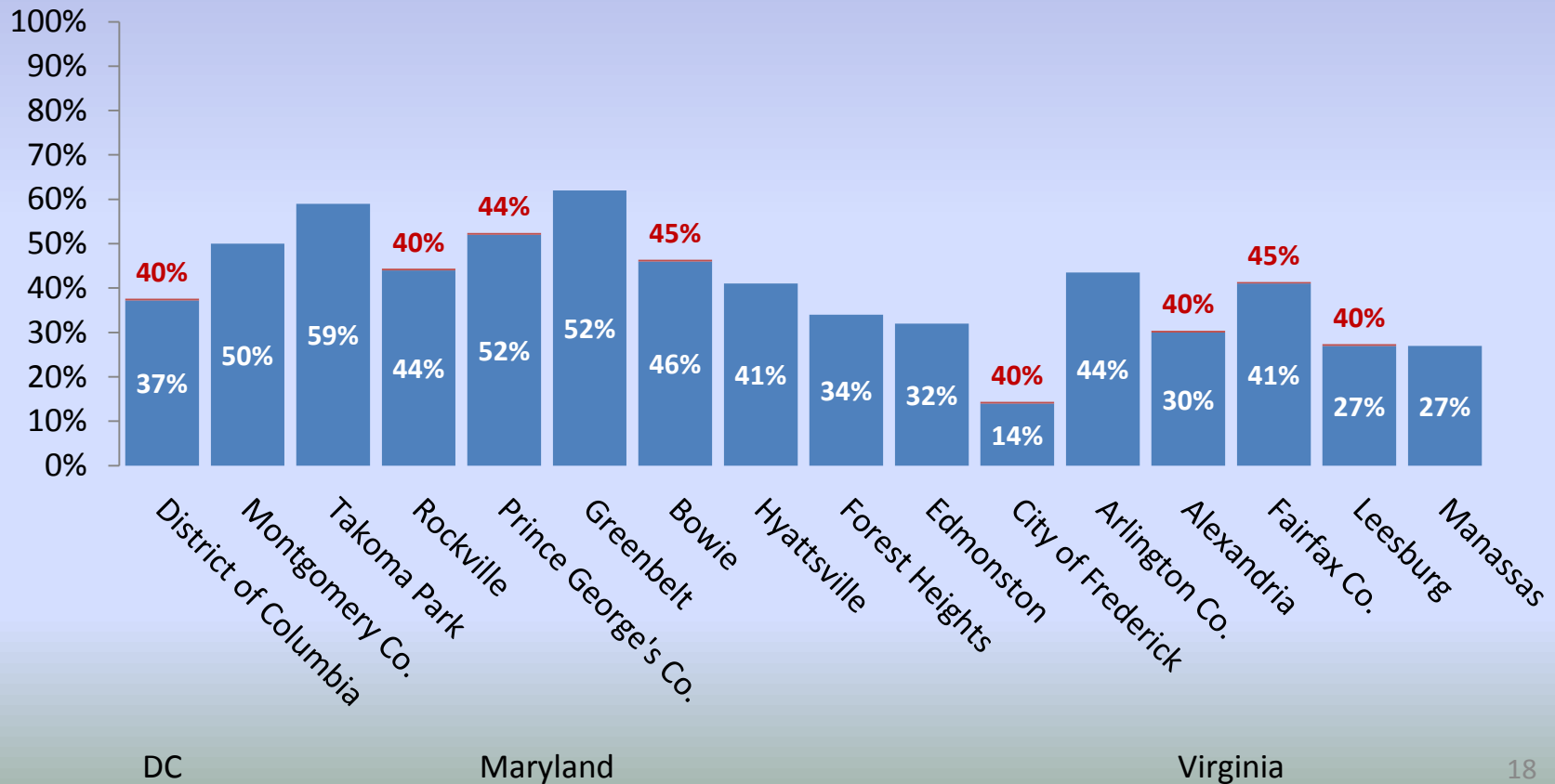
 Tree City USA 2013



Percent Tree Canopy and Goal

Metropolitan Washington Tree Canopy Assessments and Tree Canopy Goals July, 2013

■ Tree Canopy Cover ■ Tree Canopy Goal

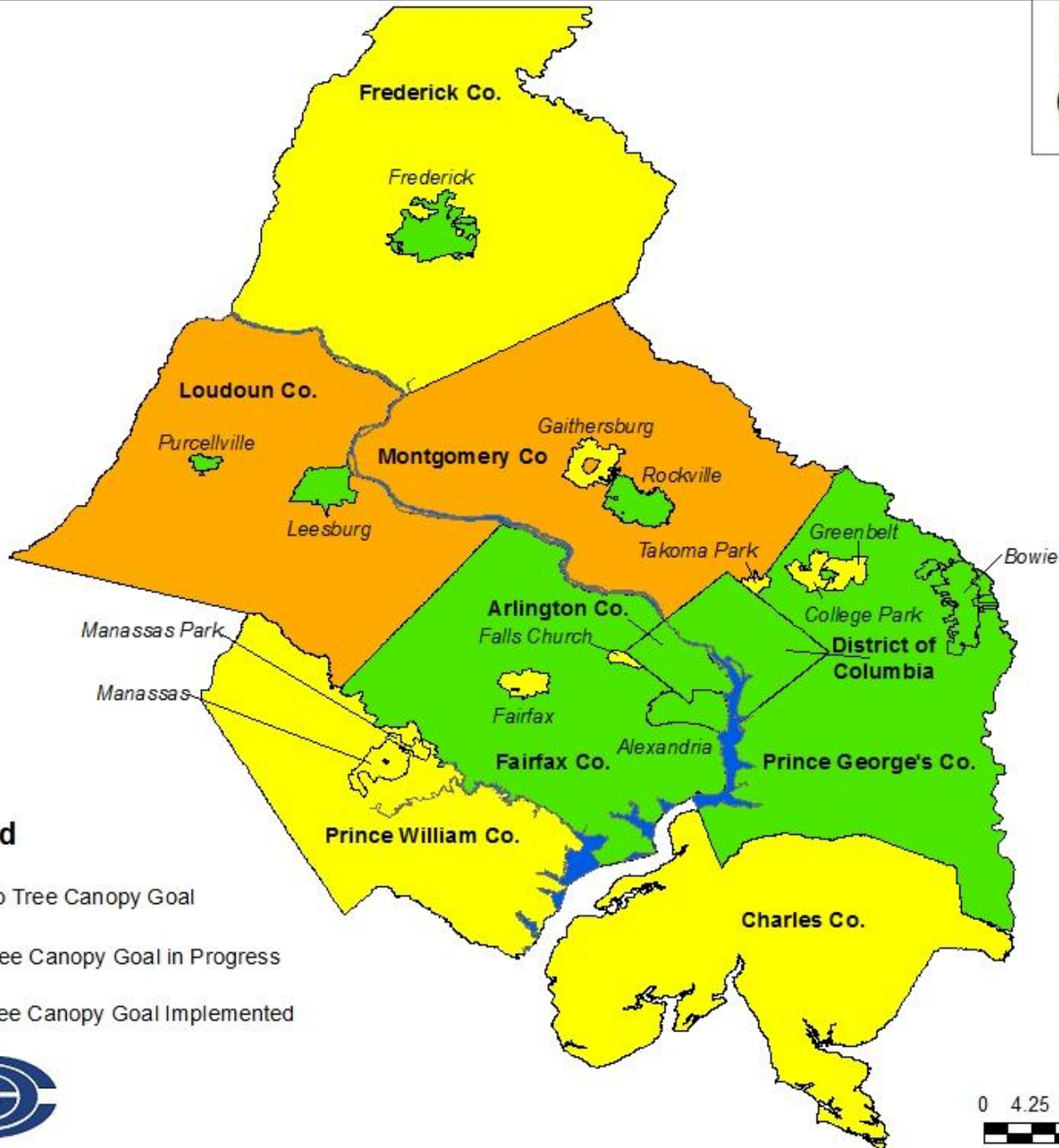


DC




Maryland

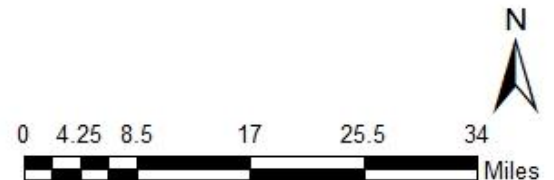
Virginia

Regional Tree Canopy Goals

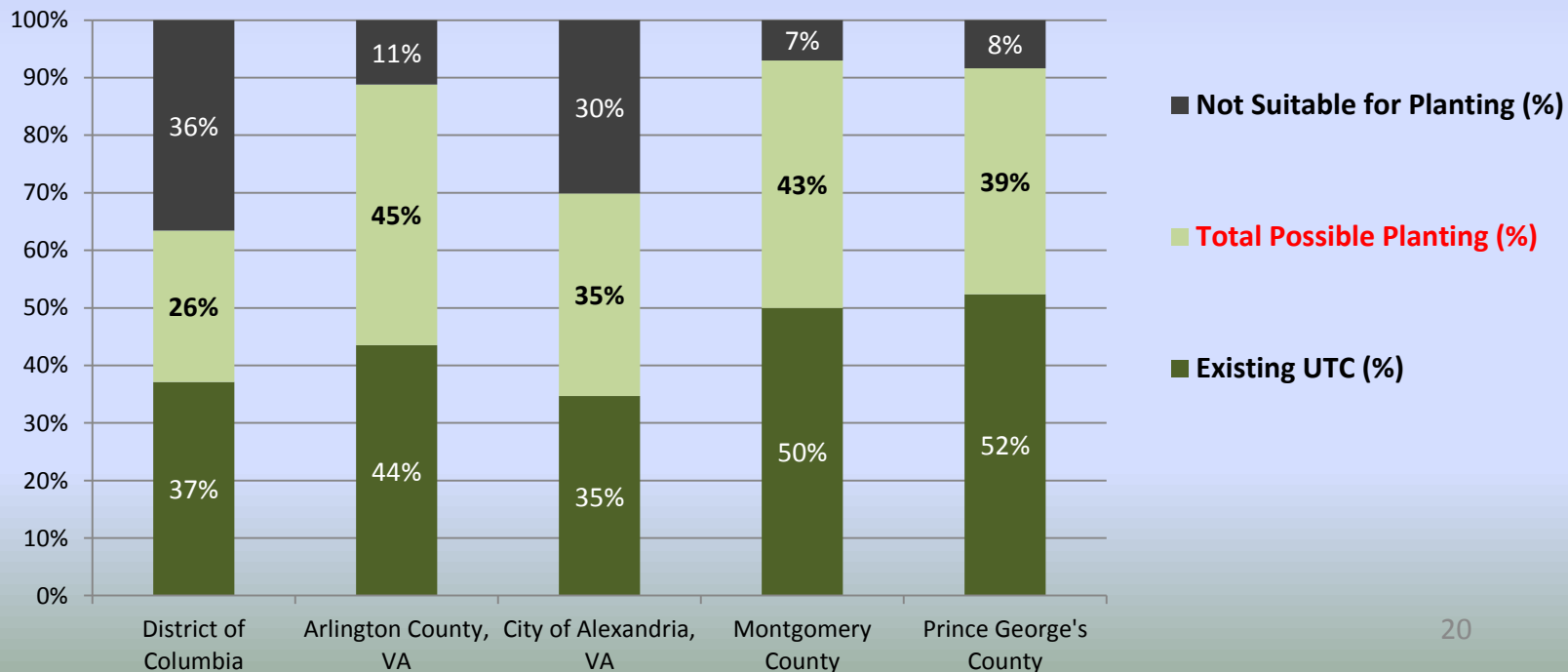
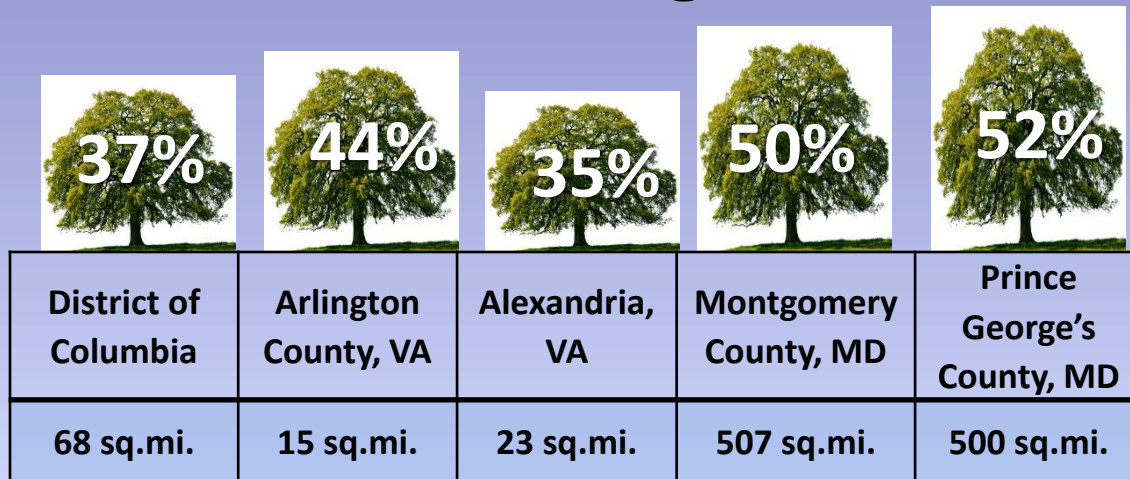


Legend

-  No Tree Canopy Goal
-  Tree Canopy Goal in Progress
-  Tree Canopy Goal Implemented



Select Local Government Canopy Coverage and Planting Potential



Purpose of RTCW Report

1. To communicate a set of overarching goals and strategies that can be used to guide the conservation, management and expansion of our urban forest
2. To communicate the opportunities & challenges presented in collaborative stewardship
3. To build the level of interest and commitment required to begin the work of developing and implementing a regional canopy management plan

Regional Forest Management

Regional collaboration provides potential to:

- Increase the effectiveness of local and regional planning efforts
- Increase the effectiveness of local programs through economies of scale and resource sharing
- Develop common outreach and marketing programs
- Strengthen local ability to manage forest pests, invasive plants and climate change
- Assist existing state, regional and national efforts to protect forests and other natural resources
- Incorporate urban forestry practices into regional regulatory processes

*“Coming together is a beginning. Keeping together is progress.
Working together is success.”*

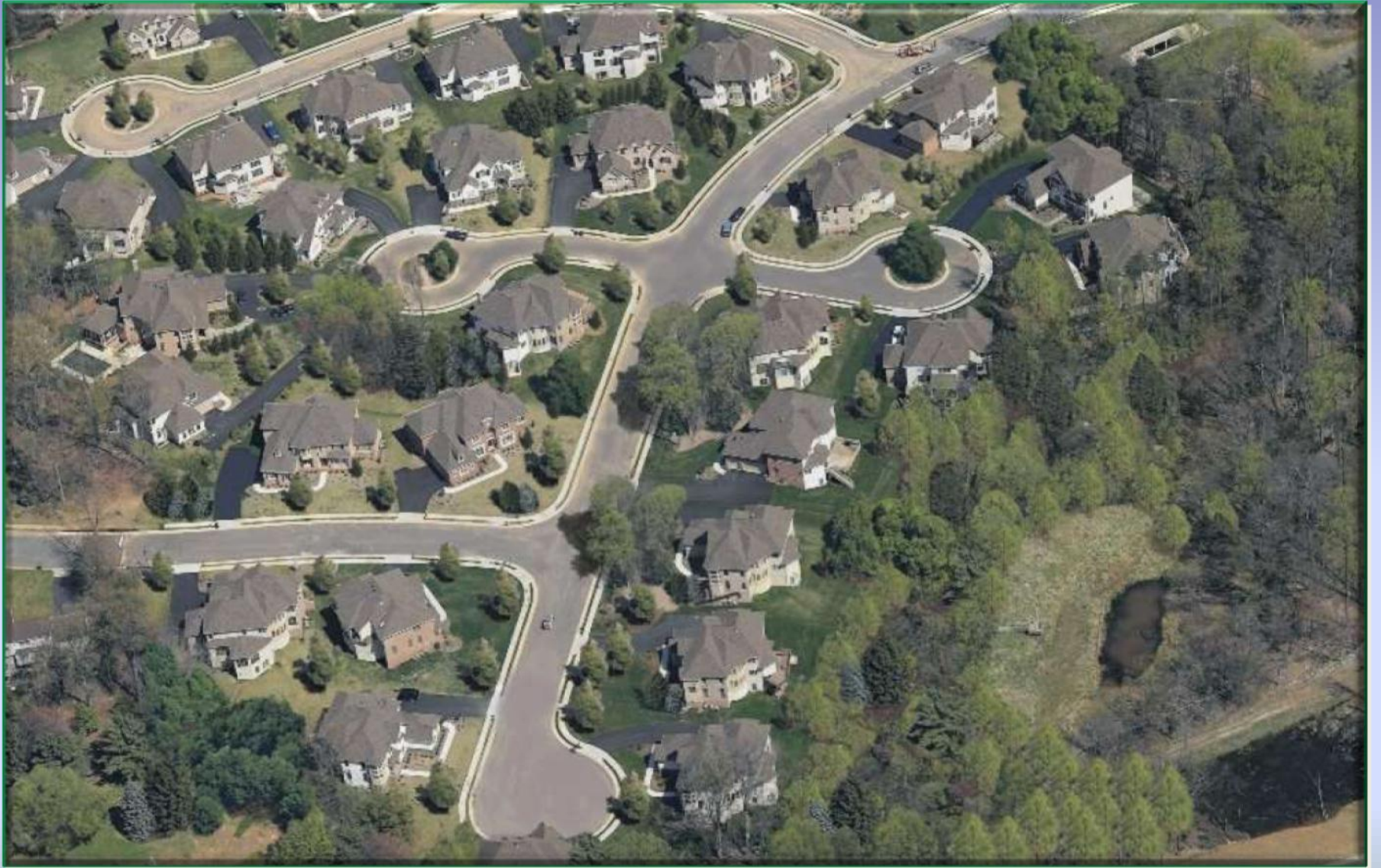
Henry Ford

Primary Goals

- 1. Protect, manage and expand regional urban forest assets**
- 2. Optimize the impact of local urban forestry programs through inter-jurisdictional collaboration**
- 3. Develop a regional urban forest management plan & canopy goals**
- 4. Engage and partner with the community**
- 5. Integrate urban forests into local & regional planning efforts**

RTCW Recommendations

- 1. Tap the full potential of urban forests to mitigate climate change & to address regulatory concerns**
- 2. Encourage all COG jurisdictions to adopt effective and consistent programs, policies, and practices**
- 3. Establish a forest policy and planning committee to support and guide regional collaboration**
- 4. Keep forested lands forested, intact and ecologically functional**
- 5. Increase the extent & vitality of urban tree canopy while minimizing potential risks and conflicts**
- 6. Develop quantitative and qualitative metrics**
- 7. Encourage public participation in the development of goals, strategies & a common vision**
- 8. Lead by example: Conserve, plant & maintain trees on public land**
- 9. Build synergistic partnerships with key stakeholders**
- 10. Take steps to integrate urban forestry goals and metrics into Region Forward**





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RTCW Next Steps

RTCW is expected to produce the following deliverables:

- Finalize the Regional Tree Canopy Strategy Report (Winter 2014)
- Propose a structure and composition of a permanent Regional Forest Policy and Planning Committee (Fall 2013)



For more information on the Metropolitan Washington Regional Tree Canopy Workgroup



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