



**TREE  
REPORT  
CARD  
2013**

SIXTH ANNUAL  
TREE REPORT CARD



# WELCOME



Casey Trees is a Washington, D.C.-based nonprofit committed to restoring, enhancing and protecting the tree canopy of the nation's capital.

We pursue our mission through education, community action and research.

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## EXECUTIVE SUMMARY



**WASHINGTON, D.C., OUR NATION'S** “City of Trees,” continues to lose tree canopy at a pace that is imperceptible year to year, but alarming when looked at over the past half-century. Since its height of 50 percent in 1950 when D.C. supported a population much larger than today's, D.C.'s tree canopy has fallen approximately 2.5 percent every decade to its current level of 36 percent. At the same time, impervious surfaces have reached a level of 41 percent, meaning D.C. is now covered by more concrete and asphalt than trees.

Ironically, the situation in D.C. now is not all that different from the 1800s when forests in the Northeastern U.S. were extensively cleared — not for development, but for lumber and agriculture, resulting in flooding and poor water quality. Our understanding of trees has evolved since those early days. We now know that trees are not only needed to protect drinking water and control flooding, they provide significant benefit to our cities as well by reducing human stress levels, improving school test scores, increasing retail traffic and home values, lowering energy costs and much more.

Unfortunately, urban tree cover is on a decline similar to that of the Northeastern forests more than a century ago. And what was true then, still is now. A large part of the solution to counter urban tree decline is to replant trees on private lands, which is why we have themed this year's Tree Report Card: Private Action for Public Good.

When trees are planted on private lots, the property owner benefits, the neighborhood benefits and the trees benefit because private lots offer more of what trees need most and often don't get in cities: soil. Greater soil volumes lead to larger, healthier and longer-lived trees. I urge you to help by taking private action of your own for the public good it will create — plant a tree in your yard. If you don't have a yard of your own, plant a tree in a park, garden or a neighbor's yard. Watch it grow. It never gets old.

Mark Buscaino  
*Executive Director*



A+

## METRICS EXPLAINED

**EACH PERFORMANCE METRIC IS GIVEN A** letter grade A to F, with A representing excellence and F failure. Grades are then assigned a “+” or “-” to identify a range of performance within the letter grades. Individual grades are then averaged into one final grade.

**Tree Coverage** is a measure of the surface of a tree’s crown viewed from above. These crowns, also referred to as canopies, create the majority of a tree’s benefits: providing shade, reducing energy consumption, removing particulates, slowing stormwater and more. It is a percentage of the amount of the District’s tree canopy measured against D.C.’s 40 percent tree canopy goal and is assessed every five years.



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**Tree Health** is as it states — a measure of the overall health of trees that make up the tree canopy and is assessed every five years. Overall, trees in “Poor” condition generally do not live as long as those in “Good” to “Excellent” condition.

**Tree Planting** measures the number of trees planted annually against the number required (8,600 trees per year until 2035) to achieve the 40 percent tree canopy goal.

**Tree Protection** measures the effectiveness of the Urban Forest Preservation Act of 2002 (UFPA).

## FRAMEWORK

**AS THE D.C. METRO AREA CONTINUES TO** urbanize, preserving trees and green space will become more of a challenge for one reason: construction permits are on the rise and development decreases tree cover and increases impervious surfaces. When soil is capped by concrete and asphalt, tree cover is lost for generations. This can only be reversed when the site is redeveloped or through costly retrofits that most private developers or city governments are unwilling or unable to pay for. In short, trees compete for the same real estate as everyone else, but they have a miniscule budget and few advocates.

Why is this so important? What do you feel is more compelling on a hot summer day: walking along a shaded, tree-lined street or a treeless industrial corridor? For generations, we have intrinsically understood that trees improve our quality of life and should therefore be considered an essential, not optional, part of urban living. This is why Casey Trees publishes the Tree Report Card — to monitor trends and ensure that D.C. remains the “City of Trees” for the foreseeable future.



Casey Trees’ Tree Report Card measures the quantity and condition of D.C.’s trees and the collective efforts of all groups and individuals working to achieve the District’s 40 percent tree canopy goal. It is based on data from various sources, including federal, state and private groups. Casey Trees thanks everyone for their input. A complete list of contributors is available on page 19.



# COVERAGE

METRIC:  
**TREE  
COVERAGE**

**A-**  
**2013**



Previous Grades for  
Tree Coverage:  
A- (2012); B+ (2011);  
B+ (2010); B+ (2009);  
B (2008)

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## TREE COVERAGE

EVERY FIVE YEARS, SATELLITE IMAGES ARE used to estimate the change in D.C.'s tree canopy, with the goal of determining the overall trends of planting, growth, development, removal and mortality. By examining trees from above and at specific time intervals, not only can we determine how the canopy is changing, but also what causes those changes. In 2011, the University of Vermont Spatial Analysis Lab (UVM-SAL) estimated the District's canopy at 36 percent, which translates into an A- grade ( $36/40 = 90$  percent) for Tree Coverage.

For generations, we have intrinsically understood that trees improve our quality of life.



^  
An aerial comparison of the U.S. Botanic Gardens in Southwest D.C. in 2006 (left) and 2011 (right). Increases in canopy are in green, while decreases are in red.





METRIC:  
**TREE  
HEALTH**

**B-**  
**2013**



Previous Grades for  
Tree Health:  
B- (2012); B- (2011);  
B- (2010); B- (2009);  
A+ (2008)

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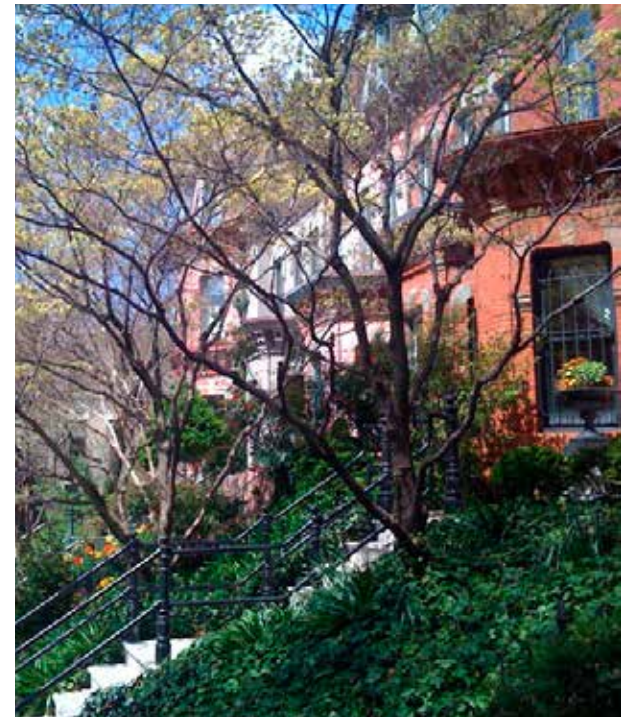
## TREE HEALTH

**KNOWING OVERALL CANOPY COVERAGE IS** important, but we also need to understand what the urban forest is comprised of in terms of tree types, sizes and other attributes. Composition data, for example, allows us to avoid planting trees that may succumb to pests and disease, and better understand if invasive species are expanding their reach.

While tree cover is measured from the top down, tree health is measured from the bottom up using individual trees as data. This data is collected from 201 permanent plots randomly scattered across the city and analyzed using i-Tree software to give us a better understanding of the variety, size, condition and total number of trees.

Data from our assessment shows that 82.4 percent of D.C.'s 2.5 million trees are in "Good" to "Excellent" condition, which gives D.C. a B- grade in Tree Health.

**Trees enhance economic development and neighborhood stability by attracting residents, businesses and tourists.**







METRIC:  
**TREE  
PLANTING**

**A+**  
**2013**



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## TREE PLANTING

**A TREE CANOPY GOAL OF 40 PERCENT BY 2035** will never be met if trees continue to be removed and solely replaced at a one-to-one rate. More trees must be planted in areas where they cannot just survive, but thrive and grow to provide large canopies at maturity. With six percent mortality and 100 mature trees per acre, 8,600 trees per year — or 216,300 trees total — need to be planted to achieve this goal.

Since 2008, one exceptionally positive development is that tree planting has been on the rise, mostly due to increased street tree planting by the City. The District's Urban Forestry Administration (UFA) has logged a record number of trees planted this year — 7,001 — surpassing records going back decades. We applaud the City for this milestone.

While street trees are an integral and cherished component of our City's canopy, arboricultural science has shown that trees located in confined spaces, such as street tree boxes, have a more difficult time reaching their full potential than trees located in areas with fewer constraints. We therefore urge the City to use this knowledge and focus more resources to plant trees on private lots and public spaces where they have greater access to what they need most to survive and thrive in the long term: soil.

For the fourth straight year, groups\* planted above the target of 8,600 trees — 10,232 total — resulting in a grade of A+.

*\* A list of groups who planted trees in 2013 is available on page 19.*

**The District's Urban Forestry Administration has logged a record number of trees planted this year — 7,001 — surpassing records going back decades.**

Previous Grades for  
Tree Planting:

A+ (2012); A+ (2011);  
A+ (2010); C- (2009);  
B (2008)



METRIC:  
**TREE  
PROTECTION**

**D-**  
**2013**



## TREE PROTECTION

**THIS METRIC GAUGES THE SUCCESS OF THE UFPA.** The UFPA protects Special Trees (or discourages their removal) by charging a fee\*\* should someone want to remove one.

We assess data for the following three sub-metrics to determine the UFPA's impact:

1. Is the UFPA's removal fee high enough to discourage the removal of healthy Special Trees — those 55 inches in circumference or greater?
2. Are replacement trees surviving to reach maturity?
3. Is fee/fine money being used appropriately?

### SUB-METRIC 1:

**Is the UFPA's removal fee high enough to discourage the removal of healthy Special Trees?**

Last year's Tree Report Card determined that the fee was not a significant deterrent to the removal of healthy Special Trees because most people who applied to remove one or more trees still

paid it and cut the tree(s) down. This year, the D.C. Government modified its data collection system and, while the dataset is a good one, it does not allow for this analysis to be conducted.

Absent this information, the City's ability to make reasonable adjustments to the UFPA to ensure it is meeting its intent is undermined; however, the dataset is still revealing something of value. Of the 918 tree removal permits submitted, a vast majority — 80 percent or 737 trees — were dead, dying, or hazardous, and therefore did not require a fee to be paid for removal. On the other hand, 181 trees were healthy and did require a fee/fine, but the data does not tell us if there were others who applied to remove a tree but did not because of the fees involved.

While this data does not tell us if individuals were discouraged from removing healthy Special Trees because of the fee involved, it does tell us that residents are generally complying with the law. Next year we will reassess our metrics to see if there is another way to measure if the fees and

Previous Grades for  
Tree Protection:

F (2012); Incomplete  
(2011); F (2010);  
C+ (2009); C (2008)

*\*\*Those who remove trees without securing a permit not only pay a fee, but also a fine.*





The City's population is expanding. With more people will come greater development pressures that threaten established tree canopy and open space.

finances identified in the UFPA are indeed acting as a disincentive. For this year, however, given the lack of data provided and the encouraging data on hazardous versus healthy Special Trees we did receive, a subjective B- grade (80 percent) for protection is assigned for sub-metric 1.

#### **SUB-METRIC 2:**

**Are replacement trees surviving to reach maturity?**

A key purpose of the UFPA is to ensure that when Special Trees are removed, trees are replanted to make up for their loss. While logic would imply that there is a short-term loss and long-term gain to the canopy if all replacement trees live until they reach maturity, the only way to determine this is to track their survival; however, the City does not do this. With no information to determine if replacement trees are surviving to replace canopy lost, we assigned this sub-metric a grade of F (0 percent).

#### **SUB-METRIC 3:**

**Is the Tree Fund being administered properly?**

To determine the grade of this sub-metric, we began with the 2012 Tree Fund's year-end balance of \$117,448. To that we added \$419,802 in fees collected in 2013, resulting in a balance of \$537,250. From that balance we subtracted \$113,000 used for tree planting and \$9,500 for income-contingent subsidies reported in 2013, leaving \$414,750, a figure that closely matched the Tree Fund's reported 2013 year-end balance. All expenditures have been for allowable uses — tree planting and income-contingent subsidies — and the reported year-end balance largely matches receipts and disbursements into and out of the Tree Fund. Therefore, we assigned this sub-metric an A grade (100 percent).

Averaging the scores for each Tree Protection sub-metric  $((80 + 0 + 100)/3)$  results in an average score of a D- (60 percent).



## SUMMARY

**THE FINAL GRADE REPRESENTS THE EFFORTS** of all groups — not any single entity — to achieve D.C.'s 40 percent tree canopy goal. Equally important, private citizens play a key role by planting and caring for trees on their properties and other areas, as well as participating in advocacy actions to ensure trees remain a key concern of public officials, friends and neighbors. Engaging in Private Action for Public Good is a powerful way to help D.C. achieve its tree canopy goal, and we thank you for your help.

Based on the grades for Tree Coverage (90 percent), Tree Health (82.4 percent), Tree Planting (100 percent) and Tree Protection (60 percent), D.C.'s combined 2013 grade is B-. While the grade is unchanged from last year, there are several things to celebrate:

- Tree planting remains robust — and we congratulate the UFA for planting a record 7,001 street trees during this reporting period.

Previous Grades for Tree Protection:

B- (2012); Incomplete (2011); C (2010); B- (2009); B (2008)

- The City announced a long-term plan with Pepco to bury 60 major overhead utility wire segments. This could lead to increased canopy as large trees will no longer need to be severely pruned to reduce tree and wire conflicts.
- The Sustainable DC Omnibus Act of 2013, as of the printing of this report being considered by the D.C. Council, contains a Casey Trees recommendation: to streamline how it deals with fees/fines and replacements. If passed, this would lead to greater efficiencies in administering the UFPA, as well as improve the City's ability to plant replacement trees in a timely fashion.

B-

## RECOMMENDATIONS

**DESPITE THESE POSITIVE ADVANCEMENTS**, our canopy remains threatened by continued development. As such, we continue to recommend that the UFPA be strengthened by:

- Mandating survival checks for all trees planted with Tree Fund dollars.
- Adjusting the fee structure, 11 years out of date, to account for inflation.
- Reducing the size designation for a Special Tree from 55 inches in circumference to 40 inches to protect more trees.
- Redirecting most of the fees/fines in the Tree Fund to planting trees on private lots.
- Changing the Special Tree replacement options to a fee-based system only. \*\*\*

\*\*\*As of the writing of this report, this is being considered under the Sustainable DC Omnibus Act of 2013).

And, that:

- The City direct more resources toward planting trees on private lots where trees have access to more soil so they will develop to their fullest potential and where a property owner is more likely to water and care for them during their first critical years of life.
- D.C. adopt impervious surface maximums and tree canopy minimums for all zoning districts to ensure every neighborhood in D.C. can support trees and receive the benefits they provide residents and businesses alike.
- The Mayor's Office designate a lead agency to coordinate all urban forestry efforts on D.C. lands.







Next year we will reevaluate our Tree Report Card metrics to ensure they provide as accurate a reflection as possible on the efforts of all groups to achieve the 40 percent tree goal. Of particular note, the Sustainable DC Plan’s canopy goal deadline is 2032, a slight divergence from the previous goal deadline of 2035. We will adjust the Seventh Annual Tree Report Card to reflect this change.

Finally, we conclude this year’s Tree Report Card by pointing out that of all the jurisdictions in the U.S., Washington, D.C. was the first to track and communicate its progress toward tree canopy goal attainment regularly and widely. This is something all of us in this wonderful “City of Trees” should be proud of.



With development on the rise, there is a greater risk that tree canopy will suffer, and we will continue to monitor and report on this trend.



TREE PLANTING NUMBERS

Casey Trees	1,667
D.C. Department of the Environment	
RiverSmart Homes Shade Tree Program	320
Tree Rebate Program	217
D.C. Department of Parks and Recreation	415
D.C. Department of Transportation/ Urban Forestry Administration	7,001
Pepco Holdings, Inc.	345
Rock Creek Conservancy	2
Trees for Capitol Hill	17
Trees for Georgetown	26
Tudor Place Historic House and Garden	3
University of the District of Columbia	11
U.S. National Arboretum	32
Washington Parks and People	176
<hr/>	
Total	10,232



# ACKNOWLEDGEMENTS

THE TREE REPORT CARD IS AN ASSESSMENT of the efforts of all individuals, groups and organizations — public and private — engaged in planting and caring for trees across the District.

Casey Trees wishes to thank the following cooperators who continue to work, either directly or indirectly, in ensuring that D.C. remains our City of Trees:

**Federal Government**

- U.S. Environmental Protection Agency
- U.S. Forest Service
- U.S. National Arboretum
- U.S. National Park Service

**District Government**

- Council of the District of Columbia
- Executive Office of the Mayor
- D.C. Auditor's Office
- D.C. Department of the Environment
- D.C. Department of Parks & Recreation
- D.C. Department of Transportation/  
Urban Forestry Administration
- D.C. Office of Planning
- D.C. Office of Zoning
- D.C. Water

**Private**

- D.C. Environmental Network
- D.C. Greenworks
- Groundwork Anacostia
- Pepco Holdings, Inc.
- Restore Mass Avenue
- Rock Creek Conservancy
- Trees for Capitol Hill
- Trees for Georgetown
- Tudor Place Historic House and Gardens
- University of the District of Columbia
- Washington Parks and People







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