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City of Tampa Urban Ecological Analysis[1]

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In October 2006, the city of Tampa's city council directed the Parks and Recreation Department to oversee an ecological assessment of the city's urban forest resources. The resulting project was a joint effort between the University of Florida, the University of South Florida, and UF/IFAS Extension Hillsborough County. The final report, available here, http://www.sfrc.ufl.edu/urbanforestry/Files/TampaUEA2006-7_FinalReport.pdf , describes the methodology used to conduct the sample inventory and assessment; quantifies the change in overall canopy coverage 1996 to 2006; provides a three-dimensional description of the forest structure and composition; and provides a detailed look into some of the economic and ecological values of Tampa's urban forest. The outcomes from this study can serve as the basis for enhancing the understanding of the urban forest's values, improving urban forest policies, planning and management, and providing empirical data for the inclusion of trees within environmental regulations.

The University of South Florida used high resolution imagery (1 meter) combined with a more robust approach to spatial analysis as part of its investigation into urban forest cover and distribution.

- Overall citywide tree cover increased between 1996 and 2006

- High-resolution 2006 land cover classification indicated Tampa was comprised of 29% tree canopy, 29% other vegetation, 2% water, 4% bare sand/soil and 36% impervious surface.

- Residential, public/quasi-public institutional and right-of-way were the top three land use categories in terms of acres of tree canopy, representing over 78% of the 21,716 acres of tree canopy within Tampa.

In 2007, the UF/IFAS School of Forest Resources and Conservation and UF/IFAS Extension Hillsborough County established and analyzed 201 permanent plots to determine the vegetative structure of the urban forest in Tampa. From these data researchers used the U.S. Forest Service's Urban Forest Effects Model (UFORE) to estimate the functions and values associated with Tampa's urban forest resource. Results from the analyses are given in the final report. A summary of key findings in the analysis are listed in Table 1.

Table 1. Summary of Tampa's urban forest and associated functional values

Feature	Measure
Number of Trees	7,817,408
Tree Cover	28.1%
Top 3 Species	red mangrove, Brazilian pepper, black mangrove
Proportion of Trees < 6-inches DBH	84%
Pollution Removal	1,360 tons/year ($6.3 million/year)
Carbon Storage	511,141 tons ($10.4 million)
Gross Carbon Sequestration	46,525 tons/year ($945 thousand/year)
Value of Energy Conservation	$4.2 million
Compensatory Value	$1.4 billion