

# Factors Associated with Non-visitation by Area to Congaree National Park, South Carolina

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**EXECUTIVE SUMMARY:** A symbiotic approach to park management holds that visitation offers benefits both to visitor and park (as through the beneficial activism), and hence should be encouraged. Accordingly, factors that constrain visitation to a park should be identified and mitigated, especially as they apply to local residents whose daily behavior is likely to affect nearby protected areas. The issue of mutual resident/park benefit is particularly important in strictly protected areas near large urban centers, yet no research to date has investigated resident constraints to visitation in such contexts. To address this gap, this study surveyed 455 adult residents of the Columbia (South Carolina) urban area and found after weighting the sample for the underrepresentation of African-Americans that over one-half had never visited nearby Congaree National Park. Non-visitors were more likely to be African-Americans, those whose household members had not previously visited the park, and those with household incomes exceeding \$50,000. Hierarchical cluster analysis of non-visitors revealed a dominant group of "procrastinators" (52% of the sample) who claimed to be interested in visiting but had not found the time to do so. They were otherwise unconstrained. "Unawares" (28%), did not know about the park's existence, while the remaining 'multi-constrained' (20%), were hampered by multiple intrapersonal, interpersonal, and structural problems including poor health, lack of awareness, lack of companionship, and concerns about safety. Older residents, African-Americans, and those with lower incomes were disproportionately represented in the latter cluster. The "unawares" were significantly younger and resident in the Columbia area for fewer years than members of the other clusters.

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**Acknowledgment:** The authors are grateful to the College of Hospitality, Retail and Sport Management at the University of South Carolina (Columbia campus) for funding this research project. The input of management at Congaree National Park is also appreciated.

**Keywords:** Congaree National Park, national parks, visitation, constraints, rural-urban fringe

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The status of African-Americans and older adults as members of constrained groups in outdoor recreational settings is well established and indicates the need for park management and promotion to emphasize members of this group as park rangers and visitors. Otherwise, the issue of procrastination, not covered in existing constraints studies, suggests a desire to visit among a majority of non-visitors that could be enabled through better promotion of park opportunities. Alternatively, it may indicate a phantom desire given that the “procrastinators” have never visited the site despite being a resident in the Columbia area for 28 years on average. Perhaps more clearly amenable to simple promotion of the park’s existence are the “unawares”, while the “multi-constrained” will require a more complex combination of promotion of park facilities (e.g., the elevated boardwalk and wheelchair accessibility), attention to safety and African-American sensitivities, and intervention by support groups to provide transportation and other services.

The relationship between people and strictly protected areas, long characterized in the literature as an essentially incompatible one, is now being increasingly reassessed as one with opportunities for symbiosis. A contention of this latter perspective is that recreational visits to protected areas confer personal benefits that promote perceptions and behavior directly and indirectly supportive of those areas. It is especially important that nearby residents are supportive, since their cumulative everyday behavior is more likely to affect proximate protected areas. While resident support is even more vital for strictly protected areas that are proximate to large urban areas, investigations into the interactions between protected areas and nearby urban residents are lacking. To partially address this gap in the literature and to assist the managers of such areas by potentially increasing the levels of local visitation and support, this study focused on the phenomenon of area resident non-visitation, using Congaree National Park, near Columbia, South Carolina (USA) as a case study.

## Literature Review

The U.S. National Park Service is dually mandated to conserve designated natural and cultural settings while facilitating the enjoyment of such areas in ways that do not impede future generations from deriving similar benefits (NPS, 2008). Ideally, visitation to these public spaces is mutually advantageous, with visitors and society as a whole deriving physical, social, spiritual and other benefits from their presence in outstanding natural settings (Bedimo-Rung, Mowen, & Cohen, 2005; Eagles & McCool 2002; Frumkin, 2003). In turn, parks can benefit from responsible visitation through the generation of user fee revenues, incentive effects that protect them from less benign land uses, and favorable public attitudes that for some individuals translate into participation in volunteering, making donations, serving as a “watchdog,” lobbying government for park-friendly policies, and other forms of beneficial activism (Eagles & McCool, 2002; Lawton, 2001; Weaver, 2008; Weaver & Lawton, 2002). This is consistent with Redford, Robinson and Adams (2006) who

argue that protected areas cannot survive without people who respect and are willing to pay for and defend them.

The symbiotic relationship described above moves beyond the traditional focus of protected area researchers on identifying and mitigating the negative ecological effects of visitation as well as human activity in adjacent areas (Buckley, 2004; Eagles & McCool, 2002; Leung & Marion, 2000; Liddle, 1997; Moss, 2006). In either approach, however, there are sound reasons for paying particular attention to local residents—that is, individuals who because of the relative proximity of their residences do not formally qualify as “tourists” when visiting the protected area. Such individuals can have a substantial positive or negative impact on nearby parks depending on decisions they make directly or indirectly regarding the use of their own land. Local residents, moreover, are well positioned to visit nearby protected areas more frequently and to subsequently accrue more personal and social benefits as a result—or to have substantial and direct positive and negative impacts on those areas depending on whether their in-park behavior is responsible or not. Long-term interaction with the local natural environment can lead to strong feelings of place identity and attachment—or “sense of place”—that promotes pro-environmental attitudes and participation in beneficial environmental activism (Kyle, Mowen, & Tarrant, 2004; Mitchell, Force, Carroll, & McLaughlin, 1993; Stedman, 2002; Vorkinn & Riese, 2001). Specifically, evidence for a relationship between protected area visitation by local residents and positive attitudes toward such areas is provided by Weaver and Lawton (in press), who found that the cluster of sampled Columbia (South Carolina) residents who were most supportive of nearby Congaree National Park had made significantly more visits there than less enthusiastic residents. They were also far more likely to express an interest in personally participating as park volunteers.

### ***Protected areas and the rural-urban fringe***

Investigations into the relationships between local residents and higher order protected areas in the North American, European and Australian/New Zealand context have tended to focus on relatively remote entities such as Yellowstone National Park that have attracted a large number of amenity migrants to their borderlands (Buckley, 2005; Kruger, 2006; Moss, 2006). Absent from this literature, excepting the above-mentioned study of Congaree National Park by Weaver and Lawton (in press), are studies of strictly order protected areas near urban areas and in particular within the rural-urban fringe (also referred to as “exurban,” “peri-urban”, the “urban shadow”, or the “urban-rural fringe”). The latter is a transitional zone between functionally rural space and contiguous urban space accommodating land uses that compromise between the advantages of those adjacent urban and rural locations (Daniels, 1999; Davis, Nelson, & Dueker, 1994; Wolf, 1999). Golf courses, airports and waste disposal sites are typical exurban activities that gravitate to rural areas for the lower land costs and property taxes, and to urban areas for market and service access. Commuters typically move to such areas to benefit from similar trade-offs.

The neglect of exurban strictly protected areas in the literature may owe in part to the higher profile and longer existence of more remote entities such as Yellowstone and Grand Canyon National Parks. Such areas, in addition, do not fit neatly within the distinct research traditions that have evolved respectively around rural outdoor

recreation and municipal recreation within built environments. This omission, however, is problematic for several reasons. First, throughout the more economically developed world and within the U.S. in particular, the rural/urban fringe occupies an ever-increasing portion of both land and population. Wolf (1999) estimates that approximately one-third of the land in the “lower 48” states of the U.S. exhibits exurban characteristics and accommodates about one-quarter of the country’s population.

Second, a growing number of strictly protected areas are located within the rural-urban fringe. Most of these are pre-existing entities upon which the rural-urban fringe has encroached. U.S. examples include Shenandoah National Park (relative to the Washington D.C. urban agglomeration), Great Smoky Mountains National Park (relative to Asheville, NC), Everglades National Park (relative to Miami, FL) and Rocky Mountain National Park (relative to Denver, CO). This phenomenon is not confined to the U.S. Australian examples include Ku-ring-gai Chase, Royal, and Blue Mountains National Parks adjacent to greater Sydney (New South Wales), and John Forrest National Park near Perth (Western Australia). In a smaller number of cases, strictly protected areas have been established recently within the rural-urban fringe. Usually this involves the upgrading of existing less strictly protected areas, as illustrated by the reclassification of Joshua Tree National Monument near Palm Spring, California, to National Park status in 1994. A similar transition describes Congaree National Park, the case study for this study (see below). Cuyahoga Valley National Park, in the exurban zone between Cleveland and Akron, Ohio, was the result of an even more dramatic upgrade from a National Recreation Area in 2000.

A third factor is the growing incompatibility between such strictly protected areas, with their biocentric character and priorities, and increasingly modified adjacent landscapes. Typical threats from exurban areas *per se* include “borderland” incursions of water-borne pollutants, exotic plants, and domestic or feral dogs and cats; garbage dumping, and fragmentation of buffer zone habitat through land parcelization. As or more potentially damaging, however, are threats originating in nearby large urban areas, including air-borne pollutants, contaminated runoff, heat-island effects, and roadside dumping of debris and unwanted pets. Whether higher visitor numbers should be included among these threats depends on how the protected area is managed and how these visitors behave. Potentially, as per the symbiotic approach described above, they constitute an enormous and expanding pool of participants in beneficial activism relative to these nearby protected areas. This potential, however, is unlikely to be realized among residents who do not visit nearby protected areas and hence are less likely to acquire a positive sense of place about those entities through the personal benefits they derive from these visits.

### ***Constraints to protected area visitation***

Factors that inhibit participation in activities such as protected area visitation have been an important area of investigation within the outdoor recreation and leisure literature since the 1960s (Walker & Virden, 2005), given the assumption of derived personal and social benefit from such participation. Typically, this issue has been framed in terms of “constraints”, which Jackson (1991) defined as factors “that limit the formation of leisure preferences and... inhibit or prohibit participation and enjoyment in leisure” (p. 279). Simple dichotomous models, such as the distinction between

internal and external constraints (Searle & Jackson, 1985) were initially popular, but have been supplanted by more sophisticated constructs. Crawford, Jackson and Godbey (1991), for example, characterized constraints as either “intrapersonal” (e.g., stress, perceptions of safety and crowding, anxiety, level of skills, health, disability, lack of awareness, lack of interest), “interpersonal” (e.g., lack of appropriate partners, lack of family support), or “structural” (e.g., family life cycle, cost, lack of time, lack of transport, season, opportunity), each of which is negotiated in turn to attain an optimal level of participation (Jackson, Crawford, & Godbey, 1993). Subsequently, Nadirova and Jackson (2000) factor analyzed responses from a resident Canadian survey to identify the five constraint categories of “isolation” (e.g., lack of safety, lack of transportation), “knowledge” (e.g., lack of information), “skills” (e.g., disabilities, discomfort in social settings), “costs” (e.g., admission fees) and “commitments” (e.g., lack of time).

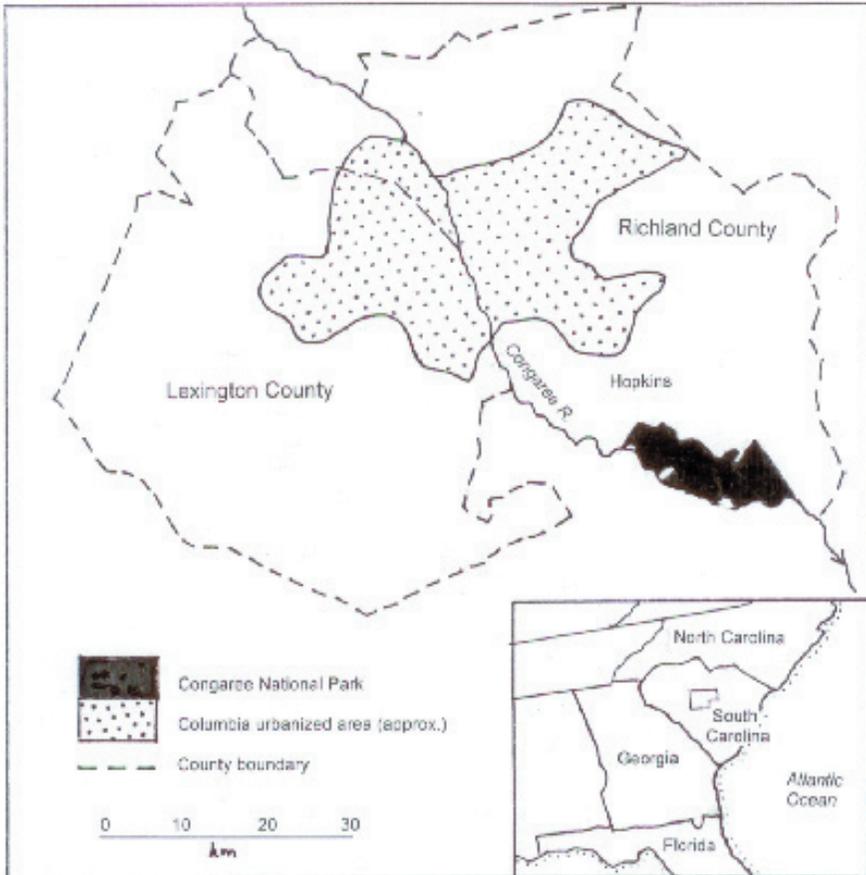
The above constraints, in various combinations, have been tested empirically in a variety of recreation/leisure contexts, though not specifically with reference to urban residents in relation to nearby strictly protected areas. Where urban residents are the subjects in studies of protected area visitation, the focus has been on urban parks (Arnold & Shinew, 1998; Scott & Jackson, 1996) or less strictly protected parks within a broader metropolitan area (Mowen, Payne, & Scott, 2005). Other studies have included protected area visitation as one aspect of the larger recreational participation patterns of tourists (Jackson, 1993; Pennington-Gray & Kerstetter, 2002). In the broad U.S. recreational/leisure context, population segments that have been associated with higher levels of constraint include African-Americans (Elmendorf, Willits, & Sasidharan, 2005; Virden and Walker, 1999), females (Arnold & Shinew, 1998; Henderson, Stalnaker, & Taylor, 1988; Johnson, Bowker, & Cordell, 2001; Mowen, Payne, & Scott, 2005; Shaw & Henderson, 2005), the elderly (McGuire & Norman, 2005; Mowen, Payne, & Scott, 2005), persons with disabilities (Burns & Graefe, 2007; Williams et al., 2004), low-income groups (Kelly, 1987; Mowen, Payne, & Scott, 2005; Scott & Munson, 1994) and low-education groups (Kelly, 1987; Mowen, Payne, & Scott, 2005). Through a better understanding of the visitation constraints faced by local residents, managers of exurban strictly protected areas will be better positioned to formulate strategies to increase visitation levels and support from within nearby urban communities.

### **Congaree National Park**

Congaree National Park, the case study in this research, is an exurban strictly protected area within South Carolina that was elevated in 2003 from National Monument to National Park status by an Act of the U.S. Congress. It is regarded as a highly significant tract of relatively undisturbed primary floodplain forest, accommodating exceptional biodiversity and one of the highest closed canopy primary deciduous forests. Concurrent designations of the 89 km<sup>2</sup> park as an International Biosphere Reserve and a Globally Important Bird Area further attest to its ecological importance (NPS, 2006). Although designated overall as a National Park, approximately 70% of the park is sub-categorized as “Wilderness”, a designation that allows only for ‘primitive’ non-motorized recreation. This better indicates the biocentric orientation of the site

despite its location on the southeastern fringe of the greater Columbia area, a growing urban agglomeration of almost 700,000 residents in 2005 (U.S. Census Bureau, 2006) (Figure 1). The semi-rural neighborhoods adjacent to the Park are populated by lower income, African-American communities.

**Figure 1. Location of Congaree National Park**



A major anthropogenic threat associated with this proximity to Columbia is contaminated urban runoff flowing into the Congaree River, which several times each year inundates and replenishes with nutrients the floodplain forest that occupies most of the park. Within the park itself, recreational visitation increased from 95,000 visits in 2004 to 134,000 in 2006 (NPS, 2007). The vast majority of these visits are confined to a visitor center and a three-kilometer elevated boardwalk circuit that exposes visitors to a very small part of the park. Few visitors access the waterways or 20 kilometers of primitive trails that deeply penetrate the floodplain forest. That Columbia area residents constitute a substantial proportion of the visitor flow is indicated by a 2005 survey

which found that two-thirds of sampled visitors were residents of South Carolina, while three-quarters of all sampled visitors utilized no overnight accommodation in the Columbia region as part of their visit (NPS, 2005).

### **Objectives and Methodology**

The purpose of this study is to address a gap in the outdoor recreation and constraints literature by examining differences among local residents who have and who have never visited a nearby exurban strictly protected area, and subsequently by examining variations in constraint patterns within the latter group. Specifically, this paper identifies:

- (a) the proportion of the adult population of the greater Columbia urban area that has never visited Congaree National Park (or its predecessor Congaree National Monument),
- (b) significant socio-demographic differences between Columbia area adult residents who have and have not visited Congaree National Park,
- (c) relatively homogeneous sub-groups within the non-visitation group in terms of the constraints that account for having not yet visited the park, and
- (d) significant socio-demographic and other relevant differences between these sub-groups, and
- (e) the managerial and theoretical implications of the findings.

The desired information was solicited as part of a six-page mail-back questionnaire that more generally considered the perceptions of Congaree National Park held by Columbia area residents (Weaver & Lawton, in press). The first part of the survey (Section A) asked respondents whether or not they had ever visited the Park. Those who had were then directed to Section C, which collected information about the characteristics of their most recent visit. Those who had not previously visited Congaree National Park were directed to Section B, which solicited reasons as to why the local residents had never visited the park. Eleven reasons for having never visited a nearby semi-wilderness setting were selected from a range of structural, intrapersonal and interpersonal measures drawn from previous research studies involving a range of outdoor recreational settings (Crawford, Jackson, & Godbey, 1991; Jackson, 1993; Nadirova & Jackson, 2000; Pennington-Gray & Kerstetter, 2002). Each of the 11 statements was assessed on a 5-point Likert-type scale ranging from 5 (“very important”) to 1 (“not at all important”). A “procrastination” measure was added to this list (“I just haven’t gotten around to it, but would like to visit”), as was a perception of discomfort driving along the Bluff Road access route through the adjacent lower-income neighborhood. The questionnaire also included standard socio-demographic items such as location of residence, length of residence in the Columbia area, sex, age, income, education and race.

A stratified random sample (50% male, 50% female) of 2,500 adult residents from Richland and Lexington counties, which together account for almost all of the population of the greater Columbia urban area, was selected from the most recent edition of the relevant online telephone directory using random number tables and

alternating labeling of mail-out packages to “Mr.” or “Ms.” (surname). A cover letter explained the purpose of the study and offered an incentive of being included in a draw for \$500 cash if a fully completed survey was returned within a three-week time period. The package also included a postage-paid return envelope. Three weeks after the initial mailing in mid-February 2006, a reminder letter was sent to all who had not yet returned their completed survey.

The statistical analysis for this study utilized the Statistical Package for the Social Sciences, version 14.1 in order to compare group means using ANOVA with post-hoc analysis, chi-square tests, t-tests, regression and basic frequencies. Hierarchical cluster analysis (using Ward’s method) was used to identify relatively homogeneous sub-groups. A range of solutions (i.e., two to five clusters) was requested, and the most suitable solution subsequently selected based on an examination of dendrograms, cluster sizes, differences in cluster means, and interpretability. Clustering was conducted on the original 11 items rather than the factor scores that result from a factor analysis, since Hair, Anderson, Tatham and Black (1995) argue that the latter approach does not adequately represent variables that truly discriminate between the underlying groups.

By late March 2006, 455 completed surveys were returned for an effective response rate of 20.1% after taking into account survey packages that were returned as undeliverable due to out-of-date addresses and a small number that had to be rejected due to substantial questionnaire incompleteness. While the yield was relatively low, response rates of 20% or less to household mail-back questionnaires are not atypical in contemporary surveying (Oppermann, 2000) and reflect a growing reluctance of Americans to respond to such instruments (Dey, 1997). More importantly, the absolute number of valid returned questionnaires was adequate to carry out the cluster analysis. A non-response bias was evident with respect to African-American adults, who represented 29% of the area’s adult population (U.S. Census Bureau, 2003) but only 14% in the sample. In addition, persons without graduate degrees accounted for 91% of the Columbia area adult population (U.S. Census Bureau, 2003), but just 67% of the sample. Double-weighting of the sample based on these two variables was rejected due to the small size of relevant sample subgroups such as adults African-Americans with graduate degrees, and unavailability of data for the population. Instead, a single weighting variable was inserted to correct for the African-American sample/population discrepancy, with African-Americans assigned a weighting value of 2.07 (29/14) and whites .83 (71/86). Analysis was facilitated by removing the small number of respondents (17) reporting some other race, resulting in a useable sample of 435.

## Results

Over one-half of the weighted respondent sample had never visited Congaree National Park or its predecessor, Congaree National Monument, even though members of this non-visitation group had lived in the Columbia area on average for over 27 years, a percentage not significantly different from those who had visited the Park (Table 1). Significant differences between visitors and non-visitors were found on household income and education, and especially on race and visitation by household members. Specifically, African-American respondents account for almost one-half of those who had never visited Congaree National Park, but only 13.2% of those who had

visited. As a racial group, only about one-fifth of the African-Americans had visited the park, compared with 57.5% of whites. Among the visitor group, four out of five had other household members who had also visited the Park, compared with just 8.7% of African-Americans. Multiple regression, explaining 53% of the variance in the dependent variable of visitation, emphasized the importance of visits by other household members ( $\beta = .671$ ), race ( $\beta = .138$ ) and education ( $\beta = -.107$ ) as contributors to this variance, but differed from chi square testing in finding no significance for income.

**Table 1. Visitors and Non-visitors to Congaree National Park: Weighted Sample Group Comparisons**

Variable	Have Visited n = 204	Have Not Visited n = 231	Test Value	p
Visitation %	46.9	53.1	n/a	n/a
Length of residence (mean yrs.)	30.5	27.6	t = 1.56	.121
Household income			$\chi^2 = 5.68$	.017
< \$50,000 %	32.3	43.8		
> \$50,000 %	67.7	56.2	$\chi^2 = 6.12$	.013
Education: no grad. degree %	63.2	74.3		
grad degree %	36.8	25.7		
Race: white %	86.8	57.0	$\chi^2 = 46.62$	.000
black %	13.2	43.0		
Visitation by other household members %	79.1	8.7	$\chi^2 = 197.08$	.000
Sex: male %	55.2	46.3		
female %	44.8	53.7	$\chi^2 = 3.39$	.066
Age (mean yrs.)	52.6	50.8	t = 1.30	.194

In terms of contrasts for the non-visiting residents, only the “procrastination” measure yielded a mean (3.56) appreciably higher than the “neutral/not sure” value of 3.00 (Table 2). Not knowing where it is located (3.02), and lack of awareness, that is, not having heard of the park (2.83), characterize the next two highest contrast statements, while lack of interest and personal constraints associated with health, disability, transportation and companionship were arrayed between the “not important” and “not at all important” response options. Fourteen residents who regarded lack of interest as an “important” or “very important” reason for not having visited the Park attributed this to a lack of awareness (e.g., ‘It should be more publicized so I would know more about it and want to go and visit it.’). Another 11 expressed preferences for other types of recreational venue or dislike of parks (e.g., “We love the beach!”, “Visiting a swamp is not my idea of a good time.”, “I am not an outdoors person.”), while nine residents evoked disability and/or lack of companionship (e.g., “I am too old”, “I have no one to travel with.”)

**Table 2. Reasons for Not Visiting Congaree National Park: Ranked Means for Entire Responding Weighted Sample of African-American and White Non-visitors (n = 231)**

Reason	Mean <sup>1</sup>	SD
I just haven't gotten around to it yet, but would like to visit.	3.56	1.22
I don't know where it is.	3.02	1.56
I have never heard of it before.	2.83	1.46
I don't have the time to visit.	2.56	1.38
I have no interest in visiting this park.	2.45	1.16
I don't perceive it as a safe place to visit.	2.07	1.23
I have no one to go there with.	1.93	1.35
I don't feel comfortable driving along Bluff road to reach the park.	1.75	1.19
Health problems have prevented me from visiting.	1.64	1.14
Physical disabilities have prevented me from visiting.	1.57	1.15
I have no way of getting there.	1.57	1.13

<sup>1</sup> based on 5-point scale where 5 = "very important," 4 = "important," 3 = "neutral/not sure," 2 = "not important," and 1 = "not at all important"

### ***Cluster solution***

The 11 constraint items yielded a Cronbach's Alpha value of  $r = .73$ , above the .70 minimum threshold of reliability recommended for social sciences research by Rukert and Churchill (1984). It was therefore deemed unnecessary to selectively remove statements to achieve a higher reliability value for purposes of the cluster analysis. A three-cluster solution was ultimately accepted as being the most amenable to both differentiation and interpretation. Incomplete responses to the constraint items resulted in 167 of 231 non-visitors being included in this procedure.

As depicted in Table 3, the largest of the three clusters, accounting for 52% ( $n = 88$ ) of the cluster analyzed weighted non-visitor group, was characterized by an interest in visiting the park, the existence of which they were very much aware. All other factors were more or less regarded as unimportant, although time constraints not unexpectedly yielded the highest mean (2.57) of these remaining items. Members of this group were appropriately labeled "procrastinators". The second largest group accounted for 28% of the qualifying non-visitor group ( $n = 46$ ), and yielded no item means significantly higher or lower than the other two clusters. However, high mean scores on lack of awareness and a correspondent lack of knowledge about the location of the park merited the description of these group members as "unawares." A mild procrastination factor was also apparent, while the means for all other constraints fell well below 3.00. The final cluster, having accounted for 20% of the qualifying non-visitor group ( $n = 33$ ), yielded relatively high mean scores on most items. Lack of knowledge about location was the main barrier, but health problems and physical disabilities were also important, as was lack of awareness. For seven of the 11 statements, this group yielded means significantly above those obtained for the other two groups, and members therefore were described as "multi-constrained."

**Table 3. Reasons for Not Visiting Congaree National Park: Weighted Cluster Comparisons<sup>1</sup>**

Reason	“Procrastinators” n = 88	“Unawares” n = 46	“Multi-constrained” n = 33
I just haven’t got around to it yet, but would like to visit.	<b>3.69</b>	3.22	3.30
I don’t know where it is.	<u>2.17</u>	4.04	3.71
I have never heard of it before.	<u>1.70</u>	4.00	3.56
I don’t have the time to visit.	2.57	2.50	2.90
I have no interest in visiting this park.	2.14	2.44	3.06
I don’t perceive it as a safe place to visit.	<u>1.33</u>	2.28	3.27
I have no one to go there with.	1.48	1.61	<b>3.06</b>
I don’t feel comfortable driving along Bluff road to reach the park.	<u>1.18</u>	1.72	<b>3.11</b>
Health problems have prevented me from visiting.	1.23	1.02	<b>3.01</b>
Physical disabilities have prevented me from visiting.	1.13	1.00	<b>2.92</b>
I have no way of getting there.	1.15	1.06	<b>2.91</b>

<sup>1</sup>**Bolded** mean indicates significantly higher value than mean for other two clusters based on .05 threshold of significance (based on Tukey’s post hoc test).

Underlined mean indicates significantly lower value than mean for other two clusters based on .05 threshold of significance (based on Tukey’s post hoc test).

**Table 4. Congaree National Park Non-visitor Weighted Cluster Comparisons**

Variable	Procrastinators n = 88	Unawares n = 46	Multi-constrained n = 33	Test value	<i>p</i>
Age ( mean yrs.) <sup>1</sup>	49.4	41.2	58.1	F = 15.51	.000
Length of residence (mean yrs.) <sup>1</sup>	28.7	14.5	34.2	F = 12.25	.000
Sex: male %	59.1	37.0	36.4		
female %	40.9	63.0	63.6	$\chi^2 = 8.35$	.015
Race: white %	69.3	58.7	42.4		
black %	30.7	41.3	57.6	$\chi^2 = 7.45$	.024
Household income					
< \$50,000 %	26.5	45.2	67.7		
> \$50,000 %	73.5	54.8	32.3	$\chi^2 = 16.75$	.000
Education:					
no grad. degree %	65.9	84.8	77.4		
grad degree %	34.1	15.2	22.6	$\chi^2 = 5.78$	.056

<sup>1</sup>**Bolded** mean indicates significantly higher value than mean for other two clusters based on .05 threshold of significance (based on Tukey’s post hoc test).

Underlined mean indicates significantly lower value than mean for other two clusters based on .05 threshold of significance (based on Tukey’s post hoc test).

### ***Cluster differentiation***

The three clusters were significantly differentiated by age, length of residence, sex, race, and household income (Table 4). Multi-constrained non-visitors were significantly older than members of the other groups, lived in the Columbia area longer, and were more likely to be African-American and report a lower income. Unawares, compared with other non-visitors, were younger and resided in Columbia for fewer years. Procrastinators were more likely to be male, white, and higher income.

## **Discussion**

The high level of total non-visitation by area residents in the weighted sample was unexpected considering the proximity of the park to Columbia and respondents' average length of residence in the local area. Unlike some other empirical studies, no evidence was obtained for significantly higher levels of non-visitation among females and older adults. However, the low record of visitation among African-Americans corroborates Virden and Willits (1999) and Elmendorf et al. (2005), and supports a commonly held perception, reinforced by media depictions, that quasi-wilderness strictly protected areas such as national parks are the preserve of wealthy and highly educated whites (Martin, 2004). Another possible factor may be the association of such areas with hunts for escaped slaves and other traumatic historical forest interactions (Walker & Virden, 2005). Follow-up ethnographic research focusing on Columbia's African-American residents would provide invaluable insight into this group's higher non-visitation proclivity, a useful directive also given the overwhelmingly African-American identity of neighborhoods adjacent to the Park.

Given that national parks are mandated to serve all segments of the U.S. population and to 'assess the environmental justice implications of their policies' (Tarrant & Porter, 2005, p. 311), promotional efforts in the interim should more prominently depict African-Americans, whose share of the U.S. population is steadily increasing and accounts for almost one-third of the greater Columbia population specifically (U.S. Census Bureau, 2003). The employment of African-American rangers and guides is also recommended, as is interpretation that sensitively incorporates the historical and contemporary relationship between the Congaree site and South Carolina's African-American population. Finally, since studies indicate an African-American preference for a higher level of park services and facilities (Elmendorf et al., 2005), the availability of a boardwalk, visitor center and picnic facilities should be emphasized in target promotion. Non-visitation is also associated with the absence of household members who have previously visited Congaree National Park. A contagious diffusion effect is therefore evident, though further investigation is necessary to find out the degree to which visitation by the respondent resulted in visitation by other household members, or vice versa.

No single item dominates the reasons for not having visited Congaree National Park, and the only one that approached a level 4 rating of "important" for the non-visitor group as a whole was an intrapersonal procrastination factor that did not appear in the existing literature. Strategies to promote visitation among non-visitors, however, must recognize the significant internal group differences identified in the cluster analysis. The majority "procrastinators," for example, exhibited the strongest gap between the

procrastination factor and all other constraint items, although the relatively high rating for lack of time may be related to their procrastination. Demographically, they appear to mirror the white, high income and education profile of those who indicate a preference for semi-wilderness outdoor recreation settings (Elmendorf et. al., 2005; Virden & Willits, 1999), and therefore may be enticed to visit Congaree National Park if exposed to media and other promotion depicting the array of outdoor recreational opportunities that are available there. Another possibility, however, is phantom interest, since it could be questioned whether these residents are truly interested in ever visiting the park if they have not managed to find the time to do so in the 28.7 years they have lived, on average, in the Columbia area. Follow-up qualitative research is required to investigate this issue of interest in depth—to determine for example whether this constraint is primarily intrapersonal (i.e., procrastination and/or lack of interest) or structural (i.e., lack of time), or amenable to interpersonal mitigation by encouraging visits from household members—toward the formulation of an appropriate promotional strategy for this numerically dominant group of non-visitors.

“Unawares,” though demographically less dominant, may be more amenable to promotional efforts given on one hand their feature characteristic of not having heard of the park and (therefore?) not knowing where it is located, and on the other their tendency to regard other constraints, except for procrastination, as relatively unimportant. An issue to pursue in follow-up research is why this substantial portion of the sample had no knowledge about the park despite residing in the Columbia area on average for 14.5 years, and despite a sequence of high-profile developments including the site’s elevation to National Park status in 2003 and efforts since 2005 to search for the ivory-billed woodpecker. Management attempts to promote such developments may require reassessment.

More challenging perhaps would be efforts to induce visits from members of the disproportionately African-American multi-constrained cluster, which inflates to one-fifth of the non-visitor segment as a result of weighting for underrepresentation of this racial group. Recognizing the capacity of individuals to negotiate through constraints in order to participate in a desired leisure activity, promotional material could emphasize the accessibility and safety of the boardwalk circuit, and the fact that there is, unusually, no entry fee to this national park. Area Park support groups such as the Friends of Congaree Swamp (<http://www.friendsofcongre.org/>) could also be mobilized to provide group transportation for persons with disabilities and health problems and without transport. Groups such as the Friends may need to play a substantial role in all forms of outreach given that Congaree and other national parks are federal entities mandated to reach a national rather than strictly local or regional audience.

## **Conclusion**

The results of this exploratory research indicate that over one-half of adult residents in a large urban area in the southeastern USA have never visited a major strictly protected area located within the rural-urban fringe of that city, thereby limiting opportunities for the development of mutually beneficial relationships between the park in question and the area community. African-American residents, in particular, are significantly less likely to have made such a visit, which corroborates findings in other

types of outdoor recreational settings. Apparent procrastination was the main reason given for non-visitation—a constraint rarely considered in the existing literature—with one dominant cluster of non-visiting residents clearly indicating this as the reason for their behavior. Smaller clusters of non-visitors were influenced by lack of awareness and multiple constraints, respectively, with African-Americans again overrepresented in the latter group. These results suggest a two-pronged strategy on the part of park management and support groups to (a) more effectively promote basic awareness of the park within the greater Columbia urban area (i.e., to address lack of awareness as a constraint), and (b) to encourage visits from residents who would like to visit but have not yet done so (i.e., to address apparent procrastination as a constraint). For both groups, high-profile initiatives and developments such as the search for the ivory-billed woodpecker could be used to anchor such strategies. Aspects of the park attractive and relevant to African-Americans should also be emphasized, along with the availability of services and security to address the concerns of those who perceive multiple constraints. From a broader theoretical perspective, the research should now be extended to other exurban strictly protected area settings in order to assess the extent to which these findings are applicable to such settings.

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