UF IFAS UNIVERSITY of FLORIDA

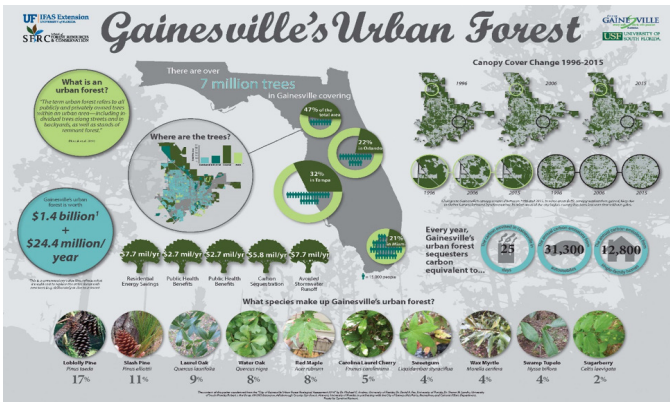
SCHOOL OF FOREST RESOURCES & CONSERVATION

# URBAN AND URBANIZING FOREST MANAGEMENT

## A McIntire-Stennis supported project since 2010

55% of the world's population lives in urban areas. According to the United Nations, this could increase to 70% by 2050. As one of the most heavily populated, fastest growing, and most visited states in the US, Florida is at the epicenter of this trend. As our population grows, communities must expand. The resulting urban redevelopment, infill, and sprawl creates complex challenges. Florida is on the frontline of this issue and we are providing leadership in developing the knowledge and understanding of how to address this increasingly complex conservation concern.

Research is needed to understand how individual trees are responding to the built environment and how they need to be managed. In rapidly urbanizing environments like Florida, ecological concerns such as biodiversity and water quality and quantity need to be addressed along with economic and sociological issues such as valuation of ecosystem services and public health issues for urban populations.




*See full graphic on reverse.*

## About McIntire-Stennis

The McIntire-Stennis program, a unique federal-state partnership, cultivates and delivers forestry and natural resource innovations for a better future. By advancing research and education that increases the understanding of emerging challenges and fosters the development of relevant solutions, the McIntire-Stennis program has ensured healthy resilient forests and communities and an exceptional natural resources workforce since 1962.

USDA

## COLLABORATION

In partnership with:
National Science Foundation, USDA Forest Service Southern Research Station, US Environmental Protection Agency, Florida Forest Service, City of Tampa, City of Gainesville, Pinellas County,

## IMPACT

We have been conducting ecological assessment of urban areas. The provide quantifiable data on the urban forest species composition, structure and values for the ecosystems services they provide. The City of Tampa and the City of Gainesville are the most recent projects completed.

**32.3%**
Percentage of canopy cover in Tampa City

**9.3 million**
Number of trees in Tampa, made of 112 different species

**$134.9 million**
The total ecosystems services value provided by trees in Tampa

# Gainesville's Urban Forest

UF IFAS Extension University of Florida

SFRC School of Forest Resources & Conservation

City of Gainesville — every path starts with passion — Florida

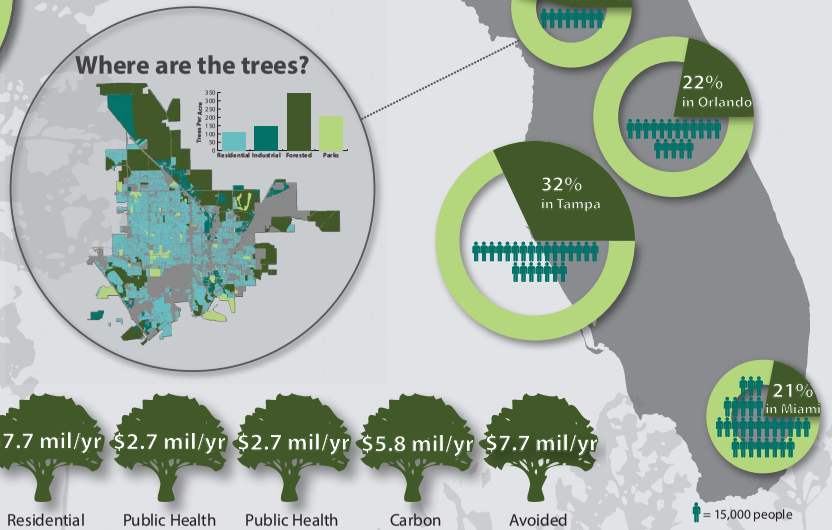
USF University of South Florida

## What is an urban forest?

*"The term urban forest refers to all publicly and privately owned trees within an urban area—including individual trees along streets and in backyards, as well as stands of remnant forest."*

(Nowak et al. 2001)

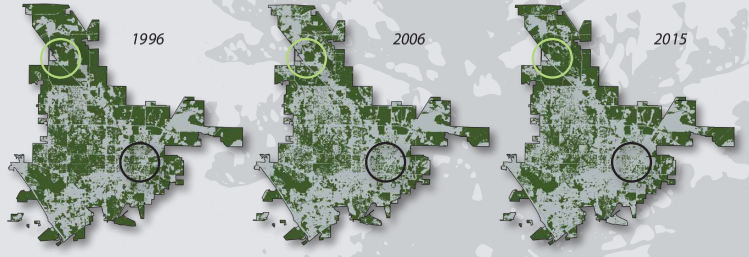
There are over **7 million trees** in Gainesville covering

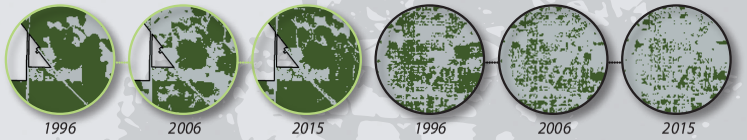



## Where are the trees?




## Canopy Cover Change 1996-2015




*Changes to Gainesville's canopy occurred between 1996 and 2015. In some areas (left), canopy was lost then gained, likey due to timber harvest followed by reforestation. In other areas of the city (right), canopy has been lost over time without gains.*

Gainesville's urban forest is worth

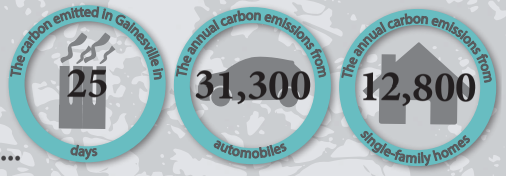
**$1.4 billion[1] + $24.4 million/ year**

[1]*This is a compensatory value that reflects what it would cost to replace the entire forest with new trees (e.g. deliberately or due to a storm).*




Residential Energy Savings | Public Health Benefits | Public Health Benefits | Carbon Sequestration | Avoided Stormwater Runoff

**Every year, Gainesville's urban forest sequesters carbon equivalent to...**




## What species make up Gainesville's urban forest?

| Loblolly Pine | Slash Pine | Laurel Oak | Water Oak | Red Maple | Carolina Laurel Cherry | Sweetgum | Wax Myrtle | Swamp Tupelo | Sugarberry |
|---|---|---|---|---|---|---|---|---|---|
| *Pinus taeda* | *Pinus elliottii* | *Quercus laurifolia* | *Quercus nigra* | *Acer rubrum* | *Prunus caroliniana* | *Liquidambar styraciflua* | *Morella cerifera* | *Nyssa biflora* | *Celtis laevigata* |
| 17% | 11% | 9% | 8% | 8% | 5% | 4% | 4% | 4% | 2% |

*The content of this poster was derived from the "City of Gainesville Urban Forest Ecological Assessment 2016" by Dr. Michael G. Andreu, University of Florida; Dr. David A. Fox, University of Florida; Dr. Shawn M. Landry, University of South Florida; Robert J. Northrop, UF/IFAS Extension, Hillsborough County; Caroline A. Hament, University of Florida; in partnership with the City of Gainesville's Parks, Recreation, and Cultural Affairs Department.*
*Poster by Caroline Hament.*