

AN URBAN FORESTRY NEEDS ASSESSMENT FOR RAPIDLY URBANIZING FLORIDA: ASSESSING COMMUNITY PERCEPTIONS AND ATTITUDES TOWARDS URBAN AND URBANIZING FORESTS

Robert J. Northrop¹, Francisco Escobedo², and Jennifer A. Seitz²

¹ Extension Forester, Hillsborough County, University of Florida IFAS

² School of Forest Resources and Conservation, University of Florida

Introduction

Florida is experiencing tremendous population growth due to an influx of approximately 1,000 people into the state every day. The resulting urbanization has resulted in a loss of 40,000 acres of forest cover per year. The USDA Forest Service has identified urban development as the greatest threat to Florida's forests. The Center for Urban Policy Research at Rutgers University has listed Florida as the state with the highest urban sprawl index in the United States.

Studies from other parts of the US have shown that trees in rural and urban forests can provide a wide range of ecosystem services. Trees in urban areas can help improve air and water quality and provide shade that can assist in reducing energy use costs and temperatures. Urban trees can even have a role in global warming, human well-being, and the economic vitality of cities. Rural forests can also provide multiple ecosystem goods (food, wood products, biodiversity, wildlife habitat, tourism and recreation) and services (hydrology cycles, climate, air and water quality, soil quality, nutrient cycling) and are the economic basis of many rural communities.

Urban trees, however, require a commitment of public resources that could be used towards other public projects. They can on occasions damage sidewalks and produce leaf litter. Certain trees can cause allergies and with Florida's recent hurricane activity some trees can even damage homes. Rural forested areas are prone to fire, susceptible to pest and disease outbreaks and in most cases require active management and investment of resources by homeowners and governments alike.

Unfortunately, most of the information on these benefits and costs of urban and rural forests has come primarily from other parts of the country. Applicability of these studies to Florida, with its diverse population and susceptibility to disturbances such as hurricanes, fires and urbanization, might not be appropriate. Capturing Floridian's perceptions towards urban and rural forests will: 1) provide insight into public attitudes towards management strategies that increase or decrease tree cover, 2) address urbanization questions such as the loss of ecosystem services to urban sprawl and 3) allow us to better understand conflicting costs and benefits of increasing or decreasing tree cover.

Methods

To address the growing need for information specific to Florida's urbanizing forestland in the Tampa Bay region. The Tampa Bay Watershed—Forest Working Group, as it is now known, set several critical short term objectives in working

towards its goal of supporting urban forest sustainability. The first was to determine the attitudes, perceptions and values of watershed residents regarding urban trees and the urbanizing forests.

Working through a partnership with the Hillsborough County Office Neighborhood Relations and the City of Tampa's Neighborhood and Community Relations Office we identified 725 home owner associations and neighborhood associations within the City of Tampa and Hillsborough County. Community leaders for each association were identified by these two agencies.

Two nominal group sessions were organized during the winter of 2006–07. The first involved communities in the suburban and urbanizing sections of Hillsborough County, while the second involved neighborhoods in the existing urban areas of the City of Tampa. The nominal group technique allowed for an organized discussion with a subset of the community leaders (9–12) that lead to the generation and prioritization of ideas concerning urban forest (Siemer, Connelly, Brown, and Decker, 2001). The use of the nominal group technique, with its silent generation of ideas and brainstorming, provided us with a clearer understanding of the community leader's values and perceptions of the urban forest. The process was deliberately structured to keep personal interaction at a minimum, allowing each individual to contribute, and to minimize the loss of minority or opposing points of view. Information gained through the nominal group sessions is now being used to develop the formal survey instrument which will be sent out to all 725 communities and neighborhood associations.

Results of Nominal Groups

Each of the nominal groups was given three questions: What are the benefits of trees to you and your community?; What are the cost of trees to you and your community?; and What event has affected or changed your perception of trees recently?

Each participant silently generated a series of responses to these questions. All ideas were then listed. Appropriate ideas were merged if there was a consensus among the group members. Each participant was then given the opportunity to select his/her top three ideas. Cumulative totals were kept, and the ideas prioritized according to the total number of votes each idea received. Tables 1–6 illustrate the top five responses to our initial questions for each of the two nominal groups. Up to twenty-two responses were initially recorded for each of the questions posed.

The preliminary outcome of the nominal group process suggest that Floridians reasons for having trees in urban areas is often consistent with the general perceptions of trees in cities expressed by urban residents in the United States (Lohr et. al. 2004). Floridians may diverge from the national trends in their perception of the costs and problems. The cost of tree maintenance, loss of private property rights, and fear of substantial loss of personal property and safety during hurricanes were strongly expressed as negative aspects of urban trees and forests.

Next Steps

The information gained from the nominal group sessions is being used to guide in the development of a suitable social survey of citizens perceptions of urban trees and forest in the Tampa Bay watershed. Following the organization and design of the survey instrument at the University of Florida initial drafts are being reviewed by members of the Tampa Bay Watershed Forest Working Group for comment as subject matter experts.

The survey will be mailed to all 725 home owner association and neighborhood association leaders in July 2007, with the analysis of the returns anticipated in August 2007. The individual surveys are being tracked geographically and the results of the social survey will be combined through the use of a geographic information system with a bio-physical inventory now underway (Nowak and Crane 2000).

Implications for Results

Problems in managing and dealing with urban and urbanizing forests are often due to people's differing perceptions and values; and in some cases the different perceptions they have of other people's values. This study hopes to capture a cross section of the perceptions and values of Floridians living in urban and urbanizing forests. Results are expected to capture a wide diversity of people's attitudes towards urban and rural forests. Findings should differentiate urban and rural resident's attitudes towards trees. Insights will be gained into the role of race/ethnicity, age, income and background on these topics. Results will provide federal, state, regional, and local authorities a view into the "state" of urban forest and urbanization that will assist in the design of strategies focused on urban tree planting efforts. Results will also provide a template to evaluate extension programs and identify knowledge needs.

References

- Lohr, V.I.; Pearson-Mims, C.H.; Tarnai, J. and D.A. Dillman. 2004. How urban residents rate and rank the benefits and problems associated with trees in cities. *J. Arboric.* 30:28-35.
- Nowak, D.J., and D.E. Crane. 2000. The Urban Forest Effects (UFORE) Model: quantifying urban forest structure and functions. pp. 714-720. In: Hansen, M. and T. Burk (Eds.) *Integrated Tools for Natural Resources Inventories in the 21st Century*. Proc. of the IUFRO Conference. USDA F.S. Gen. Tech. Report NC-212. North Central Research Station, St. Paul, MN.

Siemer, W. F.; Connelly, N.A.; Brown, T.L. and D. J. Decker. 2001. Methods of human dimensions inquiry: some basics for the manager. Pages 375-400 (Chapter 19) In: *Human Dimensions of Wildlife Management in North America*. The Wildlife Society. Bethesda, Md.

Table 1. Benefits of Trees in Suburban and Urbanizing Tampa Bay Region

| What are the benefits of trees to you and your community? | |
|---|------|
| | Rank |
| Trees help with cooling by providing shade | 1 |
| Wildlife protection | 2 |
| Creates a unique community image | 3 |
| Provides oxygen which reduces pollution in the air | 4 |
| Aesthetics/beauty | 5 |

Table 2. Cost of Trees in Suburban and Urbanizing Tampa Bay Region

| What are the costs of trees to you and your community? | |
|--|------|
| | Rank |
| Maintenance, pruning, and trimming | 1 |
| Falling branches/trees and roots damaging power lines and property | 2 |
| Costs to developer (lost use of land, mitigation) | 3 |
| Purchasing of trees | 4 |
| Human illness due to trees (allergies) | 5 |

Table 3. What Affected or Changed your Perception of Trees Recently? (Suburban and Urbanizing)

| What affected or changed your perception of trees recently? | |
|--|------|
| | Rank |
| Impacts of weather and insects to trees (hurricanes/citrus canker) | 1 |
| Image of a community | 2 |
| Added value of trees to community and homeowner | 3 |
| Failure to keep up maintenance | 4 |
| Wrong tree in the wrong place | 5 |

Table 4. Benefits of Trees in Urban Tampa Bay Region

| What are the benefits of trees to you and your community? | |
|---|------|
| | Rank |
| Provide shade on a hot day | 1 |
| Aesthetic dimension | 2 |
| Habitat for animals | 3 |
| Adds distinction and beauty | 4 |
| Supply oxygen | 5 |

Table 5. Cost of Trees in Urban Tampa Bay Region

| What are the costs of trees to you and your community? | |
|--|------|
| | Rank |
| Root damage to roads/driveways | 1 |
| High maintenance of tree itself (personal work) | 2 |
| Pollen/allergies | 3 |
| Costs of money to maintain | 4 |
| Different perceptions of the value of the tree | 5 |

Table 6. What Affected or Changed your Perception of Trees Recently? (Urban)

| What affected or changed your perception of trees recently? | |
|---|------|
| | Rank |
| Pastures turning into retail/residential | 1 |
| Being exposed to tree problems | 2 |
| Moving from an urban area to Florida | 3 |
| Government enforcement (tree ordinances) | 4 |
| Safety of family during hurricane | 5 |