



Research paper

The influence of attitudes and perception of tree benefits on park management priorities



T.E. Jennings^a, S.R. Jean-Philippe^{a,*}, A. Willcox^a, J.M. Zobel^a, N.C. Poudyal^a, T. Simpson^b

^a Department of Forestry, Wildlife and Fisheries, University of Tennessee, Knoxville, TN, United States

^b Tennessee Department of Agriculture, Division of Forestry, Sevierville, TN, United States

HIGHLIGHTS

- Education about park benefits can justify the investment of resources for their management.
- Attitudes and values can be obtained from public perception surveys.
- Park and recreation research can be obtained to assist in future management programs.
- iSurvey is a survey beneficial software program to administer surveys in the field.

ARTICLE INFO

Article history:

Received 14 October 2015

Received in revised form 18 May 2016

Accepted 20 May 2016

Available online 28 May 2016

Keywords:

Urban parks

Public attitudes

Visitor satisfaction

Urban trees

ABSTRACT

Urban parks are important public resources for outdoor recreation in cities. While the previous studies have concluded that people in general value parks and trees, it is still unclear how public attitudes towards trees and tree-centered management of parks relate to their support for park management priorities, and whether such attitudes vary among parks within a city. This study surveyed visitors' opinion in three parks within the City of Oak Ridge, Tennessee and focused primarily on aspects of park trees to determine what visitors believed should be a future priority for park management. Exploratory factor analysis and multiple regression analysis were employed to data collected from 263 visitors intercepted on site (response rate of 78.5%). Results showed that visitors placed relatively higher preference on planting more trees, increasing species richness and density of trees, than on planting trees in straight rows or pruning or caring. Similarly, visitors placed comparatively higher preference on trees that are native, less hazardous, resistant to pests and diseases, have longer life span, provide shade, wildlife habitat, than those having ability to block out the view of city's developed landscape. Results also showed that visitors' personal preference of tree aspects and attitude towards trees significantly affected their support for future tree planting and tree care efforts in city parks. Findings will be useful to city planners, municipal foresters, and landscape designers in understanding public preference for trees and tree-oriented management, and incorporating such information in designing new parks, and enhancing amenity value of existing parks.

Published by Elsevier B.V.

1. Introduction

Urban parks are important public resources for outdoor recreation in cities. Effective management of urban parks is essential as they provide numerous benefits (recreational, wildlife, environ-

* Corresponding author at: Department of Forestry, Wildlife and Fisheries, 274 Ellington Plant Science 2431 Joe Johnson Drive, Knoxville, TN 37996-456, United States.

E-mail addresses: tjennin6@vols.utk.edu (T.E. Jennings), jeanphil@utk.edu (S.R. Jean-Philippe), awillcox@utk.edu (A. Willcox), jzobel@utk.edu (J.M. Zobel), npoudyal@utk.edu (N.C. Poudyal), tom.simpson@tn.gov (T. Simpson).

mental and climatological) to a city and the residents (Harnik & Welle, 2009; Nowak, 1993). In addition, visually pleasing parks have been shown to improve upon overall well-being through increased greenery and visual light (Jackson, 2003), reduce the hardships of inner city living by providing a place of refuge (Dwyer, McPherson, Schroeder, & Rowntree, 1992), and reduce urban noise (Aylor, 1972; Fang & Ling, 2003). All of these co-benefits of urban parks collectively increase the social welfare of city residents in a significant way. For example, Poudyal, Hodges, and Merrett (2009) found that the net benefit of a land use policy to increase the average size of urban parks in a mid-size city can be as high as \$160 per household.

Over the years, several studies have investigated people's opinions and values regarding urban parks and recreation (Vaske & Manfredi, 2012; Verlič, Arnberger, Japelj, Simončič, & Pirnat, 2015). One of the most frequently studied concepts in the social sciences are individual's attitudes (Eagly & Chaiken, 1993; Manfredi, Teel, & Bright, 2004). Vaske (pg. 27, 2008) defines attitudes as "the evaluation, either favorable or unfavorable, of an entity (e.g. person, object, or action)." Attitudes are an important concept for urban forest managers because they can influence behavior of citizens utilizing the park resources. This means that it is possible to investigate what attitudes are important in areas such as citizen engagement in a public park programs and whether and how they support or oppose various practices of managing the park (Bright & Manfredi, 1996). An example of this concept was illustrated by Kirkpatrick et al. (2012) who looked at how residents' attitudes towards trees influenced the planting and removal of different types of trees in urban areas. They found that resident's attitudes towards trees were relatively durable and not easily amenable to change. Additionally, resident's attitudes towards trees affected planting decisions and aesthetic valuation of trees.

Literature on determinants of park users' satisfaction with urban recreation parks is recently emerging (Crilley, Weber, & Taplin, 2012). Studies have concluded that visitor satisfaction partly depends on tangible assets of the park such as service quality (Ryan & Cessford, 2003; Tonge & Moore, 2007; Wade & Eagles, 2003) as well as the visitor's perception of benefit from the park (Anderson, Nickerson, Stein, & Lee, 2000). A more recent study by Mohamed and Othman (2012) also found that in addition to the biophysical characteristics, values and benefits as perceived by the visitors are associated with their overall satisfaction with urban parks. While the previous studies have documented that people in general value parks and trees, it is still unclear how public attitudes towards trees and tree-centered management of park relate to their support for park management priorities, and whether such attitude vary among parks within a city. These questions are important because city parks are managed for the benefit of public and park managers should have a good knowledge of what specific aspects of parks relate to visitor satisfaction, and whether any aspects of park are more important than others to the visitors. Managers can use such information in prioritizing management efforts (e.g. tree planting, species selection, safety, tree health) to preserve and enhance desirable aspects of parks. It is also important to understand whether and how the desirability of various aspects of parks. In addition, the preference and attitudes themselves may vary by the type and relative location of parks.

The objective of this study was to investigate the relationship between public attitude towards trees and tree-centered park management direction and explore and how they differ among the city parks.

2. Methodology

2.1. Study area

This study was conducted in three city parks with the city of Oak Ridge, in Anderson County in East Tennessee, USA. The city covers around 220.8 km² with a population of approximately 29,500 people (US Census Bureau 2013). These parks were chosen out of the thirteen total city parks for differing aspects such as tree diversity, number of planted trees, as well as visitors' facilities such as playgrounds and walking trails. The three parks utilized for the survey were A. K. Bissell Park, Cedar Hill Park, and Melton Lake Park (Table 1). All parks contain similar facilities that are typically seen in urban public parks (i.e. walking trails, playground, and picnic shelter).

2.2. Survey development and administration

Development of survey instrument started with a review of literature followed by an informal consultation with local residents. The informal consults were centered on the motivation for visiting the park, characteristics of park aesthetics and potential changes they might like to see in the park. The survey was developed and tested utilizing the software program iSurvey (www.isurveysoft.com) along with the accompanying iSurvey App (Version 2.12.8) on Apple iPads. The survey was pilot tested by 15 individuals including Oak Ridge city officials, academic peers, and the general public. We employed cognitive interviews (Salant & Dillman, 1994) during pilot testing that considered difficulty answering or understanding questions, survey flow, and formatting of response categories, among others. Institutional Review Board (IRB) for human subject research was approved for park survey (UTKIRB-14-02040-XP). The survey instrument is available through the Supplementary material section.

Section one of the survey instrument included open-ended questions on visitor's primary reason for visiting the park. Section two included questions to choose from a list of additional activities that they participate in at the park. Section three included 6 questions (1-Excellent – 5-Very Poor on a 5-point scale) regarding visitors' evaluation of the current management practices of the Oak Ridge Recreation and Parks Department. Section four included 6 questions (1-Greatly Increase – 5- Greatly Decrease on a 5-point scale) about how important certain aspects of the park (i.e. diversity of trees, number of trees, etc.) are to the visitor by asking the participant to indicate the level of change he or she believed would benefit the park. Section five included 8 questions (1-Very Important – 3-Not Important on a 3-point scale) about the attitudes held by the visitor towards trees. Section six included 5 questions (1-Very High Priority – 5-Very Low Priority on a 5-point scale) about park user perception of what should be a future management priority for the park. Finally, section seven included basic demographic information.

The survey was administered from April 11–May 2, 2015 on 9 weekdays between the hours of 10:00 AM and 4:00 PM, and on two Saturdays between the hours of 9:00 AM and 5:00 PM. The park at which the survey was being administered was randomized by assigning a number (1–3) to each park and utilizing a random number generator. Park visitors above the age of 18 were intercepted within the parks and requested to complete the survey. The survey was self-administered by the visitor at a central location within the park. Total number of park visitors during the survey period was recorded along with the number of refusals.

2.3. Statistical analysis of survey

Completed surveys were stored on the iPads and uploaded to our iSurvey account and results were downloaded into SPSS format. IBM's SPSS Statistics 22 program was utilized for the survey analysis. Descriptive Statistics were calculated for each section of the survey, giving frequencies for sections 1, 2, and 7, and means for sections 3–6. Responses about primary reason for visiting the park were recoded into 9 general categories and counted (per each category). Opinions of current management practices, importance of park aspects, general tree attitudes and future management priority were analyzed using exploratory factor analysis (Agresti & Finlay, 1997) with a Varimax rotation. Reliability of factors was assessed using Cronbach's α ($\alpha \geq 0.70$) (Vaske, 2008).

Mean differences of factor scores were also analyzed with a One-Way ANOVA with Least Squares Differences among all parks and all factors. Finally, two separate multiple regression analysis were performed to investigate how visitors' preference for future management related with their motivation to use the park, preference

Download English Version:

<https://daneshyari.com/en/article/7460543>

Download Persian Version:

<https://daneshyari.com/article/7460543>

[Daneshyari.com](https://daneshyari.com)