

**BARRIERS TO PARTICIPATION IN ENVIRONMENTAL INTERPRETATION  
RESOURCES FOR LATINO VISITORS TO PISGAH NATIONAL FOREST**

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## **ABSTRACT**

Latinos are a fast-growing segment of the U.S. population, and North Carolina has experienced a large increase of this demographic in the past few decades. Environmental interpreters and public land planners in other parts of the country have conducted research to better understand Latino audiences, but little research has been done in the Eastern U.S. regarding barriers to Latino participation in interpretive and recreational resources. This study used a modified grounded theory approach and in-person interviews with Latino visitors to Pisgah National Forest, NC, to examine barriers and obtain feedback regarding environmental interpretive resources. The main barrier that emerged was a lack of information about the existence of interpretive resources nearby. Because this study was limited by a small sample size (N=8), further research is needed to continue to explore the environmental interpretation and outdoor education needs of the Latino population in Western North Carolina.

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## **CHAPTER 1.**

### **INTRODUCTION**

Persons of Latin American descent are the fastest-growing segment of the United States' population, increasing by more than ten million individuals from 2000 to 2007 (Pew Hispanic Center, 2009). By 2020, the U.S. Latino population is expected to reach 60.4 million, up from 45 million in 2007 and 35 million in 2000 (Suro & Passel, 2003). In fact, the U.S. Latino population recently surpassed the African-American population, making Latinos the largest ethnic minority in the country (Shinew et al., 2006).

As numbers of both foreign-born and native-born Latino individuals grow, public land managers, leisure researchers, interpretive programmers and environmental educators look for ways to adequately serve this relatively new audience (Gramann, Floyd, & Ewert, 1991; Gobster, 2002; Hobbs, 2004; Roberts, Chavez, Lara & Sheffield, 2009). Chavez (2000), in a review of theories regarding leisure participation patterns for various ethnic and racial groups, noted that the ability to serve diverse audiences can be seen not only as a moral obligation, but also as insurance of program longevity and funding as demographics change rapidly in the U.S. and a larger percentage of the public comes from a Latino background. Researchers in these fields have begun to identify the unique characteristics in relation to outdoor behaviors and activities of individuals who consider themselves Latino or Hispanic and how management of natural resources and educational programs might be altered to serve this population.

#### **Relevance of the Study**

Little research has been done to address these topics in the Eastern U.S.; less has occurred in North Carolina, even though the state experienced the largest increase in



Latino population of any U.S. state from 1990 to 2000 (Quandt et al., 2006), and the NC Latino population doubled again from 2000 to 2010 (U.S. Census Bureau, 2010). This sudden growth in the Latino population makes research in many fields – including environmental education, public health, economics, and marketing – even more urgent in North Carolina.

In western North Carolina, the Southern Appalachian Mountains are home to many public land areas (e.g. Pisgah National Forest, Nantahala National Forest, Blue Ridge Parkway, Great Smoky Mountains National Park) managed by agencies committed to providing educational and interpretive services to visitors (C. Carpenter, personal communication, December 7, 2010). National forests in western North Carolina make up one million of the state's 1.2 million acres of national forests (National Forests in North Carolina, 2010). The USDA Forest Service reports that from 1985 to 2009, recreation visitation to national forests in the western NC region grew 136% to 6.8 million per year, making the national forests in the region some of the most heavily visited in the country (Fox et al., 2011).

Meanwhile, the economic development group for the 23-county region, Advantage West (2011), reported that the Latino population in western NC grew by 400% from 1990 to the present, making up a larger proportion of the area's population than ever before. Due to the lack of regional research indicated by the literature review and the large tracts of federal and state land in the area, it appears that there is a need for regional inquiry into how best to provide those services to the growing Latino population.

### **Purpose**

The purpose of this study is:

1. To identify the barriers to the utilization of interpretive and educational resources by Latino visitors to Pisgah National Forest, Transylvania County, North Carolina and Latino residents of the surrounding area.

2. To identify Latinos' opinions regarding what they like about current educational resources.

3. To identify Latinos' opinions regarding what could be done to improve utilization of interpretive and educational resources.

### **Definition of Key Terms**

***Latino*** - For the purposes of this study, the term *Latino* is used to indicate U.S. residents who have been in the United States for less than four generations and can trace their family to a Spanish-speaking Latin American nation. This description has been consistently used in the research to define the term *Hispanic* (Marín & Marín, 1991). While *Hispanic* is the more common term in environmental education and leisure research, many researchers encourage use of terminology based on the preferences of the population in question (Agyeman, 2003; Marín & Marín, 1991). Therefore, this study uses *Latino* based on regional preferences in North Carolina (Latino Advocacy Coalition of Henderson County, 2007).

***Interpretive/interpretation*** – Environmental, resource or heritage interpretation is defined as “A mission-based communication process that forges emotional and intellectual connections between the interests of the audience and meanings inherent in the resource” (National Association for Interpretation, 2007, p. 6). The term applies to a broad range of educational activities, exhibits, and programs that take place on-site at parks, public lands, historic sites, museums, and many other locations. In this study, the

words “interpretive” and “interpretation” will exclusively be used in this sense, and not in the sense of interpretation between languages, unless specifically noted.

***Environmental concern*** – One widely accepted definition is “the degree to which people are aware of problems regarding the environment and support efforts to solve them and or indicate the willingness to contribute personally to their solution” (Dunlap & Jones, 2002, p. 485).

***Land ethics*** - Land ethics is a specific branch of environmental concern that can have immediate influences on use or abuse of public lands. The term “land ethic” was coined by Aldo Leopold in his 1949 book *A Sand County Almanac*, but land ethics has come to refer to any “system of thought that relates land to ideas of right and wrong” (Bosselman, 1994, p. 1440).

***Acculturation*** – the phenomenon or process of acquiring the “values and standards of a culture” by individuals who are not originally native to that culture (Schultz, Unipan & Gamba, 2000, p. 22).

## **Limitations**

The small sample size obtained for this exploratory research (N=8) limits its generalizability to other individuals in the population of interest. The research used a purposive sampling design (Caro & Ewert, 1995), which inherently introduces the potential for biases including location, time of day, and the types of individuals who are encountered during that time. A randomization procedure was not used, as the researchers wished to interview as many individuals as possible during the allotted time frame, also restricting the ability to generalize this research beyond the scope of the participants.

## **Delimitations**

The population of interest was narrowly defined in this study as Latinos who choose to visit certain areas in Pisgah National Forest near Brevard, North Carolina. The researcher consciously excluded the nearby Latino population who do not use Pisgah for recreation at all. However, in the future, other studies may wish to assess whether the outcomes of this research are indicative of the barriers to participation in interpretive resources for the general population of Latinos in the Western North Carolina region, or for Latinos who do not currently visit public lands.

Because this study relied heavily on qualitative methods of inquiry, the researcher's own role in the process represents another study delimitation that should be disclosed. Because of the intense level of personal involvement in the research, qualitative researchers' own backgrounds may introduce strategic issues and biases not typically present in heavily quantitative studies (Creswell, 2009; Locke, Spirduso, & Silverman, 2007). For this study, the researcher conducted all of the interviews personally. She had formerly worked as a resource interpreter at one of the interpretive centers nearby, but during the research did not have a formal connection with any of the agencies or centers being discussed in the interviews. Furthermore, the researcher purposefully took a stance of "empathic neutrality" when speaking with study participants in order to collect information and responses (Patton, 2002, p. 49).

## **CHAPTER 2.**

### **LITERATURE REVIEW**

A literature review was conducted to determine what research existed already on the topic of Latino participation and sentiment toward the out-of-doors. The following literature review focuses on five main areas of research with relation to Latinos: (1) levels of environmental concern; (2) environmental worldview; (3) land ethics and current patterns of consumptive public land use; (4) patterns of outdoor participation, recreation, and leisure; and (5) applications for educational and interpretive programs.

Environmental concern is of interest to interpretive planners because it can be influenced by interpretive programs and is considered a prerequisite to environmentally responsible behavior (Ham & Krumpe, 1996; Hungerford & Volk, 1990). Past research has found that concern for the environment is generally high among Latinos (Noe & Snow, 1990), though it varies by country of origin and other variables (Lopez, 2005) and tends to decrease and become more similar to Anglo Americans as immigrants become “acculturated” to U.S. society (Caro & Ewert, 1995; Schultz et al., 2000). The research on environmental worldview, another potentially important factor for interpretive planners to consider, suggests Latino Americans differ from Anglo Americans in that they view humans as part of nature rather than separate from it (Lynch, 1993).

Land ethics and current consumptive use of public lands by U.S. Latinos are also relevant to interpretive planners and public land managers, because this branch of environmental concern can have an immediate impact on public lands, and land managers often rely on educational programs to instill values consistent with their own in visitors (Ewert & Pfister, 1991). A recent study described below shows that Latinos are using the

national forests of western North Carolina heavily for harvesting of forest products, and have expressed the need for educational programs concerning the land ethics and natural history of this area (Emery, Ginger, & Chamberlain, 2006).

Attendance at interpretive programs and centers is often a choice made in leisure time, making an understanding of Latinos' leisure preferences important to interpretive planners and land managers who wish to attract this audience. Research has identified several general trends among U.S. Latinos, including a tendency to recreate in large family groups and to participate in passive outdoor activities such as picnicking (Gobster, 2002).

Finally, several articles summarized below synthesize the existing information into recommendations for interpretive and educational programs. Suggestions have included being sensitive to diverse audiences (Hobbs, 2004), preparing bilingual interpretive signage for heavily trafficked sites (Gramann, Floyd, & Ewert, 1991), and conducting programs for family groups to accommodate leisure preferences (Hobbs, 2004; Roberts, 2007). Preliminary research in California has found that barriers to participation in interpretive programs for Latinos include issues of transportation, access, and language barriers (Roberts, 2007). A method for increasing access proposed by Chavez (2000) is the "Invite, Include, Involve" triad. The following sections address each of these subject areas in greater detail.

### **Levels of Environmental Concern among Latinos**

Concern for natural resources and the environment is recognized in the Environmental Education literature as an important prerequisite to the development of environmentally literate and responsible citizens (Hungerford & Volk, 1990; Morrone,

Mancl, & Carr, 2001; UNESCO, 1977). Interpretive program planners and educators have an interest in visitor environmental concerns for two reasons: (1) to understand visitors' perspectives in an effort to make educational programs more culturally relevant (Roberts, 2007) and (2) where necessary, to provide educational programming with the goal of increasing positive attitudes toward the environment in order to encourage environmentally responsible visitor behaviors both on-site and off-site (Ham & Krumpke, 1996).

Levels of environmental concern in the United States have been found to vary with a number of cultural and socioeconomic factors. Extensive research has concluded that, among Latinos, environmental attitudes and levels of concern for the environment: (1) generally place high importance on the environment (Lynch, 1993; Noe & Snow, 1990), (2) vary widely among different countries of origin, levels of U.S. acculturation and assimilation, and social status (Caro & Ewert, 1995; Ewert & Pfister, 1991; Floyd & Gramann, 1993; Schultz et al., 2000; Van Liere & Dunlap, 1980), and (3) differ from Anglo Americans' attitudes in that they generally view humans as part of nature rather than separate from it (Lynch, 1993, Noe & Snow, 1990).

Noe and Snow (1990) conducted a survey about concern for the environment among Latinos in Dade County, Florida, one of the only instances of research on the topic conducted in the Eastern U.S. However, the Latino population in Florida has many unique characteristics that set it apart from other Eastern states; most notably, its proximity to the Caribbean and the prevalence of Latinos of Caribbean origin. Eighty-six percent of Florida Latinos trace their roots to a nation other than Mexico, while that proportion is about 33% in the U.S. (and 33% in North Carolina) (Pew Hispanic Center,

2009). Noe and Snow (1990) utilized the New Environmental Paradigm (NEP) scale, first created and tested by Dunlap and Van Liere (1978) and updated by Dunlap, Van Liere, Mertig, and Jones (2000). The NEP scale, which aims to measure the extent to which people see themselves (and other humans) as part of the natural world, has been subsequently accepted as a valid instrument for measuring environmental concern among Latino Americans and used in multiple studies (Johnson, Bowker, & Cordell, 2004; Lopez, 2005; Schultz et al., 2000). Noe & Snow (1990) surveyed Latino recreational users of Biscayne Bay National Park, by randomly selecting boat owners in the Miami area, and randomly selecting a sample of the general population.

The authors found that all Latinos in the sample showed a favorable view toward treating nature according to ecological principles and a preservation ethic; however, the ecological orientation was greater among Latino bay users than in Latinos in the general population. The authors supposed that this could be due to cultural factors or social factors (i.e., bay users' views differing may have been influenced by non-Latino bay users). Noe and Snow (1990) did not attempt to measure level of acculturation among survey participants, but noted that future research should attempt this. While the conclusion that spending time outdoors influences environmental concerns among Latinos is potentially important to land managers and environmental educators, the study's findings are specific to Dade County, and need to be repeated in other regions with different ethnic and social characteristics.

Caro and Ewert (1995) conducted an exploratory study relating level of acculturation to level of environmental concern among Latino visitors to two U.S. national forest areas. Unlike Noe and Snow (1990), Caro and Ewert (1995) divided



Latinos into three groups based on place of birth: those born in the U.S., those of Mexican origin and those of Central American origin. They tested the hypotheses that levels of environmental concern would increasingly resemble those of Anglo Americans as an individual's place of birth got closer to the U.S., and that concerns would resemble those of Anglo Americans more closely for individuals who arrived in the U.S. at a younger age.

Caro and Ewert (1995) used an instrument that asked participants to rate a series of eleven activities on a Likert-type scale (from not harmful to the environment to very harmful). Items ranged from activities that could cause local-scale impacts (e.g., graffiti in forest areas, off-road use in forest areas) and activities that could cause global-scale impacts (e.g., car emissions, timber production) within the national forests participants visited. Both hypotheses were supported by a quantitative analysis of the data ( $n=398$ ), but all cultural groups were found to be more concerned about activities caused local-scale impacts on the land and forests rather than those activities that caused impacts on global-scale processes such as global climate change. Caro and Ewert (1995) attributed a general lack of concern regarding the impacts of resource extraction on a cultural emphasis on subsistence and pro-agricultural stance. They also cited lack of exposure to scientific information and educational materials as a potential cause of lack of concern among the sample population. Caro and Ewert's (1995) study left much to be explored. Their study sample was limited to national forest visitors in southern California, limiting the results to the concerns of those Latinos who already had a tendency to utilize public lands. Subsequent studies have continued to attempt to address the phenomenon of

acculturation and its impacts on environmental attitudes (Johnson, Bowker, & Cordell, 2004; Lopez, 2005; Schultz et al., 2000).

For example, Lopez (2005) provides a site-specific analysis of Latino attitudes toward natural resources and the environment in Texas. Her research surveyed Texas Latino college students using an instrument synthesized from three commonly used instruments for measuring environmental attitudes and a scale of acculturation. The purpose of the study was to determine the current knowledge in the literature, measure attitudes among Texas Latino college students, and interpret the data for application by natural resource managers.

In her literature review, Lopez criticized studies that oversimplified measurement of acculturation, such as Caro and Ewert (1995) and Schultz et al. (2000). Lopez also warned against trying to generalize results in one region or subpopulation to all Latinos living in the U.S., which justified her research specifically into Latinos in Texas. Her quantitative survey data, though it came from a non-representative group (university and college students) and the sample size was small, yielded six factors which were significantly related to environmental attitudes: gender, mother's education level, combined parent income, and political candidate's environmental position (Lopez, 2005). Generally, Lopez's research showed that environmental concern increased for females and for supporters of environmentally concerned political candidates, and increased as combined parental income increased and as mother's education level decreased. She recommended further research to explain this apparent contradiction.

From these results, Lopez (2005) provided several recommendations to natural resource managers trying to engage the Texas Latino community. These included

focusing on a conservation ethic in educational programs, improving outreach and program promotion, collaborating with community groups, and fee waivers and providing transportation. However, the sample population of Lopez's (2005) study was limited to Texas Latino college students, meaning that education level could have been a confounding variable. Lopez (2005) suggested that multi-site, multi-method approaches be used and that research occur in other geographic areas.

Finally, Schultz et al. (2000) measured environmental attitudes along the same cultural distinctions as Caro and Ewert (1995), but using the NEP scale. They measured acculturation and collected demographic data among a sample of 153 English as a Second Language (ESL) Students in California. In addition to a four-item acculturation scale, Schultz et al. (2000) used English proficiency (as measured by participants' ESL course level) as a secondary measure of acculturation. The data supported the authors' hypothesis, which, like Floyd and Gramann (1993), stated that less acculturated immigrants would score higher on the NEP scale, seeing humans as part of the natural world, while more acculturated immigrants would score similarly to native-born populations – that is to say, lower on the scale. Floyd and Gramann (1993) concluded that the Latinos' high scores on the NEP scale relate to the "collective" societies in many Latin American countries emphasizing "that citizens are part of a larger societal group, not autonomous individuals looking out for their own interests," which may translate to a feeling of interrelatedness to the natural environment (Floyd & Gramann, 1993, p. 26). The authors also drew on acculturation theory to explain why worldviews of more acculturated immigrants were found to become more like the worldviews of mainstream U.S. culture.

As Floyd and Gramann (1993) and Schultz et al. (2000) indicated, culture, and specifically the worldviews embedded in a particular culture, are factors that influence levels of individual environmental concern. Next this review of the literature will describe research that has specifically addressed environmental worldviews among Latinos.

### **Environmental Worldview and Latinos**

Another approach to understanding the specific environmental concerns of Latinos in the U.S. has been sociological and interdisciplinary research into the underlying worldview that influences environmental concern. Lynch (1993) took this approach, reviewing the cultural and literary history of Latin American countries and analyzing social movements, in an attempt to define Latinos' ecological worldview and how it differs from that of Anglo Americans. Lynch hypothesized that U.S. Latinos have different ideal landscapes and explanations for environmental decline than other U.S. environmentalists. According to Lynch's examination of a wide variety of Latino literary discourses, from 16<sup>th</sup> century Aztec stories to the experiences of Puerto Rican gardeners and fishermen in New York, the Latino ideal landscapes reflect the experience of relocation to a new culture and the landscapes remembered from countries of origin. This differs from many Anglo Americans' perception of wilderness as the ideal landscape.

Lynch (1993) claimed that most U.S. Latinos have a view of environmental decline intrinsically related to the conquest of Central and South America by Europeans and later dominance by North America. Latinos do not tend to perceive a dichotomy between humans and wilderness like Anglo Americans do, instead seeing the two as

interconnected. Finally, the time spent in nature for U.S. Latinos tends to be more livelihood-centered, meaning Latinos who can bring in income through fishing or other activities feel they can justify passing time in the outdoors. The author concludes that it is important to include the Latino perspective in the U.S. environmental movement; Latinos have insights to share.

The observations by Lynch (1993) fit with some of the other research findings in this field. Her assertion that Latino environmental perceptions tend to see humans as part of nature rather than humans and wildness as diametrically opposed could explain the fact that Latinos of various cultural backgrounds tend to score better on the New Environmental Paradigm (NEP) scale (Caro & Ewert, 1995; Schultz et al., 2000), since the NEP scale revolves around perceptions of the harmony of humans and nature. Furthermore, Lynch (1993) describes the link between livelihood and time spent outdoors through an example of Latino fishermen in Atlantic waters; she cites rich descriptions of the pleasure these individuals get from being out on the open water while at the same time bringing home food for their families. This same link can be seen in the practice of galax harvesting among Latinos in Western North Carolina (Emery et al., 2006). Lynch's (1993) work is one lens through which to look at Latino environmental worldviews. Other researchers have used another lens, relating social structural variables and folk ecological theory to environmental behavior.

Johnson, Bowker, and Cordell (2004) looked at ethnic variations in environmental concerns, worldview and behavior through the lens of a causal model adapted from Stern, Dietz, and Guagnano (as cited in Johnson et al., 2004). The model predicts that social structural variables, general beliefs, and folk ecological theory

influence environmental behavior. The authors measured beliefs of various ethnic groups (African Americans, U.S.-born Latinos, foreign-born Latinos, Asian Americans, and European Americans) using the New Environmental Paradigm (NEP). Johnson et al. (2004) used data from the 2000 National Survey on Recreation and the Environment (n=3,513), which administered the NEP questions to participants as part of a larger survey on outdoor recreation, environmental attitudes and behaviors, and demographics.

In contradiction with the findings of Schultz et al. (2000), Johnson et al. (2004) found that Latinos tended to score lower on the NEP than European Americans. The authors did not provide an explanation for this result; they noted, however, that U.S.-born Latinos held beliefs and behaviors more similar to those of U.S.-born European Americans. Foreign-born Latinos were also more likely to participate in outdoor nature-based recreation than European-Americans. Johnson et al. (2004) stated that “nature participation represents a different type of environmental engagement than does reading, recycling, or group joining” (p. 180); to environmental educators and interpretive planners, however, recreational activities provide valuable opportunities to engage participants in other environmental concerns (Ham & Krumpe, 1996). The use of public lands for recreation and consumption by Latinos has led to several studies addressing the perspective of Latinos when it comes to land ethics (Ewert & Pfister, 1991; Emery et al., 2006).

### **Land Ethics and Latinos**

Numerous authors have studied the particular land ethics of various ethnic and cultural groups (e.g., Glover, Steward, & Gladdis, 2008, Ewert & Pfister, 1991, Jostad, McAvoy, & McDonald, 1996). Ewert and Pfister (1991) hypothesized that more

acculturated Hispanic users of U.S. public lands would hold land ethics views more similar to Anglo Americans. They measured acculturation by place of birth, hypothesizing that as distance from the U.S. increases, views on issues of land ethics would differ more from U.S.-born Anglo Americans.

Ewert and Pfister (1991) used quantitative Likert-type scale questions with users of a recreational area in California. These questions measured respondents' reasons for using recreational sites and their perceptions of appealing attributes and problems at the sites. The research showed that respondents born closer to the U.S. had more similar views to Anglo Americans in terms of: (1) motivations for using the site; (2) appealing attributes of the site; and (3) perceived problems or unappealing attributes at the site. The researchers found that wildlife and vegetation appeal more to Anglo Americans and Latinos born nearby than to those born farther away. Those respondents that were born closer to the U.S. also viewed problems at the site differently: they were less concerned with human factors (such as inconsiderateness of others) and more concerned with natural factors (such as pollution and graffiti) compared to respondents born farther away from the U.S. The authors concluded that place of birth is a valuable predicting variable when it comes to land ethics, and that there is wide variation among those of Latino ethnicity when it comes to land ethics. Land ethics are directly related to how the Latinos see consumptive use of natural resources, one of the few subjects that has been researched locally in Western North Carolina.

Emery et al. (2006) explored consumptive land use by Latinos and its relationship to livelihood, land ethics and local ecological knowledge in Yancey County, North Carolina. They examined the growing Latino population in western North Carolina and

the increasing presence of Latinos on public lands harvesting galax (*Galax urceolata*), a forest product valued as foliage in floral arrangements. Their qualitative study utilized personal interviews with 55 Latino and Anglo gatherers of galax in Yancey County, NC, as well as interviews with forest managers, law enforcement officers, and galax buyers to explore the changes in the labor force for galax harvesting and the implications for land managers.

The authors reported that Latinos constitute more than 90% of the galax harvesting labor force in western NC. Since most Forest Service personnel speak only English, language barrier issues exist for many Latino galax harvesters attempting to obtain permits. Changes in permit regulations have also led to fear of involvement for illegal immigrants.

Emery et al. (2006) concluded that knowledge of the methods and locations of galax harvesting are passed down through acquaintances, both in the Anglo and Latino harvesting communities. Lack of familiarity with the natural history and ecology of local woods seems to indicate that Latinos are less prepared to harvest in a safe and sustainable way for themselves and others. Specifically, they found that “strategies for sustainable harvesting,” such as leaving galax roots in place and harvesting only leaves, “typically are not a part of the informal knowledge that is transferred within [the Latino] community” (p. 77). Emery et al. also discovered in interviews with Latino harvesters that many have a lack of knowledge about local wildlife that they encounter in the woods, such as black bear, snakes, and ground-nesting wasps.

Notably, the Latinos interviewed “spoke eloquently about the peace and joy of being in the woods” (p. 84), consistent with Lynch’s (1993) theory of nature experiences



being enjoyed in the context of livelihood. Emery et al. (2006) recommended steps to take to communicate forest geography, land ethics and natural history to Latinos (including easily legible maps, a training program, and information sheets already prepared by one of the authors). Emery et al. (2006) indicate that Latinos are utilizing public lands in WNC to harvest forest products and suggest the need for – and interest in – educational programming to address knowledge gaps among this group of forest users. This provides a strong basis for the current research, which explicitly addresses the educational and interpretive needs of Latinos in WNC. While Emery et al. limited their study to consumptive users of WNC national forests; it is likely that recreational users of these areas could benefit from access to similar information about the natural history of the area. The next section will address patterns of recreation among U.S. Latinos.

### **Recreation and Leisure Participation**

Another distinct, yet related, body of research pertains to the patterns of outdoor recreation and leisure common to various ethnic groups. In this line of inquiry Latinos are also often grouped together broadly, with some authors distinguishing among individuals from certain regions (e.g., Mexican-Americans). Many of the findings in the area of leisure and recreation research have significance for environmental educators and interpretive planners on public lands. Unlike classroom environmental educators, interpreters have the challenge of keeping the attention of a “noncaptive” audience (Ham & Krumpe, 1996). Attendance at educational interpretive programs, whether they are designed to familiarize visitors with an area, change problematic outdoor behaviors, or simply provide a pleasurable experience, is a choice and therefore linked to leisure preferences. As such, interpretive planners have a need to understand how various

groups tend to recreate and how these tendencies could be incorporated into interpretive programs to increase the appeal or accessibility of these programs. Some research has identified the preferences and patterns of recreation for Latinos, while other research has provided concrete recommendations to assist managers of public spaces used for recreation and leisure.

**Recreation and leisure patterns among Latinos.** Early inquiry in this area gathered basic information about broad racial/ethnic groups and preferred outdoor activities. Dwyer (1992) evaluated the similarities and differences in recreation participation patterns among Blacks, Whites, Hispanics, and Asians in Illinois. Statistical analysis of data from a phone survey conducted by the Illinois Department of Conservation yielded a variety of conclusions about the likelihood of each group to participate in different activities. Dwyer recognized the limitations of his study, including unequal sample size populations for different racial/ethnic groups, lumping of many ethnic groups into these four categories, and the limitation of the sample population to members of these ethnic/racial groups living in Illinois. He acknowledged that members of a certain ethnic group in Illinois differ from members of that same ethnic group in other geographic regions in the United States. However, the results of his interviews with 56 participants identifying themselves as Hispanic show some preferred recreational activities within this group, including picnicking, swimming, fishing, and use of yards/local parks for outdoor recreation. These activities indicate needs such as large open areas, picnic facilities, and water resources for swimming and fishing.

Another early region-specific study by Carr and Williams (1992) explored selection of specific recreational sites within two California national forests by Latino

participants. Carr and Williams (1992) did distinguish between Central American and Mexican American participants, also including Anglo Americans in their sample for comparison (n=700). Their qualitative survey measured five “social structural variables”: ancestral origins, generational status, acculturation, income, and education. The authors’ findings supported the hypothesis that people choose recreation sites used by other people with similar characteristics. Carr and Williams (1992) also supported the theory that based on immigration records for that part of California; Central Americans would have arrived more recently and be less acculturated. Indeed, Central Americans tended to avoid sites with Anglo populations or areas where people were more acculturated. Mexican Americans’ pattern of recreation changed as they went from less acculturated to more acculturated. The authors concluded that social structure is a valid predictor for various ethnic groups’ recreation participation outdoors, and the types of activities in which they participate.

Floyd and Gramann (1993) also linked level of acculturation and primary structural assimilation to outdoor recreation behavior among Mexican Americans. The authors applied research on the marginality-ethnicity paradigm to an ethnic group other than blacks and whites. This theoretical framework, extensively explored in the 1970s and 1980s but recently under scrutiny (Agyeman, 2003), suggests two different hypotheses for under-participation of non-white minorities in outdoor recreation activities. The marginality hypothesis attributes under-participation to historic discrimination and subsequent lack of access to outdoor recreation areas; that is, certain groups do not have access to outdoor recreation areas for various reasons. The ethnicity

hypothesis, on the other hand, claims that cultural norms in various ethnic groups simply do not prioritize outdoor recreation (Floyd & Gramann, 1993).

Similar to Schultz et al.'s (2000) hypotheses regarding environmental concern, Floyd and Gramann (1993) hypothesized that, among Mexican Americans, recreation behavior would become increasingly similar to that of Anglo-Americans (controlling for socioeconomic status) as both acculturation and primary structural assimilation increased. They defined acculturation as the extent to which the individual acquires cultural characteristics of the majority, whereas assimilation referred to making social ties with the majority group. The authors conducted a random phone survey in two counties in Arizona near a large outdoor area, the Tonto National Forest, and the resulting data supported both hypotheses. The authors reported that acculturation had more of an effect on which types of resource-based activities people participate in, while structural assimilation affected preferred settings (different areas of Tonto National Forest).

Although many Latinos in the U.S. are not first-generation immigrants, there are particular changes in leisure participation that are related to the phenomenon of relocation to a new country: Stodolska (2000) conducted a multistage-mixed-methods study with Polish immigrants to Canada to identify any changes. Emerging themes among participants in the qualitative (N=13) and quantitative (N=264) portions included the importance of past experience and latent demand for certain activities, increased participation in activities which had been unavailable or frowned upon in the country of origin, and influence of the cultural preferences of the new country, all of which had demonstrable effects on the study participants. Although these specific trends cannot be generalized to other ethnic groups and situations without further research, Stodolska's

(2000) results did show that adjustment to the new social and physical environment after immigration largely drives leisure choices, amplifying the importance of distinguishing between U.S.-born and foreign-born Latinos in the current research. The work of Stodolska may be more relevant in research with Latinos in North Carolina than in areas like Texas or California, since a large portion of the NC Latino population are recent immigrants (Pew Hispanic Center, 2009).

**Recommendations to planners.** Dwyer (1992) found that common outdoor recreation activities among Latinos living in Illinois included picnicking, swimming, fishing, and use of yards/local parks for outdoor recreation. These activities indicate needs such as large open areas, picnic facilities, and water resources for swimming and fishing.

Gobster (2002) analyzed recreation issues in urban parks, presenting recommendations relevant to making public areas accessible to all cultural groups. Gobster (2002) focused specifically on how external factors (cost, transportation), site facilities, other users, and safety issues influence use of a park by diverse groups. He reported data on a vast array of activities in Lincoln Park, Chicago, for Black, Latino, Asian, and White racial groupings. Latinos tended to recreate in large family groups, and participate in passive activities (such as picnicking).

Based on the diversity of preferences expressed by participants, Gobster (2002) provided recommendations for Lincoln Park planners, including ample parking, facilities for both active and passive activities, restrooms for larger groups, and sensitivity training for law enforcement officials in the park. Some of these same characteristics of Latino recreationists have been examined by other researchers, and have led to subsequent

recommendations by managers and interpretive planners of public lands in natural settings (Gramann et al., 1991; Hobbs, 2004; Roberts, 2007), reviewed in more detail in the next section.

### **Applications for Educational and Interpretive Programs**

A synthesis of the literature yields some preliminary conclusions regarding the application of environmental concern/leisure participation research to the planning of interpretive educational programs on public lands (Gramann et al., 1991; Chavez, 2000; Roberts, 2007). Gramann et al. (1991) proposed methods for resource and heritage interpreters to be sensitive to ethnic group differences in interpretive program delivery. The basis for their review of the literature was that visitors to parks and public lands cannot be treated as “undifferentiated blocs” (p. 163), especially Latinos. The authors cited past research showing that Latinos tend to spend their leisure time in larger social groups, usually with family members (Hutchison, 1987, cited in Gramann et al., 1991). In terms of attitudes toward public lands, Gramann et al. (1991) claimed there is a sense of “communal stake in the resource base” (p. 171) in Latino culture that contributes to protective attitudes, aligning with the claims of Lynch (1993).

Gramann et al. (1991) concluded that under-participation in interpretive activities by Latinos may be due to lack of information or awareness rather than lack of interest. They suggest that written interpretive materials (e.g., on interpretive signage) should be prioritized over spoken materials, since reading in a foreign language is often learned after listening comprehension. In addition, programs targeted toward extended families could appeal to Hispanic Americans. Finally, they urge interpreters to make special efforts to adjust to participants and engage in intercultural interpretation. The question of

whether visitors would respond positively to interpretive programs or displays in their native language was left unaddressed.

Hobbs (2004) reviewed the literature to determine how the U.S. Cooperative Extension Service and other agencies could alter programs to appeal to a diverse audience. She looked specifically at a 4-H program case study in Oregon, distilling from it several methods that had been effective in engaging Latino audiences. The modifications included bilingual communication, providing opportunities for participation as a whole family, nontraditional projects and program delivery, dedicated staff support, and initial program segregation. While this last strategy is controversial, it brings up an interesting point about the reluctance of Latinos – and of majority groups – to come together during leisure time when social structural characteristics differ.

Chavez (2000) proposed a theoretical formula for enhancing minority participation in leisure activities and educational programs. The “Invite, Include, Involve” or “I” triad (Chavez, 2000, p. 185) strategy consists of (1) *inviting* diverse ethnic groups to programs by making program materials accessible in their communities and including members of their ethnic group in photographs on marketing brochures (2) *including* the input and opinions of minority individuals in planning for future activities, and (3) *involving* minorities in agencies in meaningful ways such as employment. With Latinos, invitation and inclusion may also refer to offering programs in multiple languages.

Roberts (2007) conducted focus group research with minorities in California regarding barriers to their use of national parks and other public lands. She found several primary constraints: access (including transportation, cost, and safety), communication

(language barriers), perceived discrimination or prejudice, lack of awareness, and lack of ethnic minority representation among park staff. Communication and awareness are both factors that can be addressed through improved interpretive outreach. Roberts (2007) noted that there were many differences within the Latino community based on place of birth, immigration status, literacy and socioeconomic status, once again warning against making management decisions “based on assumptions about the Latino culture as a whole” (Roberts, 2007, p. 4). The results of this qualitative study indicate the usefulness of a qualitative approach in identifying barriers to use.

### **Need for Current Research**

Several gaps are indicated in this review of the literature. The first, and most obvious, is that studies of environmental concern and leisure participation among Latino-Americans have been regionally limited to the West and Southwest of the United States or areas near the Mexican border, where established populations exist (Caro & Ewert, 1995; Carr & Williams, 1992; Lopez, 2005; Noe & Snow, 1990). A review of the literature does not yield any research on the topic of barriers to interpretive participation in North Carolina, despite relatively new, fast-growing Latino populations in this area (Quandt et al., 2006).

As mentioned in Chapter 1, Western North Carolina contains many public land areas (National Forests in North Carolina, 2010) and has experienced rapid growth of its Latino population in the past two decades (Advantage West, 2011). The study of land ethics and forest product harvesting in WNC by Emery et al. (2006) clearly shows that Latinos are using public lands in the region despite admittedly being unfamiliar with the regional ecology, which in some cases puts them in danger or leads to unsustainable use



of resources. Development of interpretive materials based on the perceived needs of the Latino users themselves could help to address these issues, but perceived needs must first be further explored.

Qualitative data from short-response questions may be important in understanding *why* participants hold certain environmental views, participate in certain recreational activities, and what it would take to address their interests in interpretive programs (Creswell, 2009).

There have only been a few studies on related topics that collected qualitative responses to survey questions in addition to quantitative responses, yet those that have used a qualitative approach have successfully explored elements of specific groups' experiences in depth. Qualitative research expresses themes through the voices of participants themselves, which may lend weight and credibility to any conclusions in the eyes of the participating community (Maxwell, 2005). Therefore, a qualitative approach is particularly appropriate in a study attempting to address barriers to a certain ethnic or cultural group.

Stodolska (2000) conducted in-depth interviews with Polish immigrants about changes in their leisure behaviors after immigrating. Emery et al. (2006) gathered open-ended responses from Latino galax harvesters in Yancey County, North Carolina. Most recently, Roberts (2007) utilized a focus group approach to address barriers to underserved populations near public lands in California. This current study attempted to obtain similarly rich, descriptive results using a heavily qualitative approach to investigate barriers to Latinos in utilizing interpretive resources in Pisgah National Forest, North Carolina.

### **CHAPTER 3.**

#### **METHODOLOGY**

This study explored perceived barriers to participation in environmental interpretation resources, along with perceived positive attributes and possibilities for improvement, among a sample population of Latinos engaging in recreational activities at two picnic areas within Pisgah National Forest, or Latinos who had previously engaged in similar activities at these picnic areas. The research focused on collection of qualitative data, a commonly used practice in research seeking to explore phenomena (e.g. Connella, Fiena, Leeb, Sykesb, & Yenckenb, 1999, Gordon-Larsen et al. 2004, Topuzoğlu, Ay, Hidiroglu & Gurbuz, 2006). The interview script was developed and translated specifically for this study using the translation methods found in Marín and Marín (1991).

Demographic and open-ended responses were collected using semistructured in-person interviews. The goal for data collection was to reach theoretical saturation, defined as reaching a point at which participants begin repeating the same responses, and different responses are unlikely to emerge from additional interviews (Marshall & Rossman, 2011). Data analysis involved assigning qualitative codes to the open-ended responses, then using these codes to look for emergent themes. There were several factors which influenced sample size. Because the sampling methods depended on weather to produce a sample, the sample size was too small to confirm theoretical saturation; however, the prevalence of certain themes indicated certain strong trends (see Results).

### **Population of Interest**

For this exploratory study, the population of interest was defined as Latinos who visited Pisgah National Forest.

**Sample.** A purposive sampling design modeled after the procedure used by Caro & Ewert (1995) was utilized to generate the sample population. Research teams of 2-3 people, including the lead researcher at all times, approached as many groups as possible within a 4-hour time frame (approximately 1 p.m. to 5 p.m.). Data collection at the sites occurred on Saturdays during summer and fall of 2011. Observations of high Latino visitation during these hours led to the selection of these times. Sundays were not chosen to conduct interviews because members of the Latino community indicated that most of the population of interest attends religious services and spends the afternoons at home on Sundays. The research teams alternated times (early afternoon, late afternoon) at the two sites to limit bias due to differences in visitors to the two sites.

Additional data collection using a slightly modified interview script was conducted at the Brevard, NC *Centro Comunitario Hispano-americano* (Hispanic-american Community Center) with participants who had visited picnic sites in the National Forest in the past and wished to participate in the research study (Appendix B).

### **Locations**

The sites, Sycamore Flats Picnic Area and Coontree Picnic Area, were selected because anecdotal evidence indicates they are used frequently by Latino groups (J. Owenby, personal communication, February 17, 2011) and for their proximity to several educational centers (Pisgah Center for Wildlife Education, Pisgah Ranger Station/Visitor Center, Cradle of Forestry/Forest Discovery Center) offering interpretive programs and

exhibits to the general public. Sycamore Flats Picnic Area is closer to the National Forest entrance, making it almost as convenient for day trips as a city park, while Coontree Picnic Area is a longer distance from any urban centers. The Hispanic-American Community Center was selected as an additional interview site in order to access additional members of the local Latino community who utilize these sites but were not recreating on the days when sampling was conducted. The researcher asked participants prior to beginning interviews whether they had previously visited the sites to avoid interviewing any individuals who had not used these sites. However, all the participants who were approached at the Hispanic-American Community Center (n=3) had utilized these sites in the past. The interview script was modified slightly for this interview site, replacing language indicating that the participant was currently visiting the National Forest with questions about the most recent visit to the National Forest (Appendix B).

The Pisgah Ranger Station/Visitor Center is located just past Sycamore Flats picnic area on U.S. Highway 276. The informational portion of the center is open to the public from 8 to 5 on weekdays and from 9-5 on summer weekends and holidays. This center offers an information desk with maps and brochures, a small interpretive exhibit display, a short film and a gift shop. A short hike leaves from the parking lot and loops around in the woods behind the center.

The Cradle of Forestry/Forest Discovery Center is a historic site operated by the U.S. Forest Service. The Cradle of Forestry is located on U.S. Highway 276 several miles above Coontree Picnic Area, close to the Blue Ridge Parkway. The site covers 6,500 acres, including a large exhibit hall, a new film exploring the history of the site, classroom space, three paved interpretive trails exhibiting historic structures and

equipment, and living history demonstrations. The site is open to the public nine months out of the year at a small fee (\$5 for adults). Special programs and events are also hosted (C. Carpenter, personal communication, October 30, 2011).

The Pisgah Center for Wildlife Education/Bobby N. Setzer Fish Hatchery is located only a few miles from both Sycamore Flats and Coontree picnic areas within the Pisgah National Forest, but is operated by the North Carolina Wildlife Resources Commission. The center offers a film on wildlife, a short interpretive nature trail, and an opportunity to watch and feed the trout being raised there to stock NC streams (T. Poole, personal communication, October 30, 2011).

### **Interview Script**

The interview script (Appendices A and B) was developed specifically for the purposes of this research. All responses were kept anonymous, which the interviewer stated at the beginning of the interview. The interviewer clearly stated the length and purpose of the interview and asked each participant for consent to participate and to be recorded prior to beginning. Participants were told that they could opt out of the interview at any point. Each participant's oral consent was audio recorded. If participants opted not to allow audio recording but gave oral consent to participate in the interview without recording, the researcher signed a form confirming that oral consent was given, as recommended by Mack et al. (2011) (Appendix D).

Demographic questions asked for age, primary language spoken at home, current city and county of residence, and country of origin. In this study, the term *Latino* refers to U.S. residents who have been in the United States for less than four generations and can trace their family to a Spanish-speaking Latin American nation. However, due to the

potential for questions about these topics to reveal sensitive information about citizenship status, participants were not asked about time in the U.S. Study participants were considered Latino for data analysis purposes if they self-reported as considering themselves Latino or Hispanic, and/or if they primarily spoke Spanish in the home.

Questions were developed to fit into the categories listed by Krueger & Casey (2000). First, introductory or “warm up” questions inquired about the reason for visiting the area, whether participants have visited before, and what they like about the place. Next, questions determined the size of participants’ group, the frequency of visits to Pisgah National Forest, and activities in which they planned to participate while in the National Forest. Participants were then asked three key open-ended questions, designed to reveal answers to the three research questions. An expert panel including two professors at Montreat College, one member of the Latino community, and one Forest Service representative familiar with the sites reviewed the script (Appendices A and B). Several minor changes were made to the wording and order of the script based on the panel’s recommendations. For example, the Latino native speaker on the panel suggested stronger wording in the script’s introduction letting participants know that this research aimed to improve the nearby resources and that they could contribute to this effort by sharing their own experiences.

The script was translated into Spanish and checked for accuracy using the methods in Marín and Marín (1991). Specifically, the script was reviewed by an independent bilingual native Spanish speaker, Julio Monola, and a field pretest was administered with 2 individuals to ensure that questions had the intended meaning for the targeted demographic. Several small changes were made to the syntax of the interview

script based on recommendations from the native Spanish speaker (Appendices A and B). Approval by the Montreat College Institutional Review Board was sought and obtained prior to beginning the research project.

### **Data Collection Methods**

A semistructured in-person interview was conducted with each participant. Interviews rather than self-administered questionnaires were selected as the method of data collection. In-person interviews have advantages over self-administered designs due to high response rates, the potential to easily incorporate both categorical and open-ended questions, and the ability of the researcher to clarify responses (Chambliss & Schutt, 2009). In-person interviews can be cost-prohibitive for larger studies, but the small target sample size of this study allowed selection of this method. The interviewed individuals remained anonymous to the researcher to protect them in the case that they voluntarily offered information about illegal citizenship status, which could put them at risk. Anonymity was protected in multiple ways. Each transcript and the corresponding field notes were identified only by a letter and number, with no name associated with each set of responses. Additionally, the researcher made a point not to ask participants' names for an extra level of protection from identification.

Responses were recorded with an audio device to check for accuracy only after the interviewee gave consent. Recordings were transcribed and then erased, and transcriptions are stored in the Outdoor Education department at Montreat College. The researchers also took notes during interviews, and noted general conditions (weather, number of visitors at picnic site, etc.) at the start of each data collection session.

A focused effort was made to approach as many Latino visitors to the sites during the sampling hours as possible (Caro & Ewert, 1995). No minors under the age of 18 were interviewed. The researcher is bilingual in English and Spanish, and individuals who were approached were asked if they preferred to conduct the interview in English or Spanish. The interview script included an introduction in which participants learned about the nature of the study and gave informed consent. After completing the questions for each participant, if that participant indicated that he/she had not heard of the nearby educational centers, the researchers gave participants the option of taking some materials about nearby educational and interpretive resources. Small incentive gifts were also offered to participants (a compass and 2 free passes to the Cradle of Forestry/Forest Discovery Center provided by the U.S. Forest Service).

### **Data Analysis**

This study is based on a modified grounded theory approach, which involves collecting open-ended responses and then allowing categories or themes to emerge from the participant responses themselves (Creswell, 2009). Data analysis followed the steps listed by Marshall and Rossman (2011). First, the researcher transcribed the audio files into word-processing software. Transcripts from interviews conducted in Spanish were translated into English. Ten percent of these translations were cross-checked by an additional bilingual individual to ensure accuracy. Then, data was organized in Microsoft Excel, with participants identified by the ID number assigned to them during the interview. Categorical data and open-ended responses were listed for each participant in separate columns. Responses to demographic questions were used to describe the



primary sample population. These simple categorical responses (e.g. age, gender, country of origin) were tabulated for frequency.

The distance each participant had traveled to the national forest entrance was calculated using an online mapping tool (Google maps) by determining the distance between the town or municipality in which the participant lived and Pisgah Forest, NC. These values are estimates only.

Through immersion in the data, the researcher generated a coding scheme for the data from the open-ended responses (Appendix C). The process was based loosely on a constant comparative approach (Glasser, 1965), which is commonly used in research based on grounded theory (Boeije, 2002). This approach requires the researcher to continually compare any themes that emerged from each transcribed response to subsequent transcripts being analyzed, refining or changing categories and themes as needed. Overall, data coding followed the following steps. First, the responses to each individual question were read through thoroughly for general ideas. Then the researcher read through the responses a second time and began a list of codes, consisting of distinct units of information contained in participants' responses. The code list was maintained and updated as new responses were compared to responses that had already been coded. These codes were applied to each response and tracked in columns next to each question in Microsoft Excel. An intercoder was invited to cross-check 20% of the codes. The intercoder was selected because he had experience with research including two publications (Fox et al. 2011; Rossell, Hicks, Williams & Patch, 2009) and was familiar with the area of Pisgah National Forest where research took place. Intercoder reliability

was calculated as percent agreement following the methods outlined by Neuendorf (2002). The intercoder reliability score was 85.7%.

Finally, the researcher summarized the main themes that emerged from participants regarding both barriers to participation in interpretive resources and positive and negative participant feedback about the current resources (Marshall & Rossman, 2011). Related codes were grouped together to define these themes. Responses were also sorted by gender, urban vs. rural populations, and interview site, although no clear trends were observed based on these demographic criteria.

## CHAPTER 4.

### PRESENTATIONS OF RESULTS

The final sample included nine interviews; however, one was excluded from analysis because the participant did not consider herself Hispanic or Latina. Of the eight interviews included in data analysis, three were conducted at Coontree picnic area, two at Sycamore Flats picnic area, and three at the community center in Brevard, NC. Out of ten total visitors to the national forest who were approached, nine consented to participate in the study, and one chose not to participate.

#### **Study Population**

**Demographics.** The sample was split evenly by gender (Table 1). All participants but one were in the age range of 30-40. Four of the participants were originally from Mexico (compared to 63% of the NC Latino population), and the remainder of the subjects were from either El Salvador or Colombia. Participants came from a mix of urban, rural and small towns originally. Three spoke both English and Spanish in the home, while five spoke primarily Spanish. Based on the size of the group with which each individual reported visiting Pisgah National Forest, these eight individuals represented a total of 70 recreational users of the area. Although the information obtained from the eight participants who were interviewed may not be assumed to be true for the other members of their groups, the participants and their groups may have shared at least some basic characteristics, such as reasons for visiting the forest and activities planned for their time in the forest.

**Group size.** The size of groups varied from 3 to 15 with an average of 9 group members. Six out of the eight participants identified the group with whom they had come

to the national forest as “family,” while two participants identified the group as “friends.” One of the participants who had come with a group of friends clarified that “we all come from the same place” (El Salvador).

*Table 1*

*Study Participant Demographic Information (N=8)*

<b>Characteristic</b>	<b>Number of Participants</b>
<b>Gender</b>	
Female	4
Male	4
<b>Country of origin</b>	
Mexico	4
El Salvador	2
Colombia	2
<b>Age range</b>	
30-40	7
40-50	0
50-60	1
<b>Language spoken at home</b>	
Spanish only	0
English only	3
Spanish and English	

*Table 2*

*Number of People Visiting the Forest Together*

<b>Group size</b>	<b>Participants reporting this group size</b>
1 to 2	0
3 to 4	2
5 to 10	4
10 or more	2

### **National Forest Usage**

All of the participants were return visitors to the area or reported having visited more than once. Of four participants who were asked the question, “Do you know what the name of this place is?” half knew that they were in the Pisgah National Forest and half did not know the name of the area.

**Distance traveled to the National Forest.** Latinos who were interviewed generally came a long distance (50+ miles) to visit the Pisgah National Forest (Table 3). The individuals interviewed at Sycamore Flats picnic area (n=2) and Coontree picnic area (n=3) had traveled a median distance of 39.5 miles to the National Forest entrance, with distances traveled ranging from 18 to 143 miles. None of the five participants who were interviewed at the two picnic areas lived within the county (Transylvania County, NC) and two had come from more than 50 miles away. The three participants interviewed at the community center lived in the local community, as expected, so all of them lived within 10 miles of the National Forest.

*Table 3*

#### *Distance Traveled to Pisgah National Forest Entrance*

<b>Distance traveled</b>	<b>Number of participants</b>
0-10 miles	3
11-50 miles	3
50+ miles	2

*Table 4**Reason for Visiting the National Forest: Qualitative Codes and Themes*

<b>Themes</b>	<b>Codes within this theme</b>	<b>Number of responses</b>
Family gathering place	Something to do with kids	3
	To gather/spend time with family	2
Enjoyment of the place's qualities	Simply like it	2
	Beautiful	2
	Natural aspects: trees/mountains	2

**Reasons for visiting.** Participants' responses when asked their reasons for visiting Pisgah National Forest indicated both enjoyment of the natural beauty of the place itself, and, in many cases, an intention to gather with family or entertain children by going into the forest (Table 4).

*Table 5**Activities in Pisgah National Forest*

<b>Code</b>	<b>Number of responses</b>
Swim/enjoy the water	6
Hike/walk	3
Picnic/cook	2
Go to Sliding Rock	2
Take pictures	1
Play soccer	1

**Activities.** Participants' planned activities for their time in the forest included picnicking or cooking, swimming or enjoying the water, visiting Sliding Rock (a natural water slide managed for recreation by the U.S. Forest Service), hiking, taking photos, and playing soccer.

### Favorite qualities about Pisgah National Forest.

Table 6.

*Favorite Qualities about Pisgah National Forest: Qualitative Codes and Themes*

Theme	Codes within this theme	Number of responses
Aesthetic qualities	River/water	5
	Forest/trees/mountains	4
Elements of tranquility	Quiet, solitude, fresh air	4
Recreational qualities	Activities for kids/family	2
	A safe area	2
	Exhibits/man-made facilities	1

When asked what they like about the place, participants cited aesthetic qualities, recreational qualities, and elements of tranquility. Aesthetic qualities included the area's beauty, the mountains and the trees. One participant said, "It's very pretty because it's a place, um, that is very forested. And that's very good for...everybody." Another called the National Forest "a small part of paradise." Participants mentioned recreational qualities, like the fact that it was a safe area with space for outdoor activities with children, and the presence of water nearby for swimming. "Safe. The deep water. And the many activities for the kids," were the qualities one participant listed as favorites. Finally, responses indicated that participants liked the elements of tranquility in the forest, such as the quiet and solitude. "Very...it's very beautiful, very quiet," one participant said.

Favorite qualities were different for women and men. Female participants focused on the area as a space to gather with family and to bring children. "This is a quiet place where...well, I've got two small kids. So I need a place where they can be and it's quiet," said one female participant who was recreating with six of her children. Male

participants, however, mainly spoke of the natural beauty and aesthetic qualities of the area.

**Other natural areas.** Six of the eight participants named other natural areas they also visited often. One of these areas (Carl Sandburg Home) is a National Historic Site operated by the National Park Service and focuses on interpretive programs and exhibits. The other natural areas participants mentioned included two municipal parks, a county park, three state parks, and two municipalities that are near to several different public land areas managed for recreation and education.

*Table 7*

*Other Natural Areas Study Participants Reported Visiting\**

Blue Ridge Parkway	Grandfather Mountain, NC
Boone, NC	Jackson Park, Hendersonville, NC
Carl Sandburg Home, NC	Lake James State Park, NC
Chimney Rock, Rutherford County, NC	Lake Julian Park, NC
Gatlinburg, TN	Lake Tomahawk, Black Mountain, NC

*\*Note:* Two participants reported visiting the Blue Ridge Parkway. All other locations were unique responses only reported by one participant.

### **Knowledge of and Visitation to Nearby Interpretive Centers**

Only two out of the eight participants had heard of the Pisgah Ranger Station/Information Center, two had heard of the Pisgah Center for Wildlife Education, and only one of the participants had heard of the Cradle of Forestry/Forest Discovery Center (Table 6). Out of the eight participants, half had not heard of any of the sites. Three others had heard of just one of the sites. Only one had heard of two of the sites, and none of them were aware of all three.



Table 8

*Knowledge of Nearby Interpretive Resources*

<b>Site</b>	<b>Number who had heard of the site</b>	<b>Number who had visited</b>	<b>Activities while at the site</b>
Pisgah Ranger Station/Information Center	2	1	Walk on trails
Pisgah Center for Wildlife Education/Fish Hatchery	2	2	Walk on trails, feed fish, observe fish, watch film
Cradle of Forestry/Forest Discovery Center	1	1	Walk on trails, explore Discovery Center

All but one of the participants who had heard of each interpretive site had visited the site. All of the participants who had not heard of the sites were given brochures with information, and all of them expressed interest in visiting. Participants had mainly heard about the Pisgah Ranger Station visually (by driving by or seeing signs), but had mainly heard about the Pisgah Center for Wildlife Education and Cradle of Forestry by word of mouth.

Those who had visited the sites had walked and explored them independently, as exemplified by the following participant statement:

*Yo y la niña fuimos el año pasado, casi año y media, y caminamos.* (Myself and my daughter went [to the Cradle of Forestry] last year, almost a year and a half ago, and walked around.)

None of these individuals had attended a scheduled educational or interpretive program or special event.

### Participant Feedback about Nearby Interpretive Resources

Only three individuals had visited any of the nearby interpretive centers. These individuals were asked, for each interpretive site they had visited, what they liked most about the site and what could be improved. Responses varied among the different interpretive sites, but several general themes emerged from the qualitative codes (Appendix C).

*Table 9*

#### *Favorite Aspects of Nearby Interpretive Centers: Qualitative Codes and Themes*

Theme	Codes within this theme	Number of responses <sup>a</sup>
Trails, natural beauty, solitude	Trails	1
	Restful/calming	1
Educational exhibits, films	Films/exhibits about nature	1
	Rustic buildings	1
	Crafters/living history	1
	Train	1

<sup>a</sup>*Note:* Because so few participants had visited the interpretive centers (n=3), there was a much smaller set of data for this question.

**Trails and natural beauty.** Participants reported enjoying the trails available at the Cradle of Forestry and the Pisgah Ranger Station/Information Center. Natural beauty and solitude along these trails was reported as an enjoyable aspect of the sites. One individual recommended that the centers have more information available about the total length of the trails.

**Educational exhibits and films.** Positive feedback from participants also recognized the enjoyability of educational site activities for children; an example was feeding the fish at the Pisgah Center for Wildlife Education. “Well, the kids...there are machines where you put quarters and it gives you food to give to the fish...They really

like feeding them,” was one participant’s statement. One participant also enjoyed this site’s short educational film. The participant said he particularly liked the film because “they show you about nature.” Similarly, the participant who had visited the Cradle of Forestry named the historical exhibits and living history volunteers as an aspect he enjoyed most about the site.

*Me gusta ver como todo eso es muy rústico, muy antiguo, y personas...vimos unos señores que estaban haciendo muchas figuras con la madera...eso me gustó. Y vimos...a la parte del tren. (I like to see how all of that is very rustic, very old... we saw some gentlemen that were making many little figures from wood...I liked that. And we saw...the part with the train.)*

When asked what could be improved, one participant indicated that some of the exhibits could be more extensive.

All participants, whether or not they had visited any of the centers, were asked how the nearby interpretive centers could better serve them. Most participants indicated that the managers of the sites could provide more information about the sites in the community. One suggestion was to have a short announcement or advertisement summarizing the resources available. One participant requested more activities for children.

*Table 10*

*Suggested Ways Nearby Interpretive Centers May Be Able to Better Serve Participants*

<b>Code</b>	<b>Number of responses</b>
Provide information/outreach	8
Basic information in a one-page document	1
Activities for kids	1
Safety, in general	1

## CHAPTER 5.

### DISCUSSION AND RECOMMENDATIONS

#### Discussion

**Characteristics of sample population.** The predominance of large family groups recreating together in this study agrees with the findings of Gobster (2002) and Hutchinson (1987, cited in Gramann, Floyd, & Ewert, 1991), while the group of friends from the same country or origin spending time outdoors together is in agreement with research on acculturation and assimilation theory (Carr & Williams, 1992; Floyd & Gramann, 1993).

**Barriers to Latino participation in interpretive resources.** One purpose of this research was to identify barriers to participation in interpretive resources by Latinos who visit Pisgah National Forest. Based on participant responses to questions, lack of information about the existence of the resources emerged as one of the main barriers to participation. This barrier was identified by a majority of participants. The other barriers emerging from participant responses were a reluctance to drive in general, and for some participants, a preference for certain leisure activities, such as picnicking and swimming, that are not related to interpretive resources.

Surprisingly, no participants identified the absence of materials or programs in their native language as a barrier to participation. Cost of entrance to interpretive sites also did not emerge from participant responses as a significant barrier to participation or visitation.

***Lack of information.*** When participants who had not visited the interpretive centers were asked why they had never visited, all of them responded that they did not

know of the centers. One participant said “*Es una cosa que no se sabe*” (“It’s just something that you don’t know about”). This trend agrees with other research, such as the study by Gramann, Floyd and Ewert (1991), in finding that low Latino participation in interpretive activities was associated with a lack of information rather than an inherent lack of interest in interpretive resources. In fact, Gramann, Floyd and Ewert (1991) found that more Latinos than non-Latinos thought insufficient information services was a significant problem for interpretive programs, and that “a higher percentage of Hispanics [than non-Hispanics] who *knew about the programs* used them during their visit” (p. 173, emphasis added).

***Reluctance to drive in general.*** One participant’s responses indicated that an atmosphere of fear during 2011 among some members of the Latino community had contributed to reduced driving and visitation of recreational resources in general. The participant indicated that some individuals in the community held expired driver’s licenses, an offense which could lead to severe legal consequences to any individuals with questionable citizenship status:

Nowadays it scares them to go out. Um, their licenses are expired now, and... a person hardly goes out...before one would go to the park, go out to do various things, but now it’s just go to work, do the necessary things, and return home.

Although one out of eight participants only related this sentiment to the researcher, it may be a barrier for many local Latino residents (especially those without legal citizenship status). In 2011, all 100 counties in North Carolina began implementing the Secure Communities program, in which individuals who are arrested for any offense – including driving with an expired license – have their fingerprints run through an

Immigration and Customs Enforcement database and may face deportation (Cowell, 2011).

***Preference for other leisure activities.*** Seventy-five percent of participants listed swimming as one of the main activities they liked to engage in while in Pisgah National Forest. While none explicitly named this as a barrier to visiting interpretive resources, individuals who choose to spend their leisure time swimming or picnicking might not be attracted to interpretive centers offering structured programs or exhibits.

However, the sample was biased since interviews were conducted among Latinos who were currently using or had previously used picnic areas where swimming is a popular and common activity. This preference cannot be assumed to be true for all Latino visitors to Pisgah National Forest. Additionally, when given brochures about the Pisgah Center for Wildlife Education and the Cradle of Forestry, all participants expressed interest in visiting these sites. Specifically, participants expressed excitement about exhibits pictured on the brochures, including children feeding fish at the Pisgah Center for Wildlife Education and ringing the bell of an old steam engine at the Cradle of Forestry. “More activities for the kids!” one participant exclaimed. It is possible that if Latino visitors to the forest had access to more information about these exhibits and programs, they would consider utilizing the interpretive resources as a leisure activity in addition to their usual recreational activities.

#### **Latino leisure choices and opinions on current interpretive resources.**

***Recreation with children.*** A tendency to spend leisure time in large groups, generally consisting of family members, has been found in other studies as well as the current study (e.g. Gobster, 2002; Hutchinson, 1987, cited in Gramann, Floyd, & Ewert,

1991). The majority of study participants were visiting Pisgah National Forest with one or more children, and three of the eight emphasized their children as the reason for their visit. Swimming was one of the most common activities that participants said their children enjoyed in the national forest. Activities for kids also came up as a suggestion for how nearby interpretive resources could better serve participants.

***Interest in self-guided activities.*** Participants who had visited one or more of the nearby interpretive centers (n=3) had mainly engaged in self-guided activities such as walking on trails, seeing educational films, and observing exhibits. This does not exclude the possibility that these individuals would not participate in a guided program or special event, and may again reflect lack of sufficient information about the timing and nature of these programs. However, recommendations to the managers of these interpretive sites should at the least include suggestions to optimize self-guided activities and exhibits for Latino visitors.

Feedback from these individuals indicated general satisfaction with the available exhibits. “I liked it all...I wouldn’t know how to tell you how to improve it,” one said. However, a suggestion from one participant indicated an interest in more extensive displays about different fish species at the Pisgah Center for Wildlife Education.

***Concern for safety and cleanliness.*** Participants frequently reported a high level of concern for the physical safety and cleanliness of sites in Pisgah National Forest. They expressed both positive and negative feedback about these factors with respect to the picnic areas, Sliding Rock, and other natural areas along the Davidson River. Comments typical of the positive feedback received were “They clean it up; they picked some things up over there” and “It’s safe.” Some examples of negative comments were “It’s not very

clean,” “Somebody can get hurt” and “In general, they need to improve *la seguridad* – the safety.” While these responses were not relevant to the questions asked, the importance of these characteristics to Latino visitors may be of importance to interpretive planners attempting to improve any aspect of services for this population.

### **Recommendations**

The Latino population in the United States is projected to continue growing at a rapid pace, and by 2050 non-Latino white Americans are expected to be a minority (Pew Hispanic Center, 2009). The changing face of Americans has enormously important implications for environmental interpreters and land managers across the country (Johnson & English, 2005; Roberts, 2007). Observed increases in Latino visitation to public lands in western North Carolina, coupled with continuing growth of the Latino population in this region, makes serving the Latino community increasingly important to the educational and interpretive centers on nearby public lands. To respond to this growing need, the agencies and individuals who manage these sites must continue to identify the barriers, needs, and preferences of Latino audiences in the region.

#### **Preliminary recommendations for interpretive planners and land managers.**

More research is needed to determine the opinions of the Latino community as a whole with respect to barriers to participation in the interpretive resources in Pisgah National Forest. However, the experiences of the eight individuals who participated in this study, combined with suggestions in the literature, may provide some initial considerations for public land managers and environmental interpreters in the Western North Carolina area that could be implemented fairly easily until further research is available.



**Outreach and information for the Latino community.** The number one barrier identified to participation in interpretive resources for the Latino participants in this study was lack of information. One participant suggested sending an informational sheet with all the programs and details about each site to the regional Spanish language newspaper. “*Lo leen casi todos*” – “Almost everyone reads it,” he said. Based on the tendency to recreate in large family groups with children found in this study and other studies about Latino public land use, interpretive planners may wish to focus on kid-friendly activities and exhibits in any informational announcements. Distributing materials about interpretive programs, resources and activities in the Latino community, through the newspaper or other communication methods, corresponds to the “Invite” component of the “Invite, Include, Involve” triad proposed by Chavez (2000), and could be a low-cost method to initiate outreach to the local Latino population.

**Programs and activities.** Like Hobbs (2004) and Gramann, Floyd and Ewert (1991) have both suggested, interpretive planners may also wish to modify interpretive programs to fit the needs of Latino visitors. Based on the results of this study, a focus on appealing to large family groups and especially to children would accommodate the leisure preferences of these visitors. The responses of the small group of participants in this study are not necessarily representative of the population of interest. However, because participation in self-guided activities was expressed as a preference by these participants, these activities may also need to be examined in the context of usefulness to Latino visitors.

**Communication materials.** The primary language spoken at home for all participants in this study was either Spanish or a combination of English and Spanish.

However, a lack of materials or programs in Spanish did not emerge as a barrier to these visitors utilizing the interpretive resources nearby. The only participant who discussed the language of materials actually placed Spanish-language materials at a low priority, noting that people of many cultures may visit the interpretive centers: “Maybe Spanish would be the majority, but there are many other languages, other people that come to visit.”

Interpretive managers may wish to send out bilingual outreach materials if it is feasible; however, more research is needed to determine the value of bilingual outreach materials and interpretive materials. Gramann, Floyd and Ewert (1991) have pointed out that providing simply print materials in another language is based on an assumption that individuals who are fluent in a language are also literate in that language. They recommended relying on internationally recognized symbols when possible in outreach and interpretive materials.

### **Limitations**

This exploratory research attempted to initially explore barriers to Latino participation in interpretive resources in Pisgah National Forest. The qualitative research was based on a very small sample size (N=8) and did not implement a random sampling design. While the barriers and suggestions reported here report some preliminary steps that public land managers and interpreters could take to be more inclusive of the Latino audience, the results cannot be assumed to be true for other members of this community or Latinos in other regions or situations. However, the recreation behaviors, opinions, and barriers found in this study agree with the literature from other regions, suggesting

there may be some trends in common between the Latinos using public lands in Western NC and those in other areas (e.g. Dwyer, 1992, Gobster, 2002, Roberts, 2007).

The individuals who were interviewed for this study were recreational, not consumptive, users of Pisgah National Forest. The research by Emery et al. (2006) indicated that Latinos utilize national forest lands in NC for collection of forest products, especially galax. Since Emery et al. (2006) found a need among these Latinos for educational resources to learn more about safety hazards and natural history in the national forest, this is an important group for future research and outreach regarding the available educational and interpretive resources.

Several of the recommendations for interpreters and public land planners target the local Latino community. However, the demographics of the study sample indicate that Latinos travel long distances to visit Pisgah National Forest. Different strategies may be needed for outreach to reach those Latino users who do not reside in the surrounding community.

Finally, this exploratory study did not compare Latino responses to individuals of other ethnic or cultural groups. Therefore, the barrier of insufficient information about nearby interpretive resources may not be specific to this population. In fact, it is likely, based on observations in the vicinity surrounding these interpretive centers, that many non-Latino users also lack information.

### **Summary**

This small exploratory study explored the barriers to participation in interpretive resources for Latino visitors to Pisgah National Forest using semistructured in-person interviews. The study was limited by a small sample size and by the conscious choice to

interview only Latinos who already choose to visit parts of Pisgah National Forest. The responses indicated that lack of information about the existence of interpretive resources in the area (such as the Pisgah Ranger Station/Information Center, Pisgah Center for Wildlife Education, and Cradle of Forestry) may be the most significant barrier to Latino visitation and participation at these sites. Further research is needed in the Eastern U.S. and specifically in Western North Carolina to confirm the results of this study and to expand the knowledge available to interpretive planners and public land managers as they attempt to improve services to the growing Latino population in the area.

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**APPENDIX A**

**INTERVIEW SCRIPT (SYCAMORE FLATS AND COONTREE PICNIC AREAS)**

Hello, my name is Katie and this is \_\_\_\_\_.

I'm a student at Montreat College, and we're conducting a research study about the use of educational and recreational resources in this area. This research is specifically focusing on Latinos. Do you consider yourself to be Hispanic or Latino?

With this research, we are trying to improve the educational resources and centers nearby.

You can help us with this project by answering a few questions on the subject. The interview should only take 15 to 20 minutes of your time and your responses will be anonymous.

If you choose to participate, we can offer you a small gift as a token of our appreciation at the end of the 20 minute interview.

Do I have your permission to ask you some questions?

**(IF INTERVIEWEE IS POTENTIALLY A NON-ENGLISH SPEAKER)** Do you prefer English or Spanish?

I would like to record our conversation on this audio recorder, just so I don't miss anything, but this recording will be erased as soon as I transcribe the interview on paper. May I use the recorder? **(IF THEY SAY YES, TURN ON AUDIO DEVICE AND REPEAT THE QUESTION, RECORDING THEIR CONSENT.)**

I'll start with a few general questions about your visit to this place today. Please speak slowly if you can so I can understand the recording later.

1. Why did you come to this place today?
2. Have you been to this place before?
3. What do you like about this place?

The next few questions have to do with your personal information. This information will just help us to understand differences in the needs of various groups of people who visit this same place.

4. How old are you?
5. In what city or town do you currently live? Do you live within the city limits?
6. What is your country of origin? Do you come from a big city, small town, or rural community?
7. What language do you primarily speak at home?

Thank you! The next few questions are about your use of this area.

8. How many times have you visited this area? Do you know what the name of this area is? **(IF NOT, MENTION THAT IT IS CALLED PISGAH NATIONAL FOREST.)**

9. How big is the group you came with today? **(IF >1, GO TO #10. OTHERWISE, GO TO #11.)**

10. How do you primarily know your companions?

11. Are there other natural areas you visit a lot? Which ones? Where are they?

12. What types of activities will you do today while you're here? What do you typically do while you're here?

13. Have you heard of the Pisgah Ranger Station/Visitor Center? Have you visited? What activities did you do while there?

14. Have you heard of the Pisgah Center for Wildlife Education? Have you visited? What activities did you do while there?

15. Have you heard of the Cradle of Forestry/Forest Discovery Center? Have you visited? What activities did you do while there?

**(IF THE PARTICIPANT SAID YES TO ANY OF THE ABOVE, GO TO 16 AND 17. OTHERWISE, GO TO 18.)**

16. How did you hear about the \_\_\_\_\_ (Visitor Center/Pisgah Center for Wildlife Education/Cradle of Forestry)?

17. When you visited the \_\_\_\_\_ (Visitor Center/Pisgah Center for Wildlife Education/Cradle of Forestry), what did you like most about your visit?

In your opinion, what could have been improved?

Do you plan to return to the facility(ies)?

18. What have been your reasons for not visiting the facilities?

19. How do you think these centers could better serve you?/Are you interested in visiting one of these places now that you have information about it?

20. Is there anything else you would like to share with me about your experiences at the Pisgah National Forest and its various educational centers and resources?

Thank you so much for your time!

Hola, me llamo Katie y le presento a \_\_\_\_\_.

Soy estudiante de postgrado en el Colegio Montreat y estamos realizando una encuesta para investigar el uso actual de los recursos educativos y recreativos en esta área. Esta encuesta está especialmente dirigida a los latinos. ¿Ud. se considera hispana(o) o latina(o)?

Con esta investigación pretendemos mejorar los centros y recursos educativos que se encuentran en esta zona.

Usted puede ayudarnos con este proyecto contestando algunas preguntas sobre el tema que solo le quitarán de entre quince a veinte minutos de su tiempo. Le aclaro que todas sus respuestas se conservarán en el anonimato.

Si Ud. Elige participar, podemos ofrecerle un regalito al final de la entrevista como símbolo de nuestro agradecimiento.

¿Entonces me da su permiso de hacerle algunas preguntas?

**(IF INTERVIEWEE IS POTENTIALLY A NON-ENGLISH SPEAKER)** ¿Prefiere la entrevista en inglés o en español?

Si a usted no le incomoda me gustaría grabar nuestra conversación para que no se me pase nada al momento de escribir sus respuestas en papel, y después de eso eliminaré la grabación.

¿Está bien que utilice la grabadora? **(IF THEY SAY YES, TURN ON AUDIO DEVICE AND REPEAT THE QUESTION, RECORDING THEIR CONSENT.)**

Voy a comenzar con unas preguntas generales sobre su visita actual a este lugar. Por favor, hable lentamente para que yo pueda entender bien la grabación.

1. ¿Por qué vino hoy a este lugar?

2. ¿Ha visitado este lugar antes?

3. ¿Qué le gusta de este lugar?

Las próximas preguntas tienen que ver con su información personal. Esta información solamente nos ayudará a comprender la diferencia de necesidades de los grupos de personas que visitan este mismo lugar.

4. ¿Cuántos años tiene Ud.?

5. ¿En qué ciudad o pueblo vive Ud. actualmente? ¿Vive dentro de la ciudad?

6. ¿Cuál es su país de origen? ¿Proviene de una ciudad grande, pequeña o ejido?

7. ¿Qué idioma habla principalmente en el hogar?

Gracias. Las próximas preguntas son sobre el uso de esta área.

8. ¿ Cuántas veces ha visitado este lugar? Sabe cómo se llama este lugar?  
(**IF NOT, MENTION THAT IT IS CALLED PISGAH NATIONAL FOREST.**)

9. ¿Cuántas personas que le acompañan hoy? (**IF >1, GO TO #10. OTHERWISE, GO TO #11.**)

10. ¿Cuál es su relación con ellas?

11. ¿Hay otras áreas naturales que visite Ud. a menudo? ¿Cuáles son? ¿Dónde están?

12. ¿En qué tipos de actividades va a participar durante su visita hoy? Normalmente, ¿qué actividades realiza en este lugar?

13. ¿Ha oído del “Pisgah Ranger Station” y centro de informaciones? ¿Lo ha visitado? ¿En qué actividades participó Ud. durante su visita? ¿Si no participó, por qué?

14. ¿Ha oído del “Pisgah Center for Wildlife Education” (Centro Pisgah para Educación de la Flora y Fauna)? ¿Lo ha visitado? ¿En qué actividades participó Ud. durante su visita? ¿Si no participó, por qué?

15. ¿Ha oído del “Cradle of Forestry” (Cuna de Silvicultura) y el “Forest Discovery Center” (centro de descubrimiento del bosque)? ¿Lo ha visitado alguna vez? ¿En qué actividades participó Ud. durante su visita? ¿Si no participó, por qué?

**(IF THE PARTICIPANT SAID YES TO ANY OF THE ABOVE, GO TO 16 AND 17. OTHERWISE, GO TO 18.)**

16. ¿Cómo se enteró del \_\_\_\_\_ (Visitor Center/Pisgah Center for Wildlife Education/Cradle of Forestry)?

17. Cuando visitó estos a alguno de estos lugares (Visitor Center/Pisgah Center for Wildlife Education/Cradle of Forestry), ¿Qué le gustó más sobre su visita?

En su opinion, ¿qué cree que podría mejorarse?

¿Planea regresar a visitar estos lugares nuevamente?

18. ¿Por qué no ha visitado los centros?

19. ¿Cómo cree Ud. Que podrían beneficiarle mejor estos centros?/ ¿Tiene interés en visitar algunos de estos lugares ahora que tiene información sobre ellos?

20. ¿Tiene otros comentarios que le gustaría compartir conmigo sobre sus experiencias en la Pisgah National Forest y sus varios centros y recursos educativos?

Gracias por su tiempo!



**APPENDIX B****INTERVIEW SCRIPT (CENTRO COMUNITARIO HISPANO-AMERICANO)**

Hello, my name is Katie and this is \_\_\_\_\_.

I'm a student at Montreat College, and we're conducting a research study about the use of educational and recreational resources in this area. This research is specifically focusing on Latinos. Do you consider yourself to be Hispanic or Latino?

With this research, we are trying to improve the educational resources and centers found in Pisgah National Forest near Brevard.

You can help us with this project by answering a few questions on the subject. The interview should only take 15 to 20 minutes of your time and your responses will be anonymous.

If you choose to participate, we can offer you a small gift as a token of our appreciation at the end of the 20 minute interview.

Do I have your permission to ask you some questions?

**(IF INTERVIEWEE IS POTENTIALLY A NON-ENGLISH SPEAKER)** Do you prefer English or Spanish?

I would like to record our conversation on this audio recorder, just so I don't miss anything, but this recording will be erased as soon as I transcribe the interview on paper. May I use the recorder? **(IF THEY SAY YES, TURN ON AUDIO DEVICE AND REPEAT THE QUESTION, RECORDING THEIR CONSENT.)**

I'll start with a few general questions about your visit to this place today. Please speak slowly if you can so I can understand the recording later.

1. Why do you usually visit the Pisgah National Forest?
2. Have you been there more than once?
3. What do you like about the forest?

The next few questions have to do with your personal information. This information will just help us to understand differences in the needs of various groups of people who visit this same place.

4. How old are you?
5. In what city or town do you currently live? Do you live within the city limits?
6. What is your country of origin? Do you come from a big city, small town, or rural community?
7. What language do you primarily speak at home?

Thank you! The next few questions are about your use of the Pisgah National Forest

9. The last time you visited the forest, how many people accompanied you? **(If >1, GO TO #10. OTHERWISE, GO TO #11.)**

10. How did you primarily know your companions?

11. Are there other natural areas you visit a lot? Which ones? Where are they?

12. What types of activities did you do in the forest the last time you visited? What do you typically do when you're there?

13. Have you heard of the Pisgah Ranger Station/Visitor Center? Have you visited? What activities did you do while there?

14. Have you heard of the Pisgah Center for Wildlife Education? Have you visited? What activities did you do while there?

15. Have you heard of the Cradle of Forestry/Forest Discovery Center? Have you visited? What activities did you do while there?

**(If the participant said yes to any of the above, go to 16 and 17. Otherwise, go to 18.)**

16. How did you hear about the \_\_\_\_\_ (Visitor Center/Pisgah Center for Wildlife Education/Cradle of Forestry)?

17. When you visited the \_\_\_\_\_ (Visitor Center/Pisgah Center for Wildlife Education/Cradle of Forestry), what did you like most about your visit?

In your opinion, what could have been improved?

Do you plan to return to the facility(ies)?

18. What have been your reasons for not visiting the facilities?

19. How do you think these centers could better serve you? / Are you interested in visiting one of these places now that you have information about it?

20. Is there anything else you would like to share with me about your experiences at the Pisgah National Forest and its various educational centers and resources?

Thank you so much for your time!

Hola, me llamo Katie y le presento a \_\_\_\_\_.

Soy estudiante de postgrado en el Colegio Montreat y estamos realizando una encuesta para investigar el uso actual de los recursos educativos y recreativos en esta área. Esta encuesta está especialmente dirigida a los latinos. ¿Ud. se considera hispana(o) o latina(o)?

Con esta investigación pretendemos mejorar los centros y recursos educativos que se encuentran en esta zona.

Usted puede ayudarnos con este proyecto contestando algunas preguntas sobre el tema que solo le quitarán de entre quince a veinte minutos de su tiempo. Le aclaro que todas sus respuestas se conservarán en el anonimato.

Si Ud. Elige participar, podemos ofrecerle un regalito al final de la entrevista como símbolo de nuestro agradecimiento.

¿Entonces me da su permiso de hacerle algunas preguntas?

**(IF INTERVIEWEE IS POTENTIALLY A NON-ENGLISH SPEAKER)** ¿Prefiere la entrevista en inglés o en español?

Si a usted no le incomoda me gustaría grabar nuestra conversación para que no se me pase nada al momento de escribir sus respuestas en papel, y después de eso eliminaré la grabación.

¿Está bien que utilice la grabadora? **(IF THEY SAY YES, TURN ON AUDIO DEVICE AND REPEAT THE QUESTION, RECORDING THEIR CONSENT.)**

Voy a comenzar con unas preguntas generales sobre su visita actual a este lugar. Por favor, hable lentamente para que yo pueda entender bien la grabación.

1. ¿Por qué usualmente visita Ud. al Pisgah National Forest?

2. ¿Ha visitado más que una vez?

3. ¿Qué le gusta de ese lugar?

Las próximas preguntas tienen que ver con su información personal. Esta información solamente nos ayudará a comprender la diferencia de necesidades de los grupos de personas que visitan este mismo lugar.

4. ¿Cuántos años tiene Ud.?

5. ¿En qué ciudad o pueblo vive Ud. actualmente? ¿Vive dentro de la ciudad?

6. ¿Cuál es su país de origen? ¿Proviene de una ciudad grande, pequeña o ejido?

7. ¿Qué idioma habla principalmente en el hogar?

Gracias. Las próximas preguntas son sobre el uso de esta área.

9. La última vez que visitó Ud. al bosque, ¿cuántas personas que le acompañaban? **(IF >1, GO TO #10. OTHERWISE, GO TO #11.)**

10. ¿Cuál era su relación con ellas?

11. ¿Hay otras áreas naturales que visite Ud. a menudo? ¿Cuáles son? ¿Dónde están?

12. ¿En qué tipos de actividades va a participar durante su última visita? Normalmente, ¿qué actividades realiza en ese lugar?

13. ¿Ha oído del “Pisgah Ranger Station” y centro de informaciones? ¿Lo ha visitado? ¿En qué actividades participó Ud. durante su visita? ¿Si no participó, por qué?

14. ¿Ha oído del “Pisgah Center for Wildlife Education” (Centro Pisgah para Educación de la Flora y Fauna)? ¿Lo ha visitado? ¿En qué actividades participó Ud. durante su visita? ¿Si no participó, por qué?

15. ¿Ha oído del “Cradle of Forestry” (Cuna de Silvicultura) y el “Forest Discovery Center” (centro de descubrimiento del bosque)? ¿Lo ha visitado alguna vez? ¿En qué actividades participó Ud. durante su visita? ¿Si no participó, por qué?

**(IF THE PARTICIPANT SAID YES TO ANY OF THE ABOVE, GO TO 16 AND 17. OTHERWISE, GO TO 18.)**

16. ¿Cómo se enteró del \_\_\_\_\_ (Visitor Center/Pisgah Center for Wildlife Education/Cradle of Forestry)?

17. Cuando visitó estos a alguno de estos lugares (Visitor Center/Pisgah Center for Wildlife Education/Cradle of Forestry), ¿Qué le gustó más sobre su visita?

En su opinion, ¿qué cree que podría mejorarse?

¿Planea regresar a visitar estos lugares nuevamente?

18. ¿Por qué no ha visitado los centros?

19. ¿Cómo cree Ud. Que podrían beneficiarle mejor estos centros? / ¿Tiene interés en visitar algunos de estos lugares ahora que tiene información sobre ellos?

20. ¿Tiene otros comentarios que le gustaría compartir conmigo sobre sus experiencias en la Pisgah National Forest y sus varios centros y recursos educativos?

Gracias por su tiempo!

**APPENDIX C**  
**QUALITATIVE ANALYSIS CODES**

**Q1: Why did you come to this place today/Why do you usually visit Pisgah National Forest?**

- [LIKE] – Simply like it
- [FAM] – To gather/spend time with family
- [BEAU] – Beautiful
- [FOR] – Natural aspects – trees/mountains
- [KIDS] – Something to do with kids

**Q3: What do you like about this place/the forest?**

- [BEAU] – Beautiful
- [SAFE] – A safe area
- [WAT] – River/water
- [QUI] – Quiet, solitude, fresh air
- [REC] – Activities for kids/family
- [FOR] – Forest/trees/mountains
- [EXH] – Exhibits/man-made facilities

**Q12A/B: What types of activities will you do today while you're here?**

- [PIC] – Picnic/cook
- [SLI] – Go to Sliding Rock
- [SWIM] – Swim/enjoy the water
- [HIKE] – Hike/walk
- [PHOT] – Take pictures
- [SOC] – Play soccer

**Q14C: What activities did you do while there (Information Center/Pisgah Center for Wildlife Education/Cradle of Forestry)?**

- [FEED] – Feed fish
- [OBS] – Observe fish
- [HIKE] – Hike/walk
- [DISC] – Forest Discovery Center

**Q17A: When you visited the (Visitor Center/Pisgah Center for Wildlife Education/Cradle of Forestry), what did you like most about your visit?**

- [HIKE] – Trails
- [CALM] – Restful/calming
- [EXH] – Films/exhibits about nature
- [BLDGS] – Rustic buildings
- [CRAFT] – Crafters/living history
- [TRAIN] – Train

**Q17B: What could have been improved?**

- [EXH] – Variety/number of exhibits
- [INFO] – Information about trail distances
- [DKNOW] – No suggestions/ did not know

**Q18: What have been your reasons for not visiting the facilities?**

[INFO] – No information/not aware of sites

[FEAR] – Fear of driving anywhere with expired license

**Q19: How do you think these centers could better serve you?**

[INFO] – Provide information/outreach

[SAFE] – Safety, in general

[ANN] – Basic information in a one-page announcement/ad

[KIDS] – Activities for kids

**Q20: Is there anything else you would like to share with me about your experiences at the Pisgah National Forest and its various educational centers and resources?**

[Y-SAFE] – Satisfied with safety of area

[BEAU] – Beauty of area

[NEWS] – Recommend putting ads in local Spanish-language newspapers

[GOOD] – General happiness to be in national forest

[N-SAFE] – Safety concerns

[LOVE] – Love of mountains



**APPENDIX D**  
**CONSENT FORM**

### CONSENT FORM

The information below was read out loud to the participant in his/her preferred language. The participant gave oral consent to be interviewed. The participant chose not to be audio recorded.

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Signature of researcher: \_\_\_\_\_

*I'm a student at Montreat College, and we're conducting a research study about the use of educational and recreational resources in this area. This research is specifically focusing on Latinos. With this research, we are trying to improve the educational resources and centers nearby. You can help us with this project by answering a few questions on the subject. The interview should only take 15 to 20 minutes of your time and your responses will be anonymous. If you choose to participate, we can offer you a small gift as a token of our appreciation at the end of the 20 minute interview. Do I have your permission to ask you some questions?*

*I would like to record our conversation on this audio recorder, just so I don't miss anything, but this recording will be erased as soon as I transcribe the interview on paper. May I use the recorder?*