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African Americans and Wildlands: A Case Study in Alabama, USA

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ABSTRACT Human beings change landscapes and their culture is embodied by landscapes. It is generally assumed that African Americans have a negative impression of wildlands. This assumption is tested by the information about distribution of African American population and wildlands from all 67 counties of Alabama in USA. The results indicate that with the increase of African American population across counties, the total area of National Park, State Park and National Wildlife Refuges decreased. It is same for the total area of National Forest, State and County Forest. With the increase of African American population in counties, both the number of birding trail and the length of hiking trail decreased, but the relationships were not statistically significant. If all the wildlands information is represented by an integrated index of wildness (IW), then IW decreased significantly with the increase of African American population across counties. The sociohistorical factors (e.g., African American's mythology, slavery, and segregation) and the socioeconomic condition might be the possible mechanisms. This study indicates that culture is important to landscape pattern and change, also ecological education is necessary to the African American communities.

INTRODUCTION

Human culture can greatly change natural landscape patterns and functions, and landscape is a key theme in cultural and historical geography (Nassauer and Faust 1997; Naveh 2001). Here culture means the total of ways of living built up by a group of human beings and transmitted from one generation to another (Random House 1987). Culture changes landscapes and culture is embodied by landscapes (Nassauer 1995). From the surveys in The Netherlands, an average of 90% or higher of the respondents acknowledged the intrinsic value of nature (Van den Born et al. 2001). Wildlands, refer to pristine ecosystems or landscapes, now usually are the preserved areas in the current world, but they also mean the preservations of humanity, because we are reminded of where we came from and how much we were a part of the nature (Thoreau 1965). Wildlands have diverse values, such as for scientific value, watersheds regulation, aesthetic value, recreation, education and species refuge. In wildlands rare and endangered plant and animal species are relatively undisturbed so that their populations can be maintained, gene pools are sustained, and adaptations are made. On some extent wildlands are a unique repository for cultural resource. However, research in ecology rarely focused on culture despite its critical role to landscape change (Nassauer 1995). Convincing approaches to integrate culture into the studies of landscape change are not sufficient (Bürgi et al. 2004). Most culture effects on landscapes have been assumed than examined (Nassauer 1995).

It is generally assumed that African Americans have wildlands attachment or a negative impression of wildlands in comparison with white ethnic groups (Williams et al. 1992). Past studies reported that African Americans showed less aesthetic preference for wildlands, and less environmental awareness than whites (e.g., Williams et al. 1992). Some investigations of on-site visitors from outdoor recreation participation also indicated disparities among racial/ethnic groups (Lucas 1989). Johnson (1998) tested racial differences in the appreciation of wildlands with the data from Williams et al. (1992) by confirmatory factor analysis and structural equation modeling. However, it is hard to explore the collectively negative impression of African American only based on a single survey from one county. Further studies from a large scale (such as multiple counties) based on a quanti-

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tative analysis between African Americans and wildlands are needed.

Due to the historical reasons, there is a higher proportion of African American in Alabama. The goal of this study is to test whether African Americans still collectively appear averse to wildlands at county level. The assumption here is that if counties with more African Americans, there are less wildlands (such as preservation areas) in these counties.

METHODS

Study Area: The study area is the entire state of Alabama which covers all 67 counties. Alabama is located between the southern foothills of the Appalachian Mountain Range and Gulf of Mexio (from about 31° to 35°N and 84°51' to 88°28'W). The average proportion of African American in Alabama is 26%, while it varies from 0.3 to 85% among counties.

Dataset: The dataset was constructed from published information. The percentage of African American in each county of Alabama was from the Census of Population for Alabama in 2000. The information of wildlands in this study included the areas of national parks, state parks, national wildlife refuges, national forests, state and county forest preservations, and also the number of Alabama birding trail (points) and total length of hiking trail (kilometers) were included. These data were mainly from 1990s to 2000s. Although a slight time difference existed in the population census and wildlands information, it is assumed that there is no significant impact to the result. The information of national parks in Alabama was from National Park Service (http://www.nps.gov, Aug. 12, 2007). The area about each wildlife refuge was from US Fish and Wildlife Service (http://www.fws.gov/southeast/maps/al.html, Aug. 12, 2007). The information related with state parks and Alabama birding trails was from the Alabama Department of Conservation and Natural Resources (http://www.outdooralabama.com, Aug. 12, 2007), and also visitor guides of "North Alabama Birding Trails" and "Alabama Coastal Birding Trail". The data of National Forest, State and County Forest were from the forest statistics for Alabama counties in the Southern Research Station of USDA Forest Service. The total length of hiking trails in each county was from Cuhaj (2001).

Data Categorization: In this study, wildlands were distributed not evenly among counties. In order to avoid many "0" for some counties, the percentages of African American in Alabama counties were categorized into 18 groups with 5% increase, such as 0-5%, 5-10%, 15-20%...85-90%. Then, the average values were used to represent each group, for example, 2.5%, 7.5%...87.5%. Here "Pubref" refers to the total area of National Park, State Park and National Wildlife Refuge and "Pubfor" includes the total area of National Forest, State Forest and County Forest. Private forests include industry forest and individual forest. The wildland information from counties within same group in the population percentage was aggregated, such as the areas of "Pubref" were added together.

Integrated index of Wilderness: The information about birding trail points, length of hiking trail, area of National Park, State Park, National Wildlife Refuge, National Forest, State Forest and County Forest was normalized to 0-1, respectively,

by $\mathrm{NI} = \frac{P_i}{\sum_{i=1}^{67} P_i}$,

P_i is one measurement of wildlands, such as the birding trails points or the area of National Park in each county. Because the wildland information is so diverse, such as including the point number, the length of trails and area of National Park, a new integrated index of wilderness (*IW*) was developed to characterize all wildlands information in each county by this equation:

$$IW = NI_{NationalPark} + NI_{StatePark} + NI_{WildlifeRefuge} + NI_{NationalForest} + NI_{StateForest} + NI_{CountyForest} + NI_{Birdingtrail} + NI_{Hikingtrail}$$

The correlation relationships between the percentage of African American across counties and different wildland information including integrated index of wildness were tested and analyzed, respectively.

RESULTS

With the increase of African American population across counties, the total area of "Pubref" including National Park, State Park and National Wildlife Refuges decreased significantly (Fig. 1). On average, in the Alabama counties every 10% increase of African American population could result in the decrease of 2.5 ha in National Park, State Park and National Wildlife Refuge.

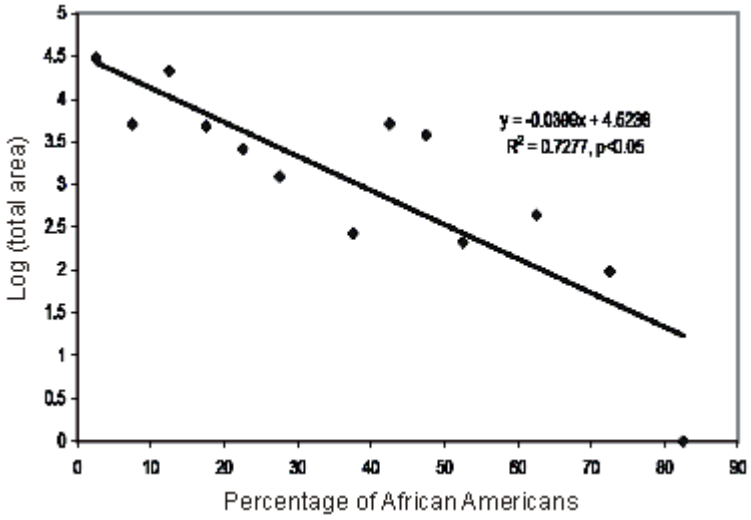

Fig. 1. The relationship between the categorized percentage of African American population across counties and public parks (including National Park, State Park, and National Wildlife Refuge).

The relationship between the proportion of African American population and the total area of "Pubfor" including National Forest, State Forest and County Forest was also significant (Fig. 2a). Generally, with the increase of African American population, the area of "Pubfor" decreased in the counties of Alabama. Every10% increase of African American population would decrease 1.41 ha of the above public forests. Also the total area of private forests, including forestry industry and individual forest, was almost maintained around 5.82 in log value (Fig. 2b), this means that the decrease in public forests was not mainly due to the expand of the private forests.

The relationships between African American population and the number of birding trail points or the total length of hiking trail were not statistically significant (Fig. 3a,b), but the general trend is that with the increase of African American population, both the number of birding trail and the length of hiking trail decreased.

The relationship between the percentages of African American population and the integrated wilderness index (*IW*) was significantly (Fig. 3c). This result supports our hypothesis that with the increase of African American population in the counties of Alabama, the wildlands in these counties would decrease.

DISCUSSION

The results of this study strongly support the assumption that African Americans collectively have a negative impression of wildlands even at county level and with the increase of African American population in the counties of Alabama, the wildlands (including public parks, public forests, wildlife refuge, birding trail and hiking trail) decreased. In this study, the area of private forests was similar across counties with different amount of African Americans, and this indicated that the decrease of public forests had no relationship with the private forests.

A number of explanations have been proposed to explain why the African Americans appear to have less interest in wildlands. From cultural perspective, the African American's mythology, slavery, and segregation may lead to this situation. Williams et al. (1992) argued that sociohistorical factors such as slavery, sharecropping, and lynching might contribute to this lack of interest and appreciation. Bixler et al. (1994) suggested that wildland fears might be learned not only directly but also vicariously. The places where slave labor, sharecropping, and lynching once occurred were usually mostly wild, primitive and semi-structured environment. Beatings and hangings often took place in these wild areas. It can be argued that the contemporary African Americans associate these wildlands with terror and a continuous familiar extension of slavery (Meeker, 1973). Furthermore, African Americans feel isolated in wildlands, and this may means defenselessness in their mind. This

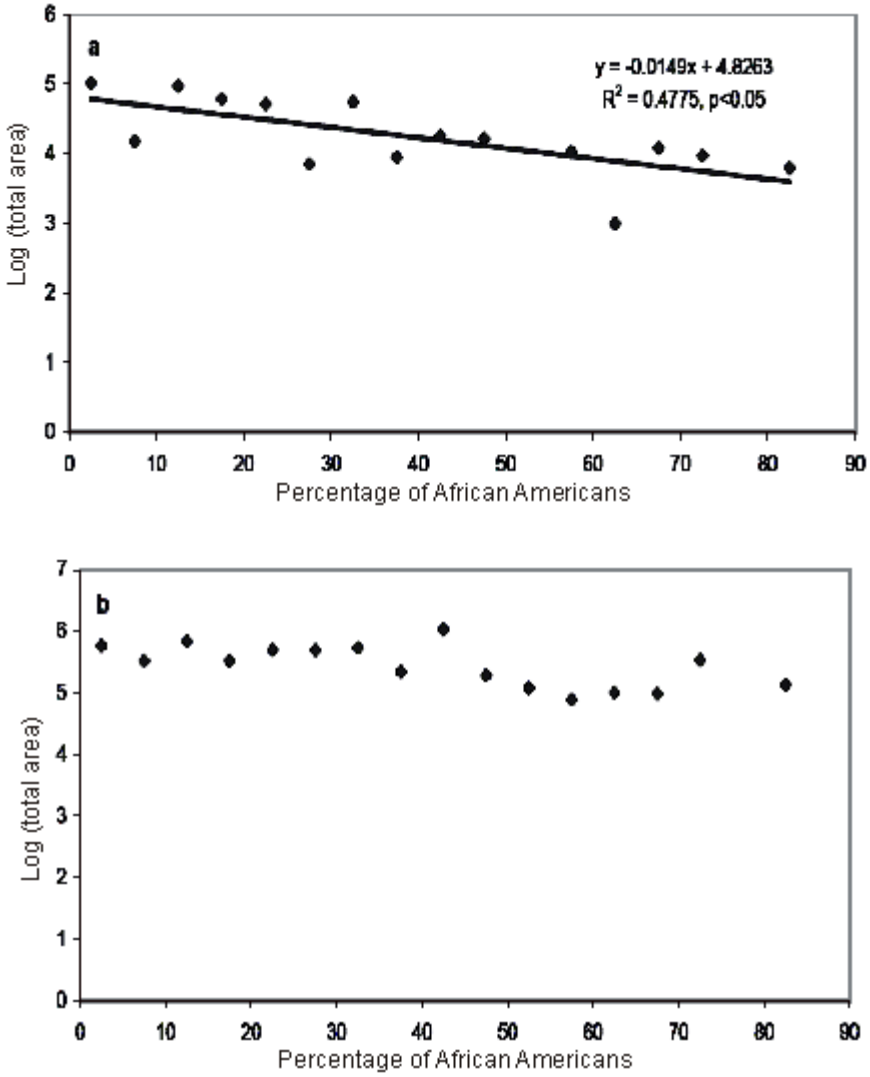

Fig. 2. The relationship between the categorized percentage of African American population across counties and the area of public forests (including National Forest, State and County Forest) (*a*) and private forests (including Forest industry and individual forest) (*b*), respectively.

spiritual world of slaves may be important for understanding African American perceptions of wildlands.

The collective memory of historical events was not restricted to individuals but also could be shared by communities which continually relive collective traumas or Holocaust (Rapaport 1997). Although the successive generation of African American did not witness lynching, nor had direct experience with sharecropping, they could be influenced by structural events which impacted their respective groups, and they do remember stories from their relatives who had these experiences. This collective memory could be retained and became part of their collective identities in African American culture (Johnson 1998).

Socioeconomic condition or social psycho-

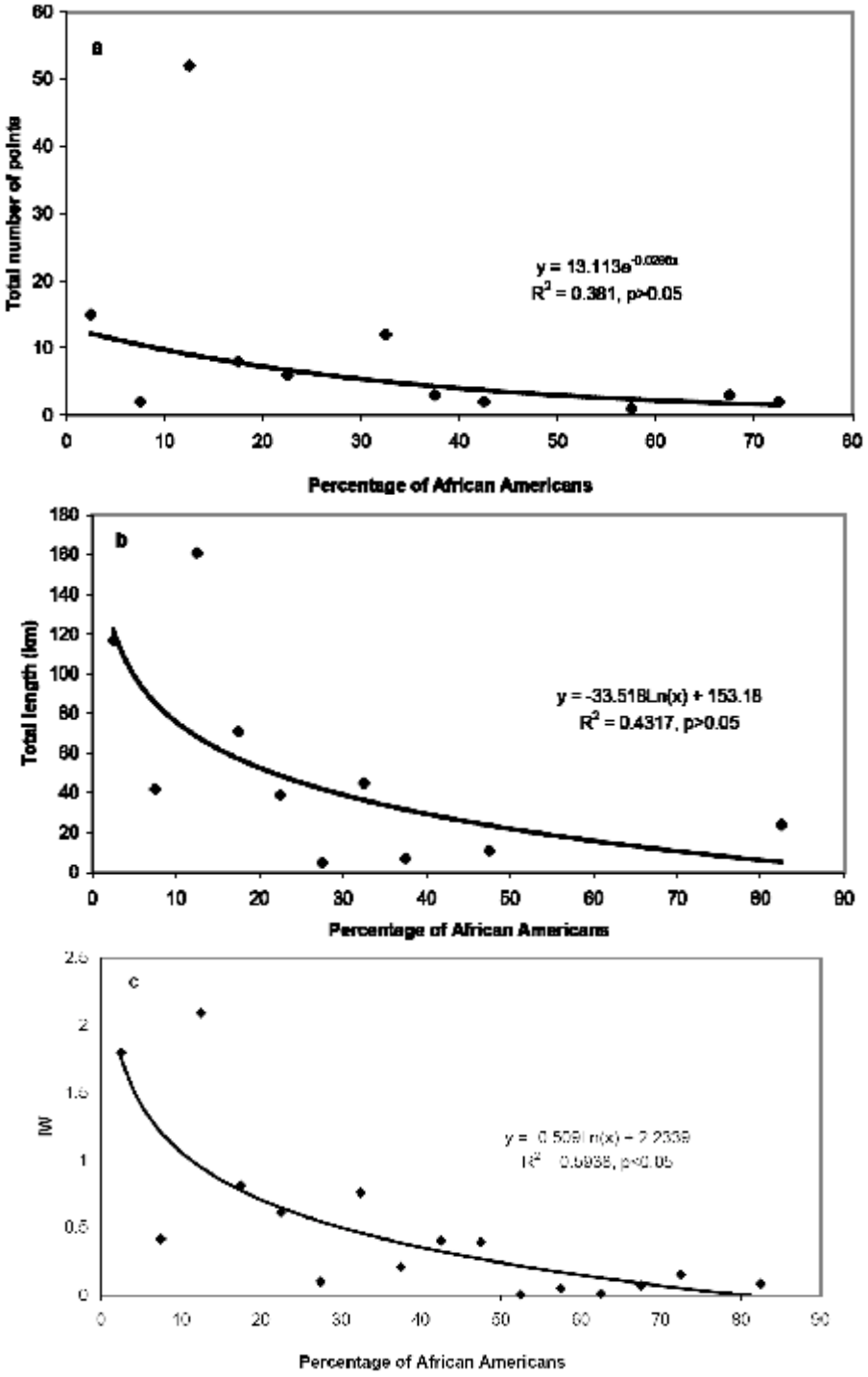

Fig. 3. The relationship between the categorized percentage of African American population across counties and the length of birding trail (*a*), hiking trail (*b*), and the integrated index of wilderness (IW) (*c*), respectively.

logy of African American might also influence their preferences and behaviors (Washburne 1978; O'Leary and Benjamin 1982; Floyd et al. 1994), because most of them were at lower-level in the society, and their needs in materials, such as food and shelter, were primary. Thus, for African Americans, all these wildlands may represent oppression and servitude more than economic opportunities or spiritual freedom.

The result in this study indicated that culture or race could drive wildlands change in certain direction. This study does not suggest that African Americans are environmentally unconscious, but actually they are less aware of wildlands issues after we understand their culture. It is necessary to enhance ecological education in African American communities. However, African Americans were almost absent in wilderness scholarship from 1960s to the 1990s, and this racial bias might reproduce over time (Starkey, 2005). Studies in wilderness preservation users have indicated that more highly educated persons tend to visit these areas. Federal and state agencies related with wildlands, such as USDA Forest Service and National Park Service, need to make efforts to attract more African American to involve in the management of wildlands. Creel (1990) and Holloway (1990) also suggested that African Americans also need to modify their behaviors to adapt to new conditions while still to hold some of their culture.

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