

Comment on docket 12-01-10



Yale University
**School of Forestry
& Environmental Studies**

Mark Bradford
370 Prospect Street
New Haven, CT 06511, USA
Phone: +1-203-285-4921
mark.bradford@yale.edu
www.bradfordlab.com

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RE: Docket No. 12-01-10: Investigation into Tree Trimming Practices of Connecticut's Utility Companies

**RECOMMENDATION FOR AN ECONOMIC AND ENVIRONMENTAL IMPACT
ASSESSMENT OF STREET TREE REMOVAL/ ENHANCED TRIMMING**

Dear PURA Committee,

I appreciate that you have provided additional time for public input before reaching a final decision on Docket No. 12-01-10.

In this additional time I have conducted an initial assessment of the economic and environmental consequences of removing the roadside trees from a single, neighborhood street in the town of Hamden. I provide this initial assessment as a quantitative example for you to consider in reaching your decision about whether the proposed tree trimming practices will provide a net benefit or cost to the economy, environment and welfare of Connecticut's citizens.

For a 0.2-mile single-family residential street (Swarthmore St., Hamden, CT 06517), with ~25 homes and 31 mature street trees (growing in the verge between the road and sidewalk), removal of the street trees would result in:

1. Quantifiable economic losses for environmental services per annum of \$10,137. Assuming the trees are appropriately cared for, these losses per annum would increase to \$11,067 within 5 years. These losses are derived from the U.S. Forest Service's i-Tree STREETS model used for assessing the value of urban street trees. Six services are included in this assessment tool, and are (a) storm water run-off mitigation, reductions in home energy provided by (b) electricity and (c) natural gas, (d) enhancement of property values, (e) improvements in air quality through pollution reduction, and (f) sequestration of carbon dioxide.

2. The i-Tree model does not account for the construction and maintenance of grey infrastructure to replace these lost services, and typically these additional costs are at least an order of magnitude greater per annum than the quantifiable economic benefits of retaining street trees. As a conservative estimate then, replacement of these services through grey (as opposed to “green” street tree infrastructure) would cost \$101,370 per annum.
3. Mature trees such as those on Swarthmore St. (primarily native red oaks) can also be assessed for their individual value as a landscape feature. These assessments vary by arborist and tend to range from \$1,000 to \$10,000 per tree. Assuming the low end of the assessment (\$1,000 per tree for 31 trees), the total economic losses of street tree removal for Swarthmore St. in year 1 would be the value of the trees plus the amounts from bullets 1. and 2., totaling \$142,507. This is for a street only 0.2 miles in length and with 31 mature street trees. I would hope that it is obvious that scaling these losses to a town would amount to huge dollar sums.
4. A problem with economic assessments such as i-Tree is that there are many non-market (or at least not economically-quantified) benefits of street trees. These benefits are widely reported in the peer-reviewed scientific and medical literature. These benefits include improvements in traffic safety, reductions in obesity and also crime, lower soil erosion, higher biodiversity, reduced pavement and road replacement costs, and improvements in psychological wellbeing. Of course there are costs associated with street trees, including maintenance and care, but I am yet to find a peer-reviewed study where the benefits of street trees do not far outweigh the costs.
5. Lastly, I think it is important to return to storm water. Street trees are the first line of defense in reducing storm water runoff volume and surges because they intercept and hold much of the precipitation that would otherwise fall on impervious pavement. Municipal storm water runoff is classed as non-point source pollution and can degrade drinking water, aquatic life and hence the health of the entire environment. I would urge the Committee to consider EPA’s storm water best management practices and to advise that an environmental impact assessment is required to ensure that street tree removal and enhanced trimming is not in violation of the Clean Water Act.

I have two minor items I think should be raised in light of the thesis that it is trees that primarily cause power outages. First, a leading electric company (Pepco) supplying Washington DC and neighboring parts of Maryland claimed they had low reliability primarily because of tree damage to lines. However, a Washington Post investigation (December 5th 2010 by staff writers Joe Stephens and Mary Pat Flaherty) concluded that many of the outages were not weather related. Even if we find that in Connecticut the outages are weather related (and I hope that this claim is equally independently reviewed), my second item is that major storms down trees and limbs in unmanaged forest. However, mitigating these tree falls post the storm is like closing the gate after the proverbial horse has bolted: the storms clear out the structurally unsound wood. So, the damage has largely been done. A better approach would be to install a program of tree care and maintenance run by the towns so that the urban forest is managed to promote a healthy, forest canopy providing the benefits listed in bullets 1-5 (as suggested in the final report of the State Vegetation Management Task Force).

I want to conclude with my credentials and one final point about environmental degradation.

My expertise is in terrestrial ecosystem ecology. I hold a tenure-track faculty position at the Yale School of Forestry and Environmental Studies. I have published 95 peer-reviewed scientific articles in internationally recognized journals. My research has been funded by Federal Agencies including the National Science Foundation, the Department of Energy and the U.S. Forest Service. In 2009 I began to work on urban issues under the auspices of New York City's Million Trees Initiative (a massive tree planting initiative to improve the environment and wellbeing of New York City residents). I continue in this role to look at the practices and impacts of urban afforestation. My work in urban areas is expanding and in the last summer I worked with the U.S. Forest Service to inventory New York City trees for an i-Tree model assessment.

Lastly, the trees on Swarthmore St. are mature red oaks. These trees have a moderate growth rate, are canopy dominants in much of our closed-canopy forest, and harbor a huge native biodiversity. To replace them as "green infrastructure" once removed would require at minimum 60 years and more likely 80 to 100 years. We unfortunately have a history of degrading our ecosystems and only once degraded do we experience and appreciate the huge economic and environmental services they previously provided. A full environmental and economic impact assessment should be conducted to ensure that the costs and benefits of this aggressive cutting plan are evaluated before it is implemented.

I am happy to discuss any of the points made in this letter with the members of the Committee. Thank you for considering these remarks in your decision-making.

Sincerely

A handwritten signature in black ink that reads "Mark A. Bradford". The signature is written in a cursive style with a large, circular loop for the letter 'M'.

Mark A. Bradford, Ph.D.
Assistant Professor of Terrestrial Ecosystem Ecology
Yale University