Chesapeake Urban and Community Tree Canopy Management Strategy – Discussion Draft 12/3/14

1. Introduction/Background (*Later will be Executive Summary*)

The Chesapeake Bay Program partners first recognized and set goals related to urban tree canopy in the 2003 Chesapeake Executive Council Directive (03-01) on Expended Riparian Forest Buffer Goals:

> …WE FURTHER RECOGNIZE THAT URBAN TREE CANOPY COVER offers stormwater control and water quality benefits for municipalities in the Chesapeake Bay watershed and can extend many riparian forest buffer functions to urban settings.
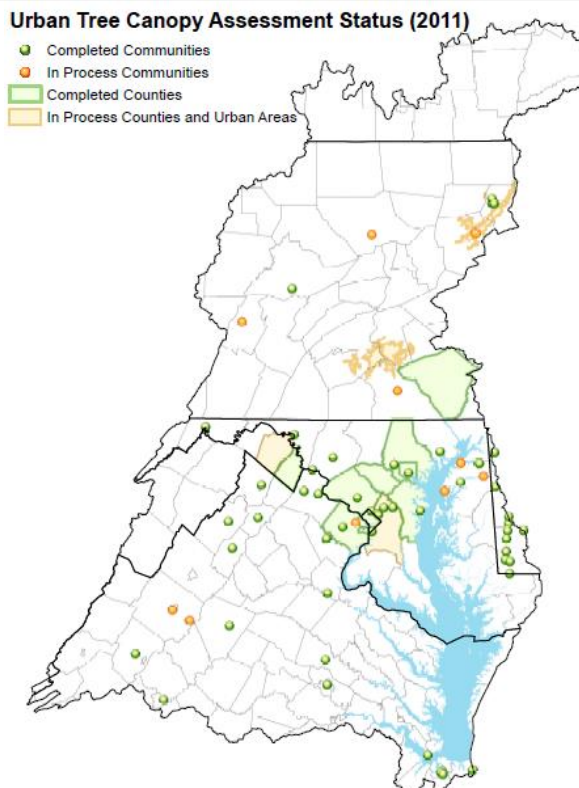> …WE COMMIT TO THE ADOPTION OF AN EXPANDED SET OF GOALS:
> • By 2010, work with at least 5 local jurisdictions and communities in each state to complete an assessment of urban forests, adopt a local goal to increase urban tree canopy cover and encourage measures to attain the established goals in order to enhance and extend forest buffer functions in urban areas.
> • Encourage increases in the amount of tree canopy in all urban and suburban areas by promoting the adoption of tree canopy goals as a tool for communities in watershed planning.

Since then, through the combined efforts of local, state, and federal resources, there has been a steady progression in the use of high-resolution urban tree canopy assessments to set canopy goals and inform tree planting efforts in communities. These efforts were aided by a 2006 workshop and resulting guidance document, Urban Tree Canopy Goal Setting: A Guide for Chesapeake Bay Communities. Figure 1 shows a map of the over 70 communities and 9 counties that have conducted assessments in the Bay watershed.

Despite these achievements, relatively little information exists on the progress communities have made in increasing tree canopy through planting, protection, and maintenance efforts.

The 2014 Chesapeake Bay Agreement builds on past progress by setting a quantitative outcome for increasing Urban Tree Canopy and tasking Chesapeake Bay partners with creating a management strategy to assist communities with achieving their goals. This document serves as a preliminary "Discussion Draft" of the Urban Tree Canopy Management Strategy to summarize and get input on key issues and priority actions.

Figure 1. UTC Assessments in Bay watershed

Urban Tree Canopy Assessment Status (2011)
- Completed Communities
- In Process Communities
- Completed Counties
- In Process Counties and Urban Areas

2. Outcomes and Baselines

- Tree Canopy Outcome:

The 2014 Chesapeake Bay Agreement sets forth the first quantitative, watershed-wide urban tree canopy goal to be adopted by the partnership:

> **TREE CANOPY OUTCOME:**
>
> Continually increase urban tree canopy capacity to provide air quality, water quality and habitat benefits throughout the watershed. Expand urban tree canopy by 2,400 acres by 2025.

It is important to note that this goal is intended to reflect a *net gain* in acreage of tree canopy, after accounting for canopy losses due to various factors such as development, storms, pests/diseases, and natural mortality. Meeting the goal requires protecting as much of our existing tree canopy as possible and planting enough to both mitigate losses and expand the tree canopy cover by 2,400 acres.

The goal of 2,400 acres was determined by each state forestry agency estimating what they thought could be accomplished on an annual and longterm basis, based on existing programs. However, this estimation is constrained by the fact that most of the states have not had access to good data on the tree planting carried out by varied organizations throughout the state and trends in tee canopy gains/losses. The state targets may be increased over time as better tracking mechanisms and programmatic strategies are put in place:

State	Annual Target (New Acres)	2025 Target (New Acres)
Delaware	5	60
DC	40	480
Maryland	45	540
New York	5	60
Pennsylvania	60	720
Virginia	40	480
West Virginia	10	120
TOTAL	205	2460

- Baseline:

Although many localities and some counties have conducted high resolution UTC assessments, a Baywide UTC estimate has not yet been developed. A coarse estimate based on the 2011 National Land Cover Dataset (NLCD) Tree Canopy data suggests there are at least 1.5 million acres of tree

canopy within the 2010 Census Urban Areas/Urban Clusters of the counties in the watershed. However, based on a comparison with Maryland's recent high resolution statewide tree canopy assessment (1-meter data), the NLCD (30-meter) data underestimates tree canopy cover anywhere from 6-50%.

Therefore, USGS and the Land Use Workgroup are in the process of developing a Baywide tree canopy dataset that incorporates all the high resolution data available, using NLCD data only in areas where high resolution data does not exist. When completed, this dataset will serve as our baseline for measuring progress on the UTC outcome. The dataset is also intended to be used as a new land use layer in the Chesapeake Bay model, so that the water quality benefits of existing urban tree canopy are better accounted for in pollutant loading estimates.

Local governments who have conducted UTC assessments already have a good local baseline to work with in tracking progress on their UTC goals, although the baseline assessment year varies by locality. Appendix A provides a table summarizing these assessments to date, with the local tree canopy acreage and percent.
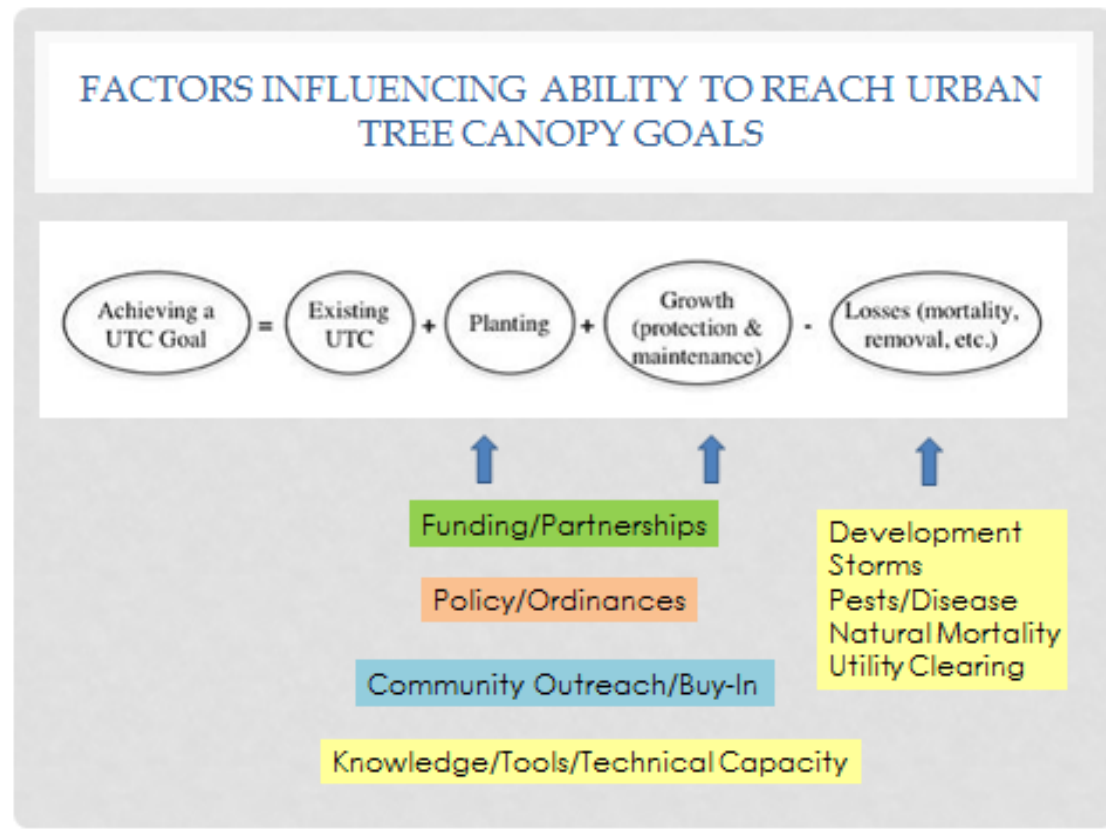
3. Jurisdictions and agencies participating in the strategy

The Urban Tree Canopy outcome will only be achieved through the efforts of local governments and their urban forestry partners working to plant, protect, and maintain the community's tree canopy. To begin engaging this broad network, the Chesapeake Urban Tree Canopy Summit was hosted on October 14-15, 2014 in Linthicum, Maryland by the Forestry Workgroup, Alliance for the Chesapeake Bay, and Maryland Dept. of Natural Resources, with funding support from the Environmental Protection Agency. The agenda, recorded presentations, attendee list, and Summit Proceedings report are available on the Chesapeake UTC Summit website. Over 80 representatives from across the watershed attended, and a larger list of over 250 "interested parties" have participated in meetings and updates on the Management Strategy process (list will be added as Appendix B) . The Summit highlighted the critical role of urban forestry partner organizations who work closely with local governments on tree canopy goals – groups such as TreeBaltimore, TreeFredericksburg, Parks and People Foundation, Casey Trees, Alliance for the Chesapeake Bay, Virginia Tree Stewards, and many more.

The development of the Urban Tree Canopy Management Strategy is being led by the Chesapeake Bay Program Forestry Workgroup. Formed in 1989, the Forestry Workgroup is coordinated by the USDA Forest Service with longstanding representation from all Bay state forestry agencies and a variety of federal, state, local, and nongovernmental partners. The lead state agency representatives contributing to the Urban Tree Canopy Management Strategy are listed below and serve as points of contact for other groups who would like to be involved with the Strategy:

Jurisdiction	Lead Agency/contact
Federal Coordination	USDA Forest Service Julie Mawhorter, jmawhorter@fs.fed.us
State	
Delaware	Delaware Forest Service Kyle Hoyd, kyle.hoyd@state.de.us Kesha Braunskill, kesha.braunskill@state.de.us
District of Columbia	DDOT Urban Forestry Administration John Thomas, john.pthomas@dc.gov District Dept. of Environment Steve Saari, steve.saari@dc.gov
Maryland	Maryland DNR Forest Service Marian Honeczy, marian.honeczy@maryland.gov
New York	NYSDEC, Div. Lands and Forests Mary Kramarchyk, mary.kramarchyk@dec.ny.gov
Pennsylvania	PA-DCNR Bureau of Forestry Rachel Reyna, rreyna@pa.gov
Virginia	VA Dept. of Forestry Barbara White, Barbara.White@dof.virginia.gov
West Virginia	Cacapon Institute (CB UTC Coordinator) Frank Rodgers, frodgers@cacaponinstitute.org WV Div. of Forestry Herb Peddicord, Herb.F.Peddicord@wv.gov

4. Factors influencing ability to meet goal.

FACTORS INFLUENCING ABILITY TO REACH URBAN TREE CANOPY GOALS

Achieving a UTC Goal = Existing UTC + Planting + Growth (protection & maintenance) - Losses (mortality, removal, etc.)

Funding/Partnerships
Policy/Ordinances
Community Outreach/Buy-In
Knowledge/Tools/Technical Capacity

Development
Storms
Pests/Disease
Natural Mortality
Utility Clearing

Current Efforts and Gaps

Table 1 below summarizes some of the state and local programs/efforts currently in place to support urban tree canopy progress, as well as some of the gaps where existing programs/resources/data are not likely to be sufficient to meet urban tree canopy goals. The gaps identified serve as the basis for identifying key actions needed to support local governments and their partners in meeting urban tree canopy goals. (Table 2 in Section 5, Management Approach – is where we will fill in these priority actions, based on partner input.

Table 1: Current Efforts and Gaps

Urban Tree Canopy Strategy Elements	Current Efforts	Gaps
Assessment/Planning	• UTC Assessments completed for 70 localities and 9 counties • UTC Goals set by 40+ localities • UTC Implementation Plans developed by 20+ localities • VA: Implementation Plan pilot study and guidance document coming out soon • USFS-Baltimore Field Station- good tools for putting UTC data into action (prioritization/implementation)	• Limited examples/data on communities using UTC data/goals to make progress on the ground • Less than a third of assessed localities have developed implementation plans
Tree Canopy Protection	• DC: • MD: Forest Conservation Act, Reforestation Law, Critical Areas Law • VA: Chesapeake Bay Preservation Ordinance; local tree canopy ordinances where applicable- (e.g. select counties/cities in Virginia) • Others??	• Lack of data on tree canopy loss and effectiveness/scope of local policies in place • Need to assess and strengthen as needed local and/or state policy tools available to protect canopy (e.g. in development/ stormwater related permitting)
Tree Planting	State Programs • DE: annual urban forestry grants ($1000-$5000) • DC: DDOT street tree plantings, DDOE private Riversmart incentive programs (total 4,450-7000+ trees planted/year) • MD: Marylanders Plant Trees (coupons), Lawn To Woodlands, etc. • PA: TreeVitalize tree planting grants • VA: Trees for Clean Water grants (USFS funds + some state) • WV: Project Communitree and Bay grants (USFS, EPA/DEP funding) Local Funding/Partnerships	• Most local programs cite inadequate funding/staffing to achieve UTC goals • State funding programs generally not robust enough to meet local needs • Lack of data on local tree planting accomplishments and funding mechanisms • Most tree planting opportunity is on private land but there are few incentive programs to promote private planting • Tree planting has not been well integrated into TMDL/WIP/stormwater goals

	• Some local urban forestry programs have more robust funding/partnerships/grant successes (TreeBaltimore, etc.) • Baltimore County – stormwater utility fee funding aggressive tree planting initiatives • Nonprofit and other private/community partners can play key role	
Tree Survival/Maintenance	State/local citizen stewardship programs: • PA: Tree Tenders training • VA: Virginia Tree Stewards trainings and local groups (11) • DC (Casey Trees) and Baltimore, MD have programs for citizen tree care • Others??	• Major lack of funding for tree maintenance/survival by local governments and nonprofit partners • Need to develop and use common standards/best practices for tree planting and maintenance to enhance survival

Community Outreach/ Education	• Varies widely by state and locality – very decentralized
	• There are a variety of good national resources/websites/tools to draw from
	• Some effective examples of working with targeted audiences:
	    - Schools/youth organizations
	    - Churches and other civic groups
	    - Businesses
	    - Utilities
		• Local government and community buy-in often cited as major challenge (and opportunity) for meeting UTC goals
		• Lack of robust, targeted outreach/ education resources and tools and mechanisms for assisting network of local practitioners

Tracking Progress	Tree Planting • Tree planting data is currently limited to certain state programs with good databases • Online tree tracking tools/apps do exist which could be adapted/expanded to CB watershed (e.g. Penn Tree Mapper, Baltimore UTC tools, etc)	Tree Planting • Need to develop a tracking support system for tree planting that can capture state/local/ngo data; meets BMP verification/quality control standards; and feeds good data into the Chesapeake Bay Model/TMDL accounting

	• Chesapeake BMP Verification guidance has been developed by Forestry Workgroup for urban tree planting to help guide development of a tracking system Tree Canopy • Potential for doing regional UTC assessments like Maryland's statewide assessment to track canopy change over time (3-5 year intervals)	Tree Canopy • No mechanism currently in place to track canopy change over time; resources will be needed for this

5**. Management Approach**

Based on the assessment of current activities and gaps, this section will identify the priority actions that are most needed to help local governments and their urban forestry partners in achieving urban tree canopy goals. A wide range of actions will be considered, but the list will then be prioritized and distilled down to a manageable set that state, federal, local and nongovernmental partners are committed to working on together in the years ahead. The highest priority actions will be included in the first 2 Year Workplan (2015-2017), to be included in a later draft of this Management Strategy. Subsequent 2 Year Workplans will provide the opportunity to assess progress on these actions and add or modify priorities for the future.

Table 2 below provides a framework for linking priority actions to key needs/gaps in each area: Planning/Assessment, Tree Canopy Protection, Tree Planting, Tree Maintenance/Stewardship, Community Outreach, and Tracking.

TABLE 2: Current Efforts	Gaps	Proposed Partnership Actions	2 Year Action?	Who?
ASSESSMENT/PLANNING				
• UTC Assessments completed for 70 localities and 9 counties • UTC Goals set by 40+ localities • UTC Implementation Plans developed by 20+ localities • VA: Implementation Plan pilot study and guidance document coming out soon • USFS-Baltimore Field Station- good tools for putting UTC data into action (prioritization/implementation)	• Limited examples/data on communities using UTC data/goals to make progress on the ground • Less than a third of assessed localities have developed implementation plans	*What strategies/actions are most needed to assist local governments with each element?*	Y/N	
TREE CANOPY PROTECTION				
• DC: • MD: Forest Conservation Act, Reforestation Law, Critical Areas Law • VA: Chesapeake Bay Preservation Ordinance; local tree canopy ordinances where applicable- (e.g. select counties/cities in Virginia) • Others??	• Lack of data on tree canopy loss and effectiveness/scope of local policies in place • Need to assess and strengthen as needed local and/or state policy tools available to protect canopy (e.g. in development/ stormwater related permitting)			

TABLE 2: Current Efforts	Gaps	Proposed Partnership Actions	2 Year Action?	Who?
TREE PLANTING				
State Programs • DE: annual urban forestry grants ($1000-$5000) • DC: DDOT street tree plantings, DDOE private Riversmart incentive programs (total 4,450-7000+ trees planted/year) • MD: Marylanders Plant Trees (coupons), Lawn To Woodlands, etc. • PA: TreeVitalize tree planting grants • VA: Trees for Clean Water grants (USFS funds + some state) • WV: Project Communitree and Bay grants (USFS, EPA/DEP funding) Local Funding/Partnerships • Some local urban forestry programs have more robust funding/partnerships/grant successes (TreeBaltimore, etc.) • Baltimore County – stormwater utility fee funding aggressive tree planting initiatives • Nonprofit and other private/community partners can play key role	• Most local programs cite inadequate funding/staffing to achieve UTC goals • State funding programs generally not robust enough to meet local needs • Lack of data on local tree planting accomplishments and funding mechanisms • Most tree planting opportunity is on private land but there are few incentive programs to promote private planting • Tree planting has not been well integrated into TMDL/WIP/stormwater goals			

TABLE 2: Current Efforts	Gaps	Proposed Partnership Actions	2 Year Action?	Who?
MAINTENANCE/STEWARDSHIP				
State/local citizen stewardship programs: • PA: Tree Tenders training • VA: Virginia Tree Stewards trainings and local groups (11) • DC (Casey Trees) and Baltimore, MD have programs for citizen tree care • Others??	• Major lack of funding for tree maintenance/survival by local governments and nonprofit partners • Need to develop and use common standards/best practices for tree planting and maintenance to enhance survival			
COMMUNITY OUTREACH/BUY-IN				

• Varies widely by state and locality – very decentralized
• There are a variety of good national resources/websites/tools to draw from
• Some effective examples of working with targeted audiences:
    - Schools/youth organizations
    - Churches and other civic groups
    - Businesses
    - Utilities
	• Local government and community buy-in often cited as major challenge (and opportunity) for meeting UTC goals
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TRACKING PROGRESS				
Tree Planting • Tree planting data is currently limited to certain state programs with good databases • Online tree tracking tools/apps do exist which could be adapted/expanded to CB watershed (e.g. Penn Tree Mapper, Baltimore UTC tools, etc) • Chesapeake BMP Verification guidance has been developed by Forestry Workgroup for urban tree planting to help guide development of a tracking system Tree Canopy • Potential for doing regional UTC assessments like Maryland's statewide assessment to track canopy change over time (3-5 year intervals)	Tree Planting • Need to develop a tracking support system for tree planting that can capture state/local/ngo data; meets BMP verification/quality control standards; and feeds good data into the Chesapeake Bay Model/TMDL accounting Tree Canopy • No mechanism currently in place to track canopy change over time; resources will be needed for this			

6. Monitoring Progress

- Will be filled in based on discussion of "Tracking Progress" needs and actions outlined above

7. Assessing Progress & Adaptively Manage

- Will be filled in based on discussion of "Tracking Progress" needs and actions outlined above

8. 2 Year Workplan

- Will be filled in based on state/partner/Forestry Workgroup prioritization of actions identified in each area