

# City of Tampa Urban Forest Management Planning

Oct 5, 2011



## AGENDA AND SPEAKER BIOGRAPHIES

### Welcome

– Karen Palus, Director  
City of Tampa, Dept. of Parks and Recreation

### Purpose of Meeting

– Rob Northrop, Extension Forester, University of Florida, Hillsborough County Extension. Rob has more than 30 years experience in natural resource management and policy.

### Brief History of Urban Forest Conservation in Tampa

– Kathy Beck, Natural Resources Coordinator – City of Tampa, Parks and Recreation. Kathy has more than 30 years experience in urban forest management. Kathy manages grand tree protection and the Community Tree Program.

### Assessment of Tampa's Urban Forest (UEA 2006) and Steering Committee Report

– Michael Andreu Ph.D., Associate Professor & Extension Specialist, University of Florida School of Forest Resources and Conservation. Dr. Andreu helps develop tools and systems for managing forests urban urbanizing environments.

### Social Surveys - What They Tell Us

- Shawn Landry, Research Associate Professor and Program Director at the University of South Florida. Shawn studies urban geography and ecology and uses information technology to promote informed decisions about community development and resource management.

### Development of Urban Forest Management Plan – Process, Guiding Principles and Criteria – Rob Northrop

### Questions and Comments

#### Facilitator

- Rob Irving, Urban Forestry Coordinator – City of Tampa, Parks and Recreation. Rob manages the urban forest in rights-of-way and parks. He has more than 15 years experience in arboriculture and environmental planning.





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“Within our communities, trees are one of the most valuable public assets. .... However, the urban forest is often viewed as a luxury and not a vital component of the urban infrastructure. This view only acknowledges the aesthetic value of trees and ignores the tremendous public health and safety benefits they provide.”

- American Public Works Association

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## BRIEF HISTORY OF URBAN FOREST CONSERVATION IN THE CITY OF TAMPA

Kathy Beck  
Natural Resources Coordinator  
Parks and Recreation  
City of Tampa




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### Brief History

## 1946

## Spare That Tree, City Shouts

**By BILL BEALOCK  
Tribune Staff Writer**

Tampa's new city ordinance to curb the chopping down of trees lining the streets is proving a boomerang against Park Superintendent Sanborn who promoted it.

It apparently has aroused the desire of many Tampons to become woodmen and hack down trees they never paid any attention to before.

"It makes," said Sanborn, "that it made many Tampons tree conscious, or it has another evidence of the way Americans kick against any kind of prohibition."

And some of them get their Irish up when the park department won't bounce out and whack down a tree they've decided must go.

**Hundreds Coupista**

Hundreds have suddenly found that trees fringing their places are unrightly, or they are creating a nuisance by lifting the sidewalks, and should be removed.

Sanborn points to a growing pile of daily requests for permission to chop trees down, as they pour in from all over the city.

The ordinance says that trees or shrubbery cannot be planted or removed from the parkways along the streets without permission of the park superintendent. It assumes no obligation on the part of the city to do the chopping; or planting.

**Call for Axes**

"But a lot of people seem to think it's now the city's duty to cut the trees down for them," Sanborn said.

**HEY LOOKIT, BOY! HAVE I GOT FIREWOOD**



"We are getting plenty of demands that we come out with our axes."

"However, the only time we permit trees to be cut down is when they are either dead or prove to be a hazard to traffic by screening a corner, or some other way."

The ordinance gives the park superintendent the authority to remove trees or plantings from the parkways if they are found to be not in keeping with the general beautification scheme of any particular street or portion of it.

"That, however," said Sanborn, "must be decided by the park board, and not by me."

Thus, he explained, when people get an itch to remove trees on the grounds they are not beautiful, all they can do is file for permission to chop them down.

along to the park board, and if they approve, the tree can be taken out.

As for sidewalks being cracked by tree roots, that can be handled by expert removal of the offending root, with no harm to the tree.

The ordinance against reckless tree chopping came about through sponsorship and backing given Sanborn by the Tampa Federation of Garden Clubs as a means of preserving any claim the city might have to beauty.

**Cut Down Old Ones**

Some fine old trees were being hacked down, and on Davis Island, a resident or two decided to replace the stately palms with oaks, which they did.

In Seminole Heights one day, Sanborn said he came upon two men busy at a giant old, shady oak with a saw. They explained they were cutting it



"JUST BE A HUNDRED YEARS OLD, YOU KNOW, NOW LONG IT'D TAKE ME TO GET IT DOWN"



## Brief History

- 1972 – Tampa City Council and Planning Commission drafts the 1st Tree Preservation Ordinance
- Protected Trees on Public and Private Properties
- Created the City of Tampa, Tree Board
- Tree ordinance appears to have been effective at increasing tree cover when compared to Temple Terrace and Hillsborough County (recent research)

Landry, SM, & Pu, R. (2010). The impact of land development regulation on residential tree cover: An empirical evaluation using high-resolution IKONOS imagery. *Landscape Urban Plann.*, 94(2), 94-104.



## Brief History

- 1984 City of Tampa annexes 40 square miles of forest and agricultural lands which became New Tampa
- Tampa City Council requests ordinance revisions to address conservation of forested natural areas proposed for development
  - Canopy retention
  - Protection of Grand Trees
  - Wetland Buffers
  - Tree Protection Standards and Technical Manual
  - Tree Trust
  - Urban Forestry Coordinator position created



## Brief History

- 1998 – 1st Urban Ecological Analysis/Urban Forest conducted by USF (funded by State of Florida grant)
- 2006 – 2nd Urban Ecological Analysis/Urban Forest was initiated by the City of Tampa, City Council
- City Council directs Dept. of Parks and Recreation to conduct an urban forest analysis every five years



## Urban Forestry Project Rationale

- City Council directs the Dept. of Parks and Recreation to complete an updated & more thorough ecological analysis of the urban forest
  - Specifically Addressing
    - % Canopy Cover (trees)
    - Assessment of Ecological Health
    - Tree Species Richness
    - Age/Size distribution
    - Urban Forest Condition
    - Non-native Species Status
    - Economic Benefits and Value





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**AN ECOLOGICAL ASSESSMENT OF THE  
CITY OF TAMPA'S URBAN FOREST**

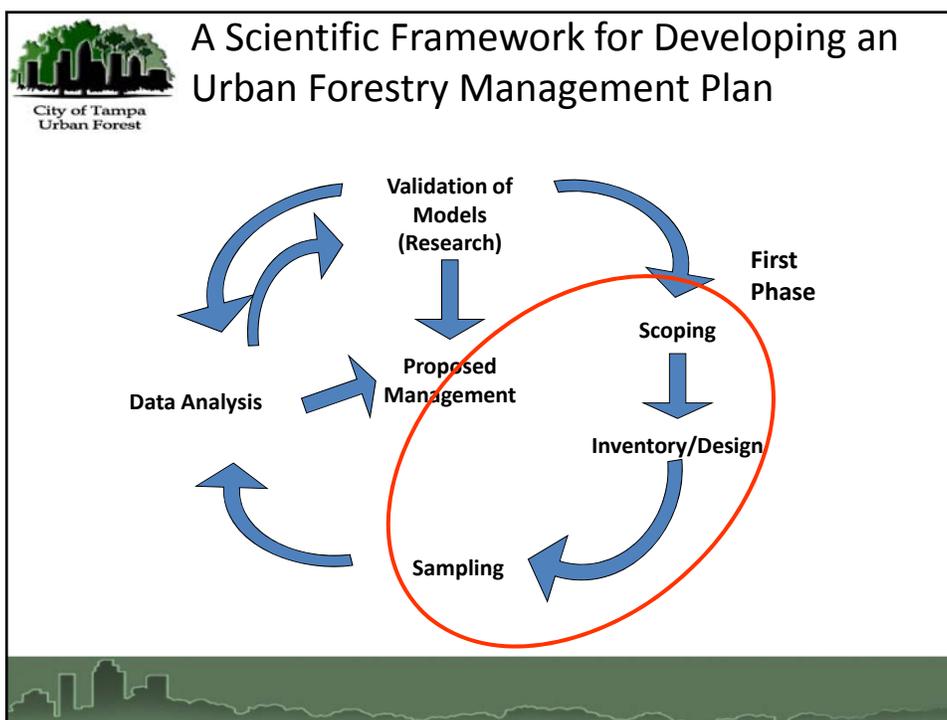
Michael G. Andreu, Ph.D.  
Assoc. Professor  
University of Florida  
School of Forest Resources and Conservation

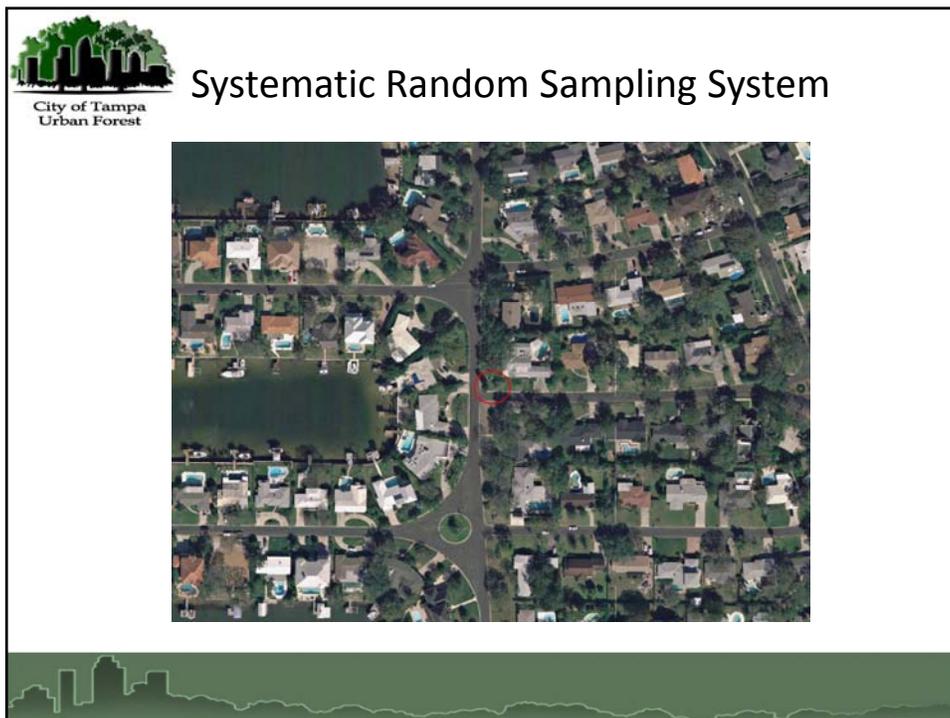
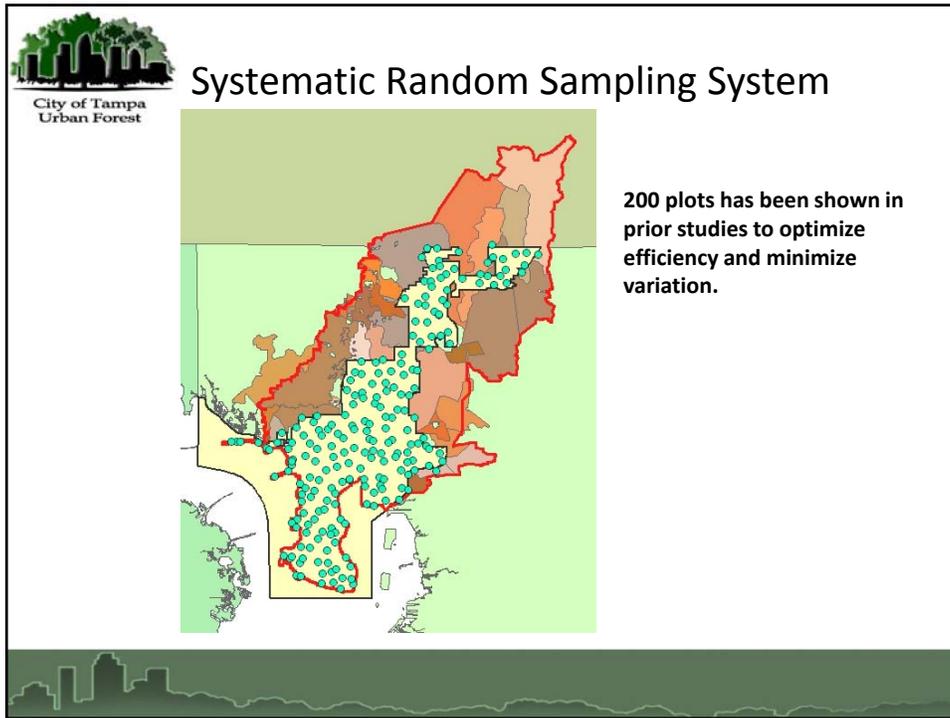




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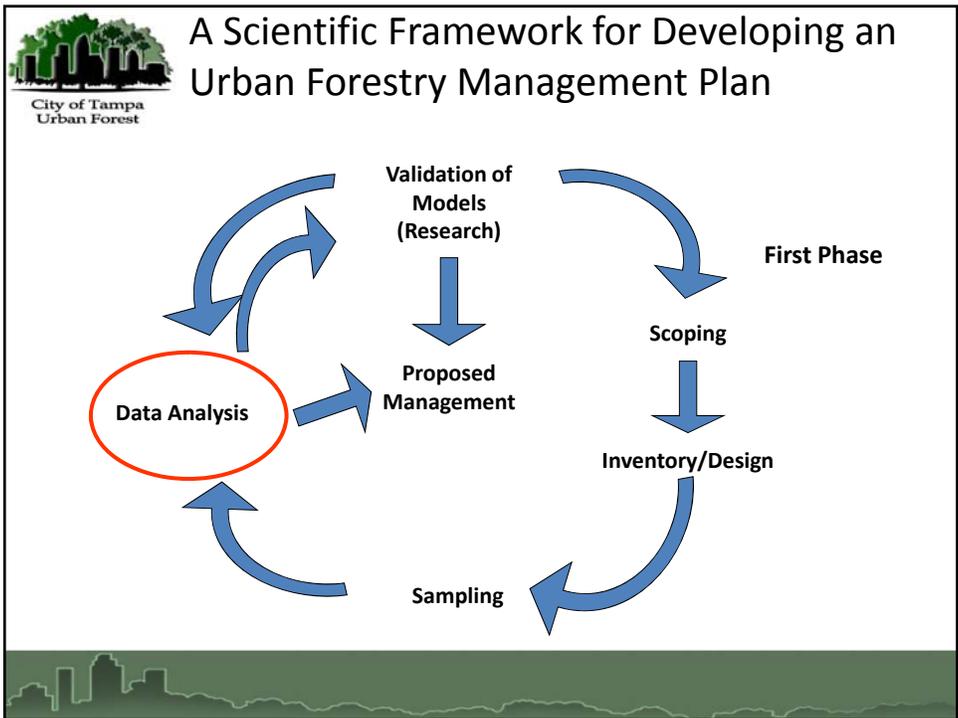




### Detailed Survey of Ground Conditions



- Plots captured ground based information such as:
  - Ground cover
  - Shrub cover & composition
  - Individual tree measures:
    - Diameter
    - Height
    - Crown Area
    - Crown Condition
- Information describes the forest at the level where we work and live.



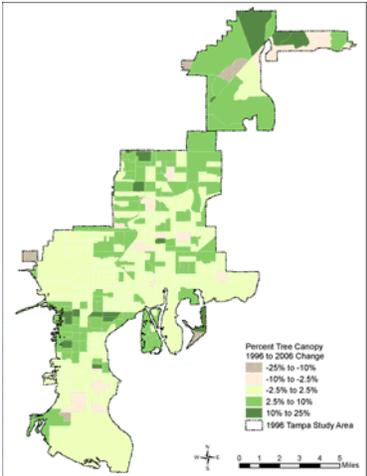


### Results: Canopy Cover

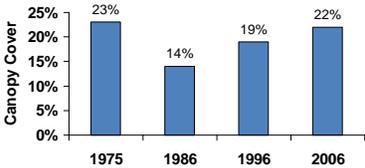
- Two independent methods for measuring the aerial extent of the urban forest....
- **Satellite image analysis = 29.0%**
- On-ground measurements = 28.1%



### Results: Satellite Image Analysis 1975 - 2006 Tree Cover Change



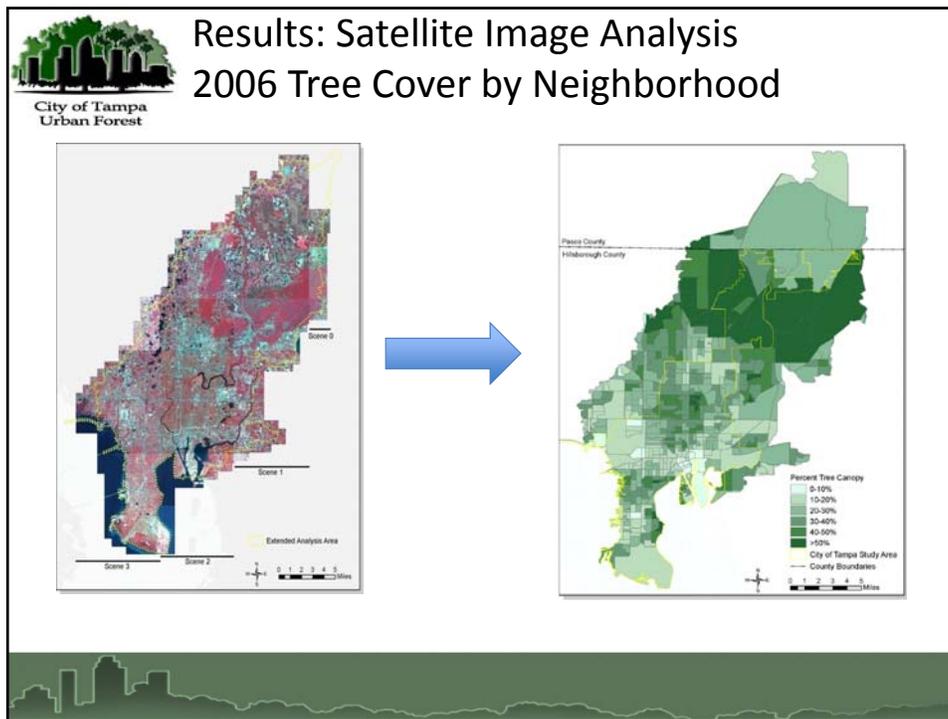
#### Change Detection Using Medium Resolution Imagery



Year	Canopy Cover (%)
1975	23%
1986	14%
1996	19%
2006	22%

- Citywide increase in tree cover and return to 1970's citywide tree cover
- Some areas lost and some gained tree cover
- Reasons for change are not known





- ### Results: Structure
- Ground Cover
  - Estimate for total # of trees
  - Species composition & richness
  - Diameter distribution
  - Tree density (# per acre)
  - Tree health
  - Tree biomass (carbon storage)
  - Leaf Area (index of air pollutant removal)



## Results: Summary

Feature	Measure
Number of Trees	7,817,408
Tree Cover	28.1%
Top Tree Species	Brazilian pepper, cabbage palm, laurel oak
Proportion of Trees < 6-inches DBH	84%
Air Pollutant Removal	1,360 tons/year (\$6.3 million/year)
Carbon Storage	511,141 tons (mkt. value)
Gross Carbon Sequestration	46,525 tons/year (mkt. value)
Compensatory Value	\$1,465,600,097
Value of Energy Conservation	\$4,205,623



## City of Tampa Steering Committee on Urban Forest Sustainability

- City of Tampa’s Symposium on Community Trees and the Urban Forest
  - Attendees of the symposium learned about the City of Tampa’s Urban Ecological Analysis 2006-2007, and developed a list of issues related to the sustainability of Tampa’s urban forest.
- Steering Committee on Urban Forest Sustainability
  - Representatives of a broad range of stakeholder groups, were appointed and charged with developing a Vision and Goals for Urban Forest Sustainability based upon the issues identified during the Symposium on Community Trees and the Urban Forest.





## City of Tampa Steering Committee on Urban Forest Sustainability

**VISION**

Maintain and expand Tampa’s urban forest in recognition of the many benefits it provides, including:  
enhancing quality of life for present and future citizens,  
attaining numerous economic and ecological benefits Nature provides, and seizing opportunities to better understand our natural environment through scientific research and public education.



## City of Tampa Steering Committee on Urban Forest Sustainability – 6 Goals

**BIODIVERSITY / HABITAT**  
**GOAL:** To understand and communicate the need to maintain and protect the complexity of natural systems in the urban forest so that the public will support a rich, diverse habitat.

**EDUCATION / RESEARCH**  
**GOAL:** To advance public appreciation of the economic, social and environmental values of Tampa’s urban forest in all education settings, from in-school to adult education and public service campaigns, so as to create an ethic of individual stewardship.





**City of Tampa Steering Committee on Urban Forest Sustainability – 6 Goals**

**FOREST / TREE MAINTENANCE**  
**GOAL:** To promote proper tree care in the urban forest through education and enforcement.

**PUBLIC / PRIVATE PARTNERSHIPS**  
**GOAL:** To create inclusive partnerships that encourages collaboration among all affected parties to benefit Tampa’s urban forest.



**City of Tampa Steering Committee on Urban Forest Sustainability – 6 Goals**

**REGULATION / INCENTIVES**  
**GOAL:** To improve the policy framework for the conservation, reclamation, restoration and increase of natural resources within the urban forest.

**SUSTAINABILITY**  
**GOAL:** To promote recognition, maintenance and regeneration of Tampa’s urban forest that is economically and ecologically feasible.





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**USF UNIVERSITY of FLORIDA**

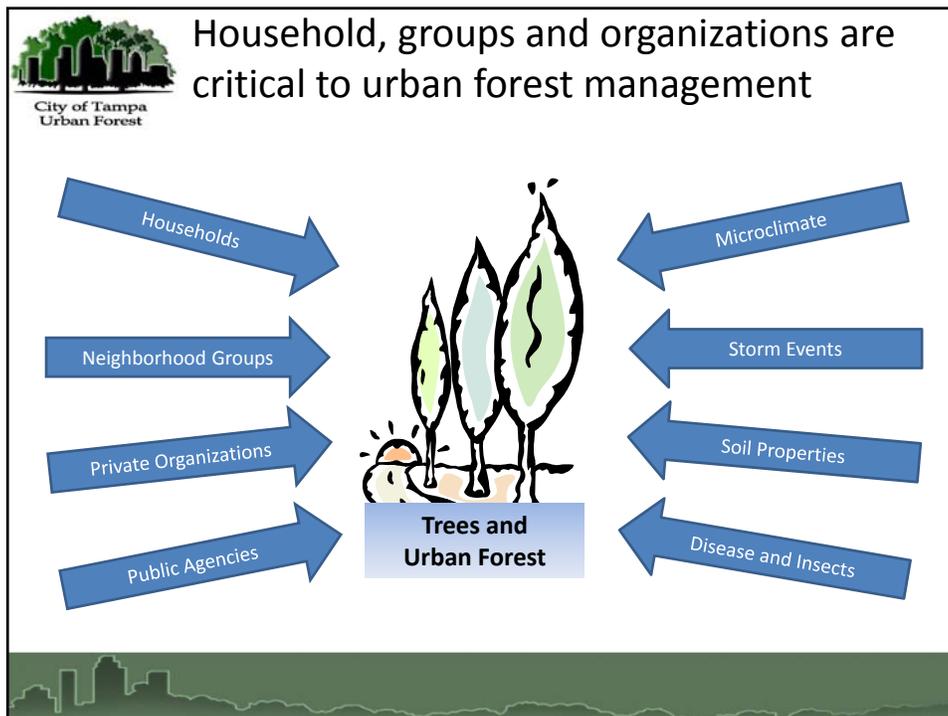
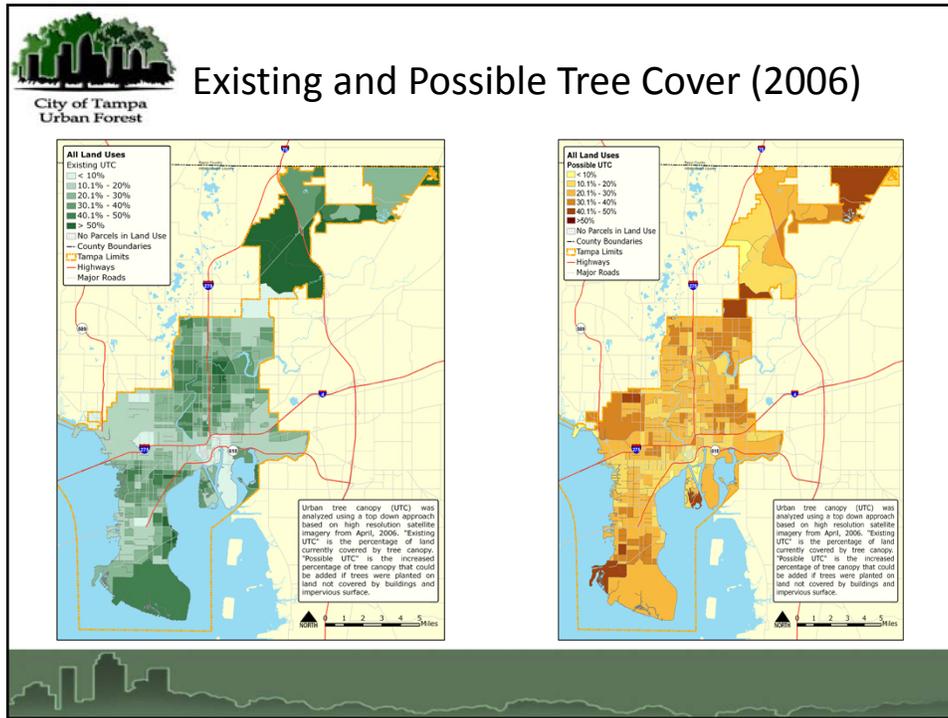


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**SOCIAL SURVEYS –  
WHAT THEY TELL US**

Shawn Landry  
Program Director  
University of South Florida  
Florida Center for Community Design and Research







## Importance of Social Surveys

*I was under the impression that all people like to have trees planted in front of their houses until I started planting trees in front of houses.*

– 1955 interview with Baltimore’s forester, from Buckley (In Press)

- People have different preferences and attitudes toward trees
- Surveys can help us understand these differences
- City of Tampa Surveys
  - 2007 - Attitudes, perceptions and values towards urban forests
  - 2010 - A Contingent Valuation of Tampa’s Urban Forest
  - 2010 - Neighborhood Association Survey
  - Upcoming - Household attitudes toward street tree management



## 2007 - Attitudes, perceptions and values towards urban forests

- Survey of 641 Neighborhood associations in all communities of Hillsborough County
  - Nominal group sessions
  - Survey instrument
  - 154 responded



Escobedo, FJ, Seitz, J, Northrop, R, & Moon, M. (2008). *Community leaders’ perceptions on urban forests in hillsborough county, florida*. Gainesville, Florida: University of Florida-IFAS.





## Survey Results

**Benefits associated with urban trees**

Hillsborough County Survey	National Survey
1. Improve aesthetics	1. Tree shading and cooling of buildings
2. Provide shade	2. People feel calmer
3. Increase property values	3. Reduce smog and dust
4. Provide unique community character	4. Noise reduction

**Costs associated with urban trees**

Hillsborough County Survey	National Survey
1. Hurricane damage from trees	1. Allergies
2. Falling branches and trees on power lines	2. Block signage
3. Tree damage to sidewalks, roads and foundations	3. Cause cracks in the sidewalk
4. Block signage	4. Damage to power

Lohr, V.I., C.H. Pearson-Mims, J. Tarnai, and D.A. Dillman. 2004. How urban residents rate and rank tree benefits and problems associated with trees in cities. *Journal of Arboriculture* 30: 28–35.



## A Contingent Valuation of Tampa’s Urban Forest

Masters Thesis: Alec Foster, University of South Florida, 2010

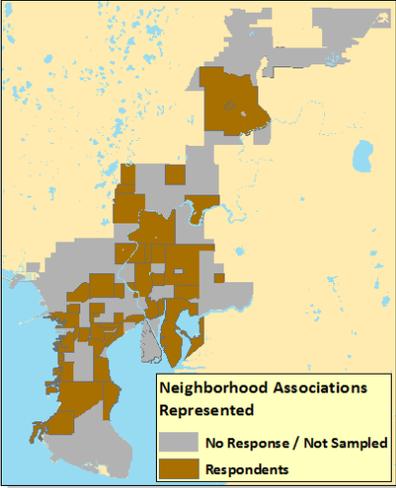
- 500 randomly selected households - 107 households responded
- Top benefits of Tampa’s urban forest:
  - aesthetics (93.5%)
  - shade (89.7%)
- Top problems of Tampa’s urban forest:
  - root damage (58.9%)
  - pollen/allergies (55.1%)
- 11.2% replied that there were no community or environmental problems
- Residents of the City of Tampa age 18+ are willing to pay over \$800,000 to increase their urban forest resource by 250,000 trees.



## 2010 Neighborhood Association Survey

- Survey of Neighborhood Associations, 80 respondents
  - 92% association members
  - 2/3 are current presidents
- Demographics
 

	White	Hispanic	African American
Survey	81%	5%	8%
Tampa	66%	22%	26%
- Planning efforts needs to reach additional Hispanic and Black/African American communities



**Neighborhood Associations Represented**

- No Response / Not Sampled
- Respondents




## General Attitudes and Behaviors

- How much **attention or concern** do the residents in your neighborhood express regarding the **care and planting of trees along streets**?
  - Quite a bit or Lots – 49%
  - Some – 38%
  - Very little or none – 11%
- To what extent does your neighborhood association **actively engage the City Government** (i.e. City Council or City staff) on issues related to trees in your neighborhood?
  - Quite a bit or Lots – 34%
  - Some – 41%
  - Very little or none – 25%
- Overall, how would you rate the **quality of the trees, shrubs, gardens and lawns** in your community or neighborhood?
  - 66% said excellent





### Attitude toward common benefits

**Trees SHOULD be planted in our neighborhood because:**

- 1) They provide shade - 98% agree
- 2) They increase property values – 96% agree
- 3) They create attractive community character – 92% agree
- 4) They make business districts more attractive – 92% agree
- 5) They reduce noise – 90% agree
- 6) They reduce water runoff – 89% agree
- 7) They reduce air pollution – 88% agree
- 8) They provide wildlife habitat – 87% agree
- 9) They increase walkability of sidewalks – 86% agree



### Attitude toward common problems

**Trees are a PROBLEM / should not be planted in our neighborhood because:**

- 1) They fall on power lines – 18% agree
- 2) They drop leaves, sap and other debris – 18% agree
- 3) They are ugly when not maintained – 14% agree
- 4) They make it difficult to detect criminal behavior – 10% agree
- 5) They cause allergies – 9% agree
- 6) They cost too much to maintain – 8% agree
- 7) Their roots damage sidewalks and roads – 8% agree
- 8) They increase risk of wildfire – 5% agree
- 9) The risk of hurricane damage – 5% agree
- 10) The restrictions imposed by home insurance – 5% agree





## What have we learned?

- Most people voiced strong positive opinions about trees
- Fewer people voiced problems/concerns

Take Home Points:

- Surveys help the Tampa community understand *both* the desirable benefits and the legitimate or perceived concerns
- The urban forest management plan should be designed to maximize benefits and minimize costs/problems



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## CITY OF TAMPA URBAN FOREST MANAGEMENT PLAN

Rob Northrop  
Extension Forester  
University of Florida IFAS  
Hillsborough County Extension



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### City Council Prescribes the Steps

1. Community Preferences Survey and Analysis
2. Organization of a Technical Advisory Committee
3. Verification of Goals and Generation of Alternatives for Action
4. Generate Urban Forest Management Plan

- Dept. Parks and Recreation appoints a diverse group to serve as a Steering Committee to provide feedback at key points in the plan's development.





## 6 Guiding Principles - City of Tampa's Urban Forest Management Plan

1. Government Efficiency
2. Economic Growth
3. Public Private Partnerships
4. Increase the social, environmental and economic benefits of the urban forest by reducing costs
5. Support Communities
6. Support Basic Tenets of the City's Comprehensive Plan



## Work to Date

- Urban Forest Inventory – 2011 in progress
- Survey of Neighborhood Leaders
- Preliminary discussions with:
  - Growth Management and Development Services
  - City Attorney's Office
- Review ordinances and internal procedures
- Identification of Criteria and Performance Indicators
- Two meetings with Steering Committee on Urban Forest Sustainability





## Criteria and Performance Indicators Urban Forest Sustainability

**Criteria and Performance Indicators will guide development of the urban forest management plan**

- I. Criteria and performance indicators for the Vegetation Resource
- II. Criteria and performance indicators for the Institutional and Community Framework
- III. Criteria and performance indicators for Resource Management



## Dept. of Parks and Recreation taking a proactive approach (some examples)

- Hazardous Tree Inventory along emergency routes (in cooperation with the University of Florida, Hillsborough Co. Extension) – in progress
- Conducted a workshop that focused on reducing tree root damage to sidewalks (in cooperation with UF, USF, Hillsborough Co. Extension and Hillsborough Co. Dept of Public Works) – additional workshops planned
- Neighborhood Tree Watch (in cooperation with THAN)
- Neighborwoods – tree care education for neighborhoods
- Bilingual fact sheets





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## Next Steps – Fall 2011

- Meet with Mayor Bob Buckhorn
- Workshop with Tampa City Council
- Project Team – draft an Assessment of Urban Forest Management in City of Tampa using Criteria and Performance Indicators
- Organize the City of Tampa Technical Advisory Committee representing various departments citywide
- Social survey and evaluation of the Community Tree Program



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## WHAT IS THE BEST WAY TO STAY IN TOUCH WITH YOU?

- ✓ Web site
- ✓ Electronic Newsletter
- ✓ Printed Newsletter
- ✓ Blog
- ✓ Twitter
- ✓ Facebook
- ✓ Neighborhood Meetings
- ✓ Workshops

Please let us know by using your **Notecard.**





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## Questions and Comments



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