

# Methods Used During the Ecological Assessment

## **What is the purpose of the Urban Ecological Analysis?**

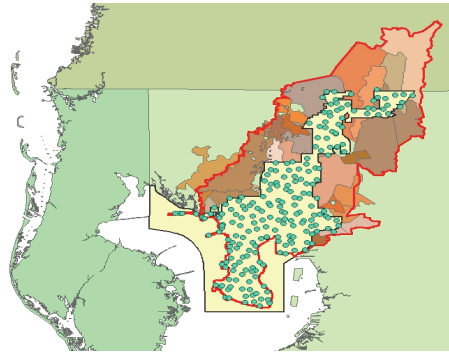
The ecological assessment provides a detailed look into some of the economic and ecological values of the City of Tampa's urban forest. The outcomes from this study can serve as the basis for: enhancing the understanding of the urban forest's values, improving urban forest policies, planning and management and providing empirical data for the inclusion of trees within environmental regulations.

## **When did the assessment of Tampa's urban forest take place?**

The field work for the urban forest assessment was conducted from February to July, 2007. Data analysis and reporting was completed in the Spring of 2008.

## **How many plots were studied?**

A total of 201 permanent inventory plots were located within Tampa's political boundary. A systematic random sampling design was used to achieve a complete geographic distribution of inventory plots throughout the city and to ensure that an accurate, unbiased assessment was conducted. Precise latitude and longitude readings from GPS units for each plot location will allow researchers to relocate the plots over time to monitor changes in Tampa's urban forest structure and function



**Figure 1: Distribution of study plots.**

## **What information was gathered for the assessment?**

Data collected during the assessment included land use, the percent of ground, shrub, tree and palm cover by species, tree diameter, tree crown width, total height, height to the live crown and tree health attributes. Obtaining these data for each plot assisted the team in understanding the structure of the forest, which then allowed them to determine the urban forest's contribution to pollution reduction, carbon sequestration and storage, conservation of energy use and economic value to the city and its residents.

## **What methods were used to analyze the collected data?**

The team utilized the **Urban Forest Effects Model (UFORE)** created by the U.S. Forest Service to assist with the analysis of the data collected. The model has been designed to calculate values for variables such as tree diversity, species origin, abundance, density, size, cover and leaf area by land use categories. The model quantifies the following urban forest functions: energy savings, air pollution removal, carbon storage, carbon sequestration and compensatory or replacement values.