

MS Thesis
Department of Environmental Science and Policy
George Mason University

Candidate: Patricia Pearl Greenberg

Defense Date and Time: December 2, 2016 at 10:00am

Defense Location: David King Hall Rm 3006

Title: Urban Forest Implementation Plans as a Means of Achieving Urban Tree Canopy Goals:
Case Studies from the Virginia Region of the Chesapeake Bay Watershed

Thesis Director: Dr. Susan A. Crate

Committee: Dr. Edward Maibach, Dr. Frank Shafroth and Dr. Lee De Cola

ABSTRACT

Among the considerable benefits of tree biomass, as measured by canopy cover, is watershed pollution reduction. This study uses open-ended interviews to identify effective strategies for achieving urban tree canopy goals within four Chesapeake Bay Watershed (CBW) communities in the Commonwealth of Virginia. The study sites were chosen among those that have obtained urban tree canopy assessments and implementation plans. Three key barriers to implementation are: 1) management and policies that do not emphasize urban forestry programs, 2) lack of funding and staff to implement effective strategies, and 3) development-driven and illegal tree removal. Effective strategies include: one-on-one communication with property owners, business and other entities; strong public-private partnerships; inter-departmental partnerships and alliances with non-profits; tree replacements; physically searching for possible planting sites; and education. If these approaches are to be more widely adopted to improve water quality, CBW communities must have more support to further these strategies. Organizations seeking to help communities increase their tree canopy coverage should develop and pilot test programs that reduce the barriers and harness the strategies identified in this research; this may entail collaboration with academic researchers. Beyond the qualitative results presented here, further research is needed to determine specifically both how these strategies result in substantial change in canopy and how key barriers may be overcome.