



Urban forests are a very important component of urban communities. This research has allowed us to collect baseline data on street trees in the Dover-Camden-Wyoming metro area of the State of Delaware as well as conduct a complete tree inventory on the Delaware State University Campus including the quantification of the ecological and environmental services provided by the urban forests.

Ecological and Environmental Assessment of Urban Forests

Who cares and why?

As urban populations continue to grow and cities begin to expand, it is very important to consider the importance of urban forests and street trees. For communities without tree inventories, collection of baseline information through sample and complete tree inventories will help understand the structure and health of the community trees as well as to quantify the benefits and costs of tree populations. In developing an urban forestry program, urban

planners can evaluate the costs and benefits of street trees as well as introducing new street tree plantings. Urban forests enhance the environment by influencing temperature, humidity, flooding, air quality, aesthetic appeal thus positively impacting the quality of life in urban areas. The educational resources that are generated through this research serve as a valuable resource for the university and the community at large.

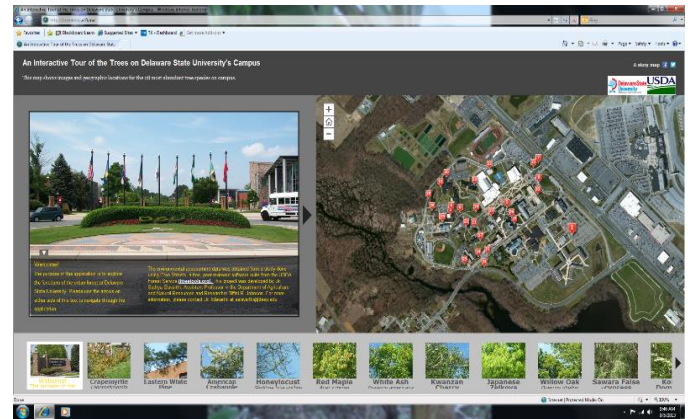
What has the project done so far?

Sample street tree inventory for Dover-Camden-Wyoming urban area: Street trees can be simply defined as the trees that line municipal streets within a city or town. Using TIGER/Line census and i-Tree Streets a sample street tree inventory for the Dover-Camden-Wyoming urban area was established. Data provides information on species diversity and health as well as the dollar value of the ecological services provided.



Results show that the benefits (Energy conserved, CO2 removal, air quality, storm water, aesthetic value etc) from the street trees is approximately \$4 million per year and the total replacement value of the urban forest is approximately \$50 million. A total of 1684 trees were identified and surveyed in the 243 randomly selected street segments which constitutes to 10 % of the total street segments in the urban area.

Complete tree inventory of Delaware State University: A complete tree inventory of the DSU campus in Dover was conducted Trimble Juno SC equipped with i-Tree software and GPS coordinates of all the trees were recorded and analyzed with ArcGIS. An online resource was created with the complete tree inventory that serves as an educational tool as well as information source for maintenance. This interactive website provides information on ecological services provided by campus trees and the dollar value of services provided.



Impact Statement

A sample street tree inventory for the Dover, Camden Wyoming Metropolitan area was conducted and the ecological and environmental services provided by the street trees quantified in dollar value as 4 million dollars per year as well as 50 million dollars replacement value.

A complete tree inventory of the Delaware State University campus in Dover was conducted with GPS coordinates for all trees. Interactive tree maps were generated for research and educational purpose.

An online tree tour of the Delaware State University, Dover campus was developed as an educational and outreach tool. This interactive website provides information on eco-services provided by tree species on campus along with external links for further information about those species.

What research is needed?

More research is required in the areas of assessment and monitoring of urban forests. Research regarding urban forest diversity and health, insect pest and disease vulnerability are of very high importance. Understanding of the benefits of urban forests

among communities is low. Since community support is imperative for sound policies, research into knowledge and perception levels among people and their relation to urban forests needs to be explored.

Want to know more?

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