

Chesapeake Urban and Community Tree Canopy Management Strategy – Discussion Draft 12/15/14

1. Introduction/Background

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 Expanded 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:

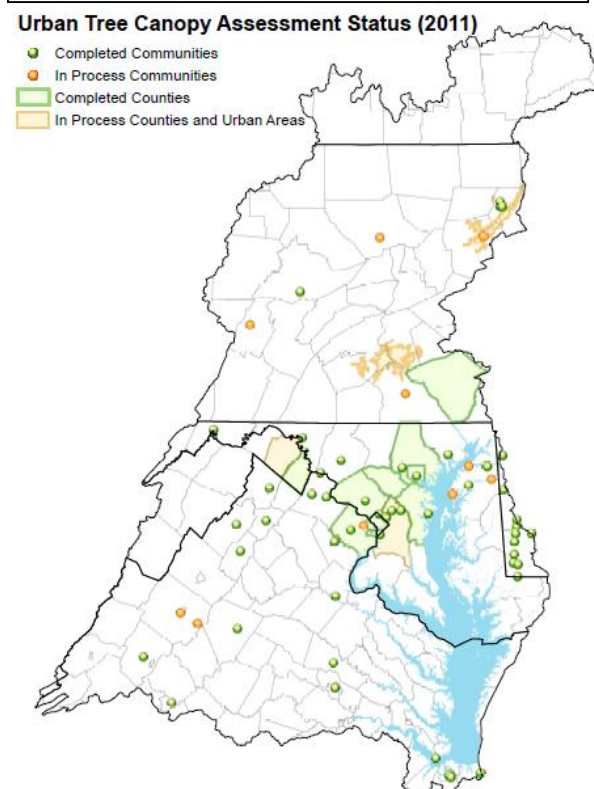
- By 2010, work with at least 5 local jurisdictions and communities in each state to complete an assessment of urban forests, adopt a local goal to increase urban tree canopy cover and encourage measures to attain the established goals in order to enhance and extend forest buffer functions in urban areas.
- 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



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 long-term 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 tree 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 will provide a table summarizing these assessments to date, with the local tree canopy acreage and percent.

3. Participating Partners & Local Engagement

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 Honecny, marian.honecny@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

Connections with other Chesapeake Bay Goals and Partners

This section will be fleshed out further in January...

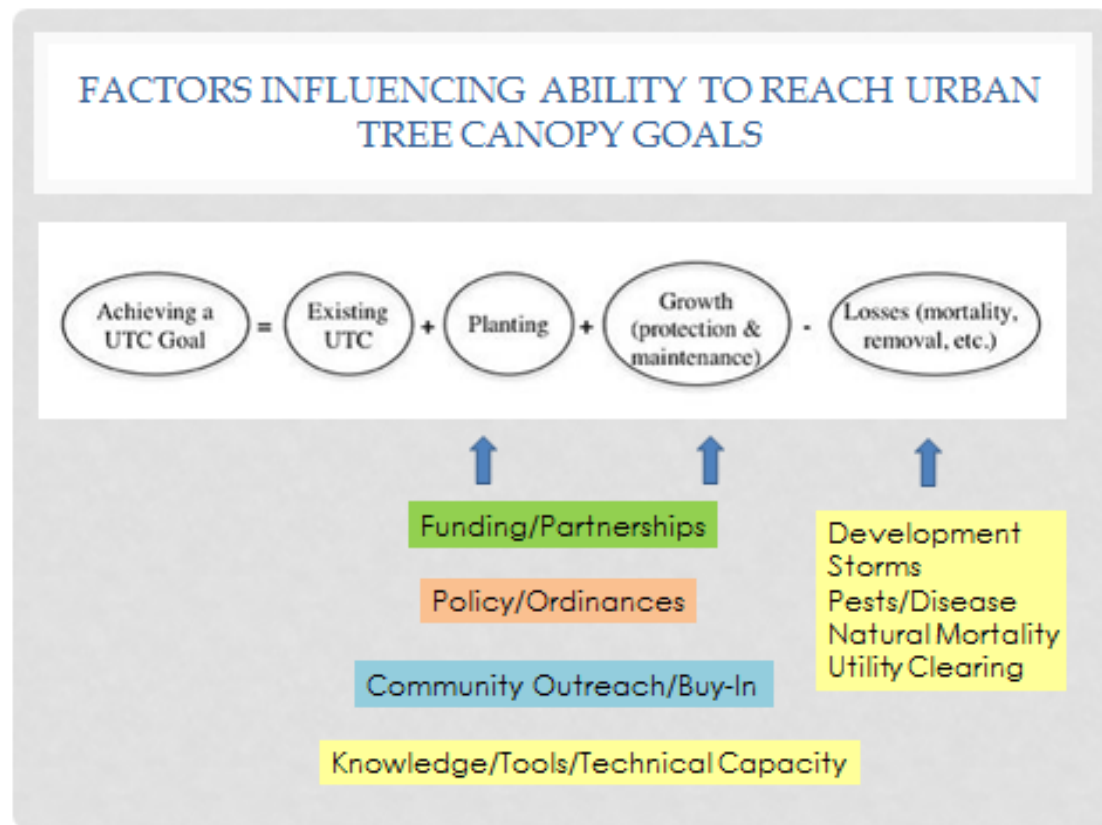
We have started to engage and will continue to coordinate our urban tree canopy strategy efforts – in particular in outreach and technical assistance – with the following Chesapeake Bay program workgroups, and any others who express interest in working with us:

- Local Government Advisory Committee and Local Leadership Workgroup
- Water Quality Goal Implementation Team, including Urban Stormwater Workgroup and Land Use Workgroup
- Stewardship Goal Implementation Team, including Citizen Stewardship Team, Education Workgroup (schools initiatives)
- Diversity Workgroup, including Outreach and Environmental Justice teams
- Is there a Climate Strategy Workgroup/Team???

Local Engagement

4. Factors influencing ability to meet goal.

Note: brief explanatory text regarding these factors will be added to the Strategy Draft in January



Current Efforts and Gaps

The Chesapeake Urban Tree Canopy Summit held on October 14-15, 2014 provided a helpful synthesis of current efforts and key issues to be addressed in order to meet urban tree canopy goals. The report [Urban Tree Canopy Summit – A Meeting Summary](#) provides a synopsis of these findings as highlighted in the following presentations:

- **Meeting Our Goals**
Chesapeake UTC Goals and Progress, *Julie Mawhorter, USDA Forest Service*
Putting UTC Assessments into Action, *Morgan Grove, USDA Forest Service*
- **Finding the Bright Spots: Key State Strategies**
Maryland, *Marian Honecny, Maryland DNR Forest Service*
Virginia, *Barbara White, Virginia Department of Forestry*
West Virginia, *Frank Rodgers, West Virginia (Cacapon Institute)*
Pennsylvania, *Christine Ticehurst, Pennsylvania Bureau of Forestry*
District of Columbia, *John Thomas, Washington D.C. DDOT Urban Forestry Administration*
- **Integrating UTC into Water Quality Goals**
Green Infrastructure, *Charlotte Katzenmoyer, Lancaster City, PA*
Watershed Implementation Plans, *Don Outen, Baltimore County, MD*

Stormwater, Washington D.C., *Steve Saari, DDOE/ John Thomas, DDOT*

- **Local Innovations**

Partnerships, *Charlie Murphy, TreeBaltimore*

Outreach Strategies, *Lou Etgen, Alliance for the Chesapeake Bay*

Improving Tree Survival, *Dr. Jessica Sanders, Casey Trees*

Stewardship, *Louise Seals, Virginia Tree Stewards*

Table 1 below summarizes some of the state and local efforts currently in place to support urban tree canopy progress, as well as some of the gaps where existing programs, resources, and/or 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	<ul style="list-style-type: none"> • 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) 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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?? 	<ul style="list-style-type: none"> • 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	<p>State Programs</p> <ul style="list-style-type: none"> • DE: annual urban forestry grants (\$1000-\$5000) 	<ul style="list-style-type: none"> • Most local programs cite inadequate funding/staffing to achieve UTC goals

	<ul style="list-style-type: none"> • 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) <p>Local Funding/Partnerships</p> <ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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
Tree Survival/Maintenance	<p>State/local citizen stewardship programs:</p> <ul style="list-style-type: none"> • 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?? 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> - Schools/youth organizations 	<ul style="list-style-type: none"> • 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

	<ul style="list-style-type: none"> - Churches and other civic groups - Businesses - Utilities 	
Tracking Progress	<p>Tree Planting</p> <ul style="list-style-type: none"> • 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 <p>Tree Canopy</p> <ul style="list-style-type: none"> • Potential for doing regional UTC assessments like Maryland's statewide assessment to track canopy change over time (3-5 year intervals) 	<p>Tree Planting</p> <ul style="list-style-type: none"> • 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 <p>Tree Canopy</p> <ul style="list-style-type: none"> • No mechanism currently in place to track canopy change over time; resources will be needed for this

5. Management Approach – in process, to be completed by February

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				
<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> 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 	<p><i>What strategies/actions are most needed to assist local governments with each element?</i></p> <p><i>NOTE – input is being synthesized from Forestry Workgroup December meeting and state action planning in January to complete the Actions section of this table</i></p>	Y/N	
TREE CANOPY PROTECTION				
<ul style="list-style-type: none"> 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?? 	<ul style="list-style-type: none"> 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				
<p>State Programs</p> <ul style="list-style-type: none"> • 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) <p>Local Funding/Partnerships</p> <ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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				
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COMMUNITY OUTREACH/BUY-IN				
<ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> - Schools/youth organizations - Churches and other civic groups - Businesses - Utilities 	<ul style="list-style-type: none"> • 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 			

TABLE 2: Current Efforts	Gaps	Proposed Partnership Actions	2 Year Action?	Who?
TRACKING PROGRESS				
<p>Tree Planting</p> <ul style="list-style-type: none"> 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 <p>Tree Canopy</p> <ul style="list-style-type: none"> Potential for doing regional UTC assessments like Maryland's statewide assessment to track canopy change over time (3-5 year intervals) 	<p>Tree Planting</p> <ul style="list-style-type: none"> 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 <p>Tree Canopy</p> <ul style="list-style-type: none"> No mechanism currently in place to track canopy change over time; resources will be needed for this 			

6. Monitoring Progress

At present, the Chesapeake Bay Program partnership does not have a well-established mechanism for tracking progress in achieving the urban tree canopy outcome, so this will be a high priority in the first 2 Year Action Plan. Urban Tree Planting is an approved/credited Best Management Practice (BMP) that can be reported by Bay jurisdictions to the Chesapeake Bay model towards achieving TMDL reductions. Some jurisdictions are reporting limited data on urban tree planting, but most do not have reporting systems set up to get tree planting data from local governments and partners across the state. The Forestry Workgroup will work with state forestry partners and WIP/TMDL reporting contacts in 2015 to help get more comprehensive and consistent tracking systems in place to track progress.

Over the past two years, the Forestry Workgroup has drafted Forestry BMP Verification Guidance to advise states tree-related BMPs such as riparian forest buffers, urban tree planting, and others. [Add link to guidance doc] This guidance addresses issues related to both tracking of tree planting in the year it occurs and also methods to verify survival and maintenance over time. In 2015, the Forestry Workgroup will be working with state partners on their verification protocols for urban tree planting to address common issues related to tracking tree planting survival and maintenance.

As has been noted throughout this Strategy, it is critical to track progress not only in tree planting but in the net gain or loss of tree canopy over time, due to the many ongoing causes of canopy loss (development, storms, pests, natural mortality, etc.). Therefore, the Forestry Workgroup will collaborate with Bay Program partners on options for tracking urban tree canopy change over time using high resolution aerial assessments. Maryland is the first Bay state to complete a statewide high resolution urban tree canopy assessment, and plans are being developed to repeat this assessment periodically (e.g. every 5 years) to track change over time. Bay Program partners are currently considering proposals for how to achieve such “wall-to-wall” high resolution land cover assessments for the entire Chesapeake Bay watershed. These efforts are a high priority for being able to accurately assess long-term progress in the urban tree canopy net gain goals.

7. Assessing Progress & Adaptively Manage

The 2 Year Action Plan (under development) will be our main tool for focusing collaboration across federal, state, local, and nongovernmental partners on the urban tree canopy goals. In addition to looking at the growing body of tree planting data that will be developed and reported over the next two years, we will track our progress in meeting the state and Bay-wide partnership actions set out in the plan. Assessment of progress will be aligned with the cycle of state reporting for 2 Year Milestones for the TMDL, because urban tree planting data will be reported as part of meeting these milestones. As the first 2 Year Action Plan is nearing the end of its time window, we will have another Management Strategy assessment and planning process to develop the next 2 Year Workplan, based on what has been achieved, challenges, and lessons learned.

8. 2 Year Workplan

- Will be completed in February 2015, with input provided at Forestry Workgroup meeting on Feb. 4.
- States will be soliciting input on state-level 2 Year Actions during the month of January