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# **Attachments to Places & Activities in Outdoor Recreation**

# VISITOR MEANINGS OF PLACE: USING COMPUTER CONTENT ANALYSIS TO EXAMINE VISITOR MEANINGS AT THREE NATIONAL CAPITOL SITES

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**Abstract:** A mix method study designed to explore the meanings, interest, and connections visitors ascribe to three National Park Service sites: National Capital Parks—Central, Rock Creek Park, and George Washington Memorial Parkway's Great Falls Park. The researchers employed the focus group interview technique and asked visitors prior to and then after an interpretive encounter what the resource and the place meant to them. Both hand-coding and the Minnesota Contextual Content Analysis (MCCA) software program were used in the analysis process. Selected findings suggested audiences' understanding and appreciation of the park resource.

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## Introduction

Recent studies have explored and documented the relationships among recreation resources, visitor meanings and perspectives of place, and the likelihood of participating in resource stewardship. Williams, Paterson, Roggenbuck, and Watson (1992) suggest to incorporate the concept of "sense of place" to better understand recreation. Sense of place concerns people's *meanings* associated with places, which are formed through personal experience (Tuan, 1974, 1977; Relph, 1976). Various studies suggest applying the sense of place concept in resource management and interpretation (Appleyard, 1979; Roggenbuck, Williams & Bobonski, 1992; Brandenburg & Carroll, 1995; Masberg, 1996; William & Stewart, 1998; Galliano & Loeffler, 1999).

Every year, visitors from the U.S. and other countries flock to national parks to understand the places and to be inspired. Visitors attach significant personal meanings to national park sites such as the Lincoln Memorial and Vietnam Veterans Memorial (Goldman, Chen, & Larsen, in press). Quality interpretation requires an effort to integrate knowledge of the resource, knowledge of the audience, and appropriate techniques to yield desired interpretive outcomes (NPS, 1997; 2000a; 2000b). Understanding visitors' meanings of place can increase interpreters' knowledge of their audience and regenerate interpreters' passion toward both the resource and the visitors (Goldman et al., in press). Interpretive managers and front-line interpreters need a more comprehensive understanding of the meanings that visitors bring to sites as well as the ability to apply that understanding to the development of interpretive programs. Understanding and interpretation are closely related, and most sociologists now recognize that some interpretation is involved in the acts of understanding (Marshall, 1994). To help interpreters achieve desired interpretive outcomes of facilitated intellectual and emotional connections with the resource and therefore a sense of stewardship, this study explored the meanings that visitors attach to the resources at three National Park Service (NPS) administered sites: National Capital Parks—Central, Rock Creek Park, and Great Falls Park.

## Literature Review

### Meanings, Places & Resource Stewardship

Meaning is the most fundamental unit to understand people and their perceptions (Blumer, 1969; Marshall, 1994). Dutch hermeneutic phenomenologist Van Manen (1990) believes that the whole human science research "is concerned with meanings—to be human is to be concerned with meaning, to desire meaning" (p. 79). Meanwhile, The concepts of "place" and "meanings" have archived prominence in the fields of geography, landscape architecture, public administration, historic preservation, natural resource management, education, counseling, and cognitive and social psychology. Place is a powerful concept that enables researchers to understand people's attitudes, values, motivations and behavior more holistically (Williams & Stewart, 1998). Specifically, place-based research explores the psychological engagement that transforms space into place (Tuan, 1977). Participation in resource stewardship increases when visitors connect to resource/place meanings (Roggenbuck et al., 1992).

### Meaning—The Fundamental Element

It would be difficult to imagine any sociological study did not look at how people think about the social world and social relationships—in other words, the *meanings* that the society has for individuals and groups. Osgood (1952) defines meanings as "a bundle of components including experiences, images, and feelings in addition to information." Indeed, some schools of thought (mainly the Chicago School) argue that meaning emerges through interaction (Blumer, 1969). For Blumer, whom later being

considered as the leader of symbolic interactionism, meanings are organic and can “grow” through the interacting and interlinking between one and another. He illustrated this point as followed:

Human group life consists of the fitting to each other of the lines of action of the participants indicating to one another what to do and in turn interpreting such indications made by the others. People are prepared to act toward their objects on the basis of the meaning these objects have for them. Human beings face their world as organisms with selves, thus allowing each to make indications to [oneself]. Human action is constructed by the actor on the basis of what [one] notes, interprets, and assesses. And the interlinking of such ongoing action constitutes organizations, institutions, and vast complexes of interdependent relations. (Blumer, 1969)

Researchers have been closely associated the concept of meaningful action with Max Weber, who distinguishes it from behavior (Marshall, 1994). Weber distinguishes meaningful actions from merely behavioral movement of which the actor does not attach a meaning (for example breathing). Meaningful social action, by contrast, is the action directed towards others and to which we can attach a subjective meaning. In addition, sociologists and linguists are interested in social actions because they draw from a socially constructed and acceptable language. Giddens (1984) addresses the significance of peoples' meanings of place; he suggests that places are both enabling and embedding. Physical locations affect people and people in turn affect those locations, constructing social meanings and determining their significance.

#### Meanings of Place & National Park Service's Interpretive Philosophy

Phillips (1997) links three components in his conceptualization of the meaning-making process: individual ascription, social consensus, and specific attributes of the object, event or place. The National Park Service's Interpretive Development Program (IDP) adopts a similar approach to understanding meanings. The IDP views meanings as inherent in the resource (i.e., “the resource possesses meanings and has relevance”) due to social consensus and specific attributes of the resource (Larsen, 1997). The IDP also recognizes that visitors ascribe personalized meanings to the resource (NPS, 2000a). Thus, a resource represents layers of meanings, and meanwhile, humans bring various perspectives to the site. The IDP also emphasizes the importance of incorporating universal concepts into interpretation. A universal concept, as defined by the National Park Service, is any intangible meaning (e.g., idea, concept, system, process) that is relevant to almost everyone but that does not mean the same thing to any two people (NPS, 2000a). Universal concepts can be any broadly relevant concept including, for example, beauty, family, love, death, justice, change, survival, power and freedom. They can be applied to human relationships, cultural resources or the natural environment. Ham (1992) refers to these concepts as

“highly personal things” including, “ourselves, our families, our health, our well-being, our quality of life, our deepest values, principles, beliefs and convictions” (p. 13). Ham urges interpreters to incorporate these concepts into interpretation and connect them to the inner circle of their lives. Universal concepts can be used to tap into the memories, values and experiences that many visitors share (Silverman, 1997; Wager, 1975).

#### Meanings of DC Parks—National Icons & Urban Wildland

As the national capital, Washington, DC is the home for several world-renowned heritage sites, which represent the spirit of America. Frequently, people consider these sites as the “national icons.” Take the Triangle for example, the Lincoln Memorial, the Korean War Veterans Memorial, and the Vietnam Veterans Memorial constitute a triangle area which is one of the most visited sites in Washington, DC. The Lincoln Memorial is a tribute to President Lincoln and the Union he sought to preserve. The memorial records Lincoln's Gettysburg Address and Second Inaugural Address. The steps, plaza and reflecting pool in front of the Lincoln Memorial have functioned as a place of protest and a forum for discussing issues such as race, civil rights, war and peace, and AIDS. The Vietnam Veterans Memorial has drawn millions of visitors from all over the country over the years. The site commemorates the sacrifice of American military personnel during one of the nation's least popular wars (NPS, 1998b). A journalist from the New York Times described the memorial as “a hallowed site” with a “spiritual dimension that transforms it into something like a sacred shrine, where pilgrims come and devotions are paid” (Niebuhr, 1994, November 11th). The Korean War Veterans Memorial is dedicated to all those who served during the Korean War (1950-1954), the first major conflict of the Cold War. The returning veterans were the first Americans not to receive a heroes welcome in recognition of the hardships they endured in their fight for freedom (NPS, 1998a). Taken together, the three study sites at NCP—Central represent diverse meanings related to war and peace, freedom and slavery, civil rights and patriotic duty, national leaders and common heroes, and the fundamental ideals upon which our nation was founded.

Meanwhile, Washington, DC is not just about memorials. “Urban” parks—parks that are located in urban areas but large enough to provide a sense of wildness are favorites for Washingtonians (e.g., Great Falls Park and Rock Creek Park). Rock Creek Park holds its uniqueness for which it contains both of a city park's connivance and a wilderness' pristine and diversity. The picturesque valley of Rock Creek has earned its fame especially during the spring by the visitors. But the 1,754 acres of forest, meadows, groves, paths, trails, and heritage landscapes within 5 miles of the White House, offers “a quiet respite from the bustle of urban life all year long for both Washingtonians and visitors to the Nation's Capital” (NPS, 2000c). The extensive system of trails and paths gradually leads the urban explorers from the street corners to a world of foodchains and ecosystems. In addition, Rock Creek Park has been recognized by city planners as a model of an urban “preserve,” for which the park is “penetrate deeply

into the city” and with “easy access to nature” (Duany, Plater-Zybek, & Speck, 2000, pp. 143-4). This unique characteristic is highly appreciated by landscape architects and urban residents. In addition, it serves as a boundary to restrain urban sprawl and unregulated rapid growth. Urban parks such as Rock Creek Park that cover large geographic areas may not be considered as “true” wilderness in the ecological sense, however, these parks provide “a close approximation of a wilderness experience” for many urban dwellers (Rust, 1994; Hester, 1999).

Unique challenges and opportunities present themselves as one tries to interpret resources like the memorials in our nation’s capital that reflect such diverse meanings as war and peace, freedom and slavery, civil rights and an obligation to serve (Martinez, 1988; Machlis, 1992; Bennett, 1998). An expanded understanding of the meanings of the resource, a sense of connecting with significant places, and spiritual experiences sound like worthwhile goals, but is this what visitors want? Visitors come to sites with a range of pre-existing meanings, but often it is unclear what meanings they bring. How does on-site experience influence the meanings visitors attach to these sites? Do visitors really care about relating to park sites in a way that transcends their sense of self and provides meaning at a deeper than intellectual level (Schroeder, 1990)? When interpretive rangers are overwhelmed with daily responsibilities and visitors’ “ludicrous questions” (Tilden, 1977, p. 46), they can easily overlook the extent to which these dynamics might be in play. Therefore, this study was undertaken to better understand the meanings visitors ascribe to three significant places on the national landscape: Great Falls Park, National Capital Parks—Central, and Rock Creek Park to foster the excellence of interpretation and a sense of stewardship.

### Study Objectives

This study did not intend to measure visitor attitude and then predict their behavior. Instead, the researchers propose to better understand the meanings that visitor have toward the three National Park Service sites at the greater Washington, D.C. area and provided suggestions for resource management and interpretive program development. The four study objectives include:

- To identify the meanings visitors attach to three NPS sites: Great Falls Park, NCP—Central (the Lincoln Memorial, the Korean War Veterans Memorial, and the Vietnam Veterans Memorial), and Rock Creek Park.
- To identify visitor interests related to interpretive programs.
- To identify the type and frequency of connections between the meanings of the resource and the interests of the visitor that occur among participants who have attended interpretive programs.
- To provide recommendations to improve interpretive training and on-site interpretive programming through expanded interpreter knowledge of the audience.

### Methods

The study incorporated a mixed method design. Methods include purposeful sampling for visitor interview participants, quasi-experimental pre-test/post-test design, focus group interview, and both quantitative and qualitative data analysis. During the summer of 1998, researchers conducted 89 focus group interviews and interviewed a total of 527 visitors. The study recorded participant responses to open-ended questions. The study used both hand coding and the Minnesota Contextual Content Analysis (MCCA) computer program to analyze the differences and similarities in visitor meanings between visitors who attended an on-site ranger-led interpretive program and those who did not.

### Sample Interview Questions

Focus group interviews were ideal for this study because “...the intent of focus groups is not to infer but to understand, not to generalize but to determine the range, not to make statements about a population but to provide insights about how people perceive a situation” (Krueger, 1994, p. 87). Focus group data also have high face validity because of the believability of participant comments (Krueger, 1994). During the focus group interview, researchers sought to elicit participant responses to open-ended questions about visitor meanings, interests and connections. Sample interview questions include the following:

- What drew you to the site today?
- What do these sites teach us?
- When you look at the statue of Lincoln, what thoughts go through your mind?
- What would you tell the younger generations about this place?
- When you are here, do you have a sense of interacting with history? How so?
- If you were a ranger, what would you tell your audience?
- *(For those who had attended an interpretive program)* Did the ranger’s talk help you think about this place in a new way?

Focus group interviews were tape recorded and transcribed verbatim.

### Computer-aided Content Analysis Software

MCCA was chosen for its ability to help users to compare a large number of complex texts. MCCA has been used to disambiguate and categorize word meanings of a wide variety of general social science concepts (Pierskalla & Anderson, 2000). The analysis procedures are standardized and extremely reliable for texts  $\geq 500$  words (McTavish & Pirro, 1990). MCCA calculates two normed score profile for each text segment: institutional or social context scores (c-scores) and concept emphasis scores (e-scores). First, *emphasis scores* or *e-scores* are computed for 116 idea/word categories and are measures of the overemphasis

or underemphasis of visitor ideas compared to usual English usage. Examples of E-score categories include: cognition, sanction, enjoy-like, virtue, future, community, deviance, and self-expression. Secondly, *contextual* or *c-scores* are computed for four social perspectives (traditional, practical, emotional, and analytical) and are measured of the overemphasis or underemphasis of a social perspective of a text.

### Selected Findings

#### Participant Demographics

Focus group interview participants (N=527) were approximately half male (46%) and half female (54%). They came from various geographic regions. Participants from the United States represented more than 30 states and the District of Columbia. International participants came from England, Canada, Israel, Mexico, China, France, Nigeria, Germany, Russia, and the Netherlands. Results of the participants geographic regions indicated that the three study sites have different visitor compositions. For the National Capitol Parks—Central, only 1.1% were from nearby area and states (Washington DC, Virginia and Maryland) and 10.9% were international visitors. For Great Falls Par, 51.3% were local visitors and 6% were from other foreign countries. While for Rock Creek Park, the majority of the participants were from local (96.4%) and less than 1 % were international visitors. Participants were drawn from a wide range of age groups: 17% were under 13 years of age; 7% were 13-18 years old; 9% were 13-25 years old; 28% were 26-40 years old; 24% were 41-55 years old; and 15% were 56 years of age or older. The majority of participants were first time visitors to the site (41%) and 30% had visited the site five or more times. Not a question directly asked in the questionnaire, the researchers noted that most participants were of Anglo descent, although participants of African, Hispanic and Asian descent did engage in the interview process.

In terms of participant representation, the 182 participants interviewed at the National Capitol Parks—Central in this

study closely mirrored participants in a much larger visitor study (N=2,720) conducted at the same park during summer 1998 (Littlejohn & Hoffman, 1999). One notable difference between the two study populations is that the present study included more participants who had visited the site five or more times (17%) compared to Littlejohn & Hoffman who found that 8% of their sample had visited the site five or more times. Similarly, 44% of participants in the present study were first-time visitors to the site, compared to 56% first-time visitors in the Littlejohn & Hoffman study. Although the relative proportions still hold, these differences suggest that repeat visitors may have been more inclined to participate in an on-site focus group interview, and first-time visitors may have been less inclined to do so. However, the close demographic correlation between the two studies across all information categories suggests that the present study obtained a fairly representative sample of on-site visitors.

#### Emphasis Scores (E-Scores)

The MCCA computes the overemphasis or underemphasis of context ideas compared to standard English usage. These emphasize ideas are categorized into 116 idea/word categories with nominal scores (E-Scores) (McTavish & Pirro, 1990). The results of the computer-aided content analysis indicated the ideas emphasized by study participants. In Table 1, visitors as a whole emphasized several idea categories including (listed by frequency ranking: tender, cognition, object, location, move-in-space, if, reasoning, implication, humor-expression, and happy). These top-ten idea categories were identical for Rock Creek Park and Great Falls Park but in different orders. The results for the National Capital Parks—Central were distinguished from the other two parks. The highest score in the top ten list was the "object" rather than the "tender" category. Visitors of the National Capital Parks—Central highlighted different idea categories including "study," "we," and "being." Meanwhile, three idea categories that were excluded from the overall top-ten idea category list. These three idea categories were reasoning, happy and humor-expression.

Table 1. Overemphasized Idea Categories

	All Three Parks	Great Falls Park	Rock Creek Park	National Capitol Parks—Central
Rank 1	Tender	Tender	Tender	Object
2	Cognition	Location	Cognition	Tender
3	Object	Move-In-Space	Move-In-Space	Location
4	Location	Cognition	Object	Cognition
5	Move-In-Space	Object	If	Study*
6	If	Reasoning	Reasoning	Implication
7	Reasoning	If	Location	If
8	Implication	Humor-Expression	Implication	We*
9	Humor-Expression	Implication	Happy	Being*
10	Happy	Happy	Humor-Expression	Move-In-Space

\* Indicated idea categories that were not in overall the top-ten list.

The study results indicated the differences between visitors who had attended interpretive programs and those who had not. The researchers choose three emphasis scores which may have the implication on a concern for the parks' future: the *past*, *now*, and *future* idea categories. Figure 1 shows the relative shift of emphasis on these three categories for all three park sites. The three bars on the left indicate the e-scores of the three categories for the people who did not attend an interpretive program. The three bars on the right show the e-scores for the people who attended a program. For the three categories, there was an increased overemphasis of the *past* idea for the after interpretation group interviews, a decrease of overemphasis on the *now* category, and an increase of the underemphasis on the *future* category.

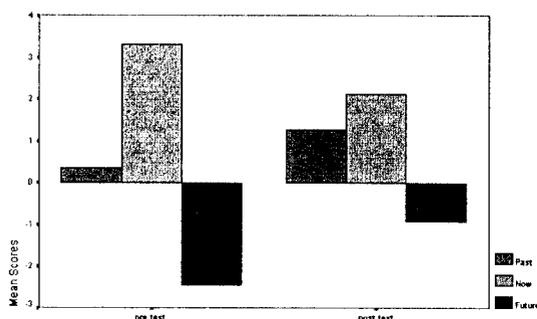


Figure 1. Emphasis Scores of Pre and Post Groups on All Three Sites

## Discussion

The study intended to identify visitor meanings and interests of park resources. The study also intended to measure the intellectual and emotional connections that visitors made through interpretation with the meanings of the park. Study results suggested that visitors actively engaged in various park experiences. The top ten e-scores suggested that visitor did ascribe meanings to park resources when responding to interview questions. The results of the three focused e-scores “past, now, and future” suggested the shifts of emphasis between people who were exposed to interpretation and those who were not.

Heuristic e-scores suggest the overall character of ideas that are emphasized in the text (McTavish & Pirro, 1990; Garwick, Detzner, & Boss, 1994). The top ten e-scores suggested visitor meanings and their on-site experiences. Through thematic analysis, it was better understood the phenomenon of visitors experienced park settings physically by moving through the site and viewing it from all angles (move-in-space). They were strongly oriented to the physical space where their experience occurred (location and object). They thought about the meanings of site resources (reasoning, cognition, implication, if, study). They cared about site resources (tender). They enjoyed

themselves while on site (happy, humor-expression). They fully immersed themselves in the on-site experience (being), and in some cases that experience was group oriented (we) and a concern of the society as a whole.

The three focused e-scores measured the differences between visitors who *have* and *have not* attended interpretive programs in terms of their relative emphasis on meanings and connections. The scores implied interpreters' ability in facilitating connections with the past and future as this participant expressed a sense of willingness to act as a citizen in the future for the whole society:

[This place teaches us that] however big the problem, and however diverse the people involved, if you all have a common goal you can get together and do it. All races, all religions, they have experienced what these [sites] memorialize. And we've all [overcome the problems] in the U.S. together. (Post 1, pp. 4-5)

Van Manen (1990) raises a philosophical discussion on the idea of time that people experienced in the lived world. We act our lives of time. As van Manen examines, “the temporal dimensions of past, present, and future constitute the horizons of a person’s temporal landscape” (p. 104). For the park managers who seek to foster a sense of stewardship with the park resource, a connection with the past and, mostly, an increased connection with the future may imply a success on caring about the park resource in the future. Study results not only help researcher to better understand the phenomenon of visitor meanings, interest, and connection, they also help interpretive trainers to strategize the sequence and contents of interpretive training and development.

The MCCA e-score profiles function like an “idea spectrograph” or a park “fingerprint.” Over time, the researchers may become well experienced in analyzing park “MCCA fingerprints.” Future research may be able to compare fingerprints across various types of parks/resource settings, predict which concepts will be most likely to be emphasized, identify “surprises” in terms of categories emphasized, and better articulate what it means that visitors emphasized category X.

## Conclusion

The Minnesota Contextual Content Analysis program’s e-score profiles can help qualitative researchers zero in on visitor quotes that contain frequently emphasized concepts, serving as a “check” on the representativeness of the quote. Other visitors may not have expressed ideas so eloquently, but if a quote contains commonly emphasized idea categories, it’s probably not too “unlike” other quotes in the transcripts. The ultimate goal may be to develop software that can pick up more of the nuances that we are interested in for interpretive training and recreation/natural resource management.

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## THE IMPORTANCE OF VISITORS' KNOWLEDGE OF THE CULTURAL AND NATURAL HISTORY OF THE ADIRONDACKS IN INFLUENCING SENSE OF PLACE IN THE HIGH PEAKS REGION

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**Abstract:** This study examined various dimensions of the sense of place experience felt by visitors to the High Peaks of the Adirondack Park. More specifically, a 6-page questionnaire (mail-back postage-paid) was distributed to 803 people over a three-month period (June, July & August, 1999). The two primary objectives of this study were to: 1) explore the various characteristics that influence visitors' sense of place within the High Peaks (including the emotive ties and symbolic associations visitors' assign to their special place), and 2) explore a possible relationship between visitors' knowledge of the cultural and natural history of the Adirondacks and a broader personal preservation/environmental ethic. Final results indicated that many visitors who experience a sense of place in the High Peaks feel so because it is a place of 'exceptional beauty' and many feel a sense of place based on their 'knowledge of the cultural and natural history of the Adirondacks'. Further analysis revealed that the level of importance visitors' felt toward their 'knowledge of the cultural and natural history of the Adirondacks' had some influential effect on their personal preservation/environmental ethic. Not surprisingly, there was a strong correlation between those visitors who felt a sense of place—those who did *not* experience a sense of place, and the likelihood of them possessing a preservation/environmental ethic. Results indicate there is room for additional educational and interpretive programming in the area, focusing specifically on educating visitors about the cultural and natural history of the Adirondacks, besides basic visitor education about the conditions (and means by which) wilderness is realized.

### Introduction

The prevailing approach to research on outdoor recreation has been to focus primarily on the recreational setting itself. That is, focusing on the various physical, social, and managerial factors that create a particular setting. In addition, past research on outdoor recreation has tended to further reduce the analysis to a general and frequently broad overview of the level of satisfaction one associates with a particular recreational setting, given he or she can carry out his or her preferred recreational activity in that particular setting. However, both modes of analysis are somewhat limited. In that, the first approach attempts to identify setting features necessary to support specific activities or desired experiences (Schreyer, Knopf & Williams, 1985), and in so doing, the recreational setting is seen as a collection of features or attributes that allow the individual recreationist to fulfill or realize his or her personal recreational goal.

According to this view, the setting (described by its attributes) that the recreationist seeks out -- and eventually uses and impacts -- is ultimately viewed as a means to an end (McCool, Stankey & Clark, 1985). In effect, this approach to studying outdoor recreation underscores a utilitarian approach and suggests a degree of substitutability with regard to the recreational setting. That is, if a particular group of features or attributes are present at a given recreational setting -- allowing for specific types of recreational activities to occur -- than it seems likely that individual recreationists will be pleased or satisfied with the recreational setting itself. However, by emphasizing the role of setting attributes in the decision-making process, the problem of designing recreational settings (and allocating increasingly limited funds) is simply reduced to that of identifying the most valued and optimal combination of attributes for a given clientele (Peterson, Stynes, Rosenthal & Dwyer, 1985).

Furthermore, Williams (1989) observes that this view of the recreational setting as merely a collection of features and attributes leads to a severely limited view of the recreational setting as more of a uniform commodity (much like our mass produced automobiles) than a one of a kind setting that is special to the individual recreationist for reasons beyond its setting attributes. Furthermore, this utilitarian or commodity oriented view has resulted in numerous empirical studies which attempt to identify and measure the perceived utility of various setting attributes in satisfying various recreation goals (Cooksey, Dickinson & Loomis, 1982; Manfredo, Driver & Brown, 1983; McCool et al., 1985).

The second mode of analysis -- which is somewhat linked to the first -- attempts to gauge or measure the overall quality of the recreational experience itself according to a host of somewhat uncontrollable factors such as the number of visitors one encounters when engaged in the recreational activity of their choice. Moreover, how this positively (or negatively, which is more often the case) influences the individuals' recreational experience. For example, several studies document that privacy from persons in other parties and other users camping near one's campsite is the most important attribute of a wilderness experience (Stankey, 1973; Graefe, Donnelly & Vaske, 1986).

Both modes of outdoor recreation analysis are limited however. In that, both views tend to overlook the "meaningfulness" of the recreational experience as a whole. That is, the more affective or emotional and symbolic qualities of the recreation experience as a whole -- moving beyond merely the physical setting or the activities one engages in. The previous modes of analysis view recreation settings as somewhat interchangeable or reproducible provided there are similar combinations of replicable setting attributes. Brown (1989) however, asserts that outdoor recreation studies call for a more holistic type of analysis, one that tends toward the gestalt, rather than separate and disparate pieces of information.

## Various Place Phenomena

Within the past decade various studies have emerged that tend toward a more holistic characterization of the outdoor recreational engagement as a phenomenological experience (Fishwick & Vining, 1992; Fredrickson & Anderson, 1999; Mitchell, Force, Carroll & McLaughlin, 1991; Roberts, 1996). That is, recognizing that there are direct (through the senses) and indirect (through cognitive and symbolic processes) ways in which we take in information – and hence, make sense of, or derive *meaning* from our various life experiences. Furthermore, Williams (1988) suggests that there are three primary “modes” of outdoor recreation experience: activities, companions, and place settings.

Yet as Greene (1996) suggests, there are still only a few relevant studies that recognize the importance of the place setting by recreation researchers. More specifically, that an individual may experience a sense of affinitive connection or ‘sense of place’ toward a particular place. That is, a sense of special-ness or connectedness that the individual has for that particular place. Greene (1996) summarizes that a place acquires special meaning when an individual moves through a particular setting, acquiring information about the place and encountering memorable place-related experiences -- which are influenced by the characteristics of the physical setting, the characteristics of the social setting and characteristics of the individual perceiver. In effect, a sense of place results from an interaction between the unique cultural and physical characteristics of a setting and the personality and behavior of an individual in that setting (Steele, 1981). As Tuan suggests (1974) sense of place is frequently associated with an emotional or affective bond between an individual and a particular place. The bond may vary in intensity from immediate sensory enjoyment to a long-lasting deeply rooted attachment to a particular place.

Therefore, undifferentiated space becomes ‘place’ as one gets to know it better and endows it with value or *meaning*, and essentially what results is a degree of place attachment toward a particular geographic locale. A place becomes inextricably associated with certain life events and the people with whom the individual shared the event, and for many people what results is a strong sense of attachment toward that particular place or a deep identification with the place (Low & Altman, 1992; Korpela, 1989; Proshansky, Fabian & Kaminoff, 1983; Stokols & Schumaker, 1981; and Proshansky, 1978).

### **Research Objective**

It seems natural to suggest that when an individual develops a strong association or special attachment to a particular place that the individual would extend a certain ethic of concern and care toward that particular place. That is, if an individual has strong feelings about a particular place they would be concerned about its long-term welfare – just as if the place were a family member or friend. The degree to which there is a correlation between one’s feelings of strong place attachment and one’s broader environmental concerns is central to this study. Moreover,

the underlying focus of this study is to determine whether a relationship exists between an individual’s symbolic association with the High Peaks region of the Adirondack - - vis-à-vis various place phenomena -- and one’s broader stewardship concerns for the natural world, evidenced by their involvement and membership in a conservation/environmental organization.

Preserving the unique character of the Adirondack Park -- which many would agree is a global model for integrated land use and conservation – is something that cannot be accomplished without understanding more completely the various reasons people choose to live and recreate in the region. Thus, identifying the various factors that contribute to, and/or influence a persons’ sense of place and place attachment for the High Peaks region may help future regional managers understand public reactions to various management directives, such as limiting the number of hikers per group or banning campfires in designated wilderness areas that fall above a certain altitude. More specifically, by determining whether a person’s strong sense of place attachment influences their conservation/environmental concerns, this could aid area managers in planning for and making future environmental education and visitor interpretation decisions, among other management directives.

The issue of place attachment and the degree of land stewardship peoples have toward special places in the High Peaks region of the Adirondacks is of particular interest, given the newly approved unit management plan for that area. For years the High Peaks region -- which lies in the northeastern section of the Park -- had been carrying out its field operations without any guiding long-term management plan for the area. Many would agree that managing in this way could possibly result in landscape degradation and misuse of resources, and in some instances the sensitive alpine vegetation in and around the summit areas of several High Peaks would suffer greatly.

### **Study Design**

#### Study Area

Whereas the western and southern Adirondacks are a gentle landscape of hills, lakes, wetlands, ponds and streams, the northeast section of the park contains the High Peaks. Forty-three of them rise above 4,000 feet and eleven have alpine summits that rise above timberline, making them quite popular for hikers and backpackers. Thus, the High Peaks region is the most popular region of the Adirondack Park, and subsequently receives heavy and intense visitation throughout the spring, summer and fall.

The Adirondack Park is the largest park in the contiguous United States. It contains six million acres, covers one-fifth of New York State and is nearly three times the size of Yellowstone National Park. More than half of the Adirondack Park is private land, devoted principally to forestry, agriculture and open-space recreation. The Park is home to 130,000 permanent and 110,000 seasonal residents, and hosts an estimated nine million visitors each

year. The remaining 45 percent of the Park is publicly owned Forest Preserve, protected as "Forever Wild" by the New York State Constitution since 1895. One million acres of these public lands are designated as wilderness, where a wide range of non-mechanized recreation may be enjoyed in a natural setting. The majority of the public land (more than 1.3 million acres) is classified as Wild Forest, where motorized uses are permitted on designated waters, roads and trails. Nearly 75 million people live within a day's drive of the Adirondack Park and the Park hosts more than 10 million people each year. Within the Park are more than 2,800 lakes and ponds, and more than 1,500 miles of rivers, fed by an estimated 30,000 miles of brooks and streams. Backcountry use of the most popular wilderness areas of the Parks, especially the High Peaks Wilderness Area, is increasing at about six percent per year.

With such an interesting (and often perplexing) mix of public and private lands, the overall management of the Adirondack Park itself has proven over time to be ultimately challenging. In the next century and beyond, the Adirondack Park must continue to offer vast areas of undisturbed open space as a sanctuary for native plant and animal species, and as a natural haven for human beings in need of physical and spiritual rejuvenation. It must also provide for sustainable, resource-based local economies and for the protection of community values in a Park setting.

#### Data Collection

The data for this study was collected over a three-month period beginning in June of 1999 and continued through August of the same year. Visitors were contacted primarily at the main trailhead and parking area at the Adirondack Loj, located approximately 12 miles southeast of the hamlet of Lake Placid, New York. The Adirondack Mountain Club, a non-profit conservation organization that performs vital trail maintenance functions throughout the Park, manages the Adirondack Loj itself, and the surrounding parking areas. However, the interior of the High Peaks region is managed under the broader land management directive of the State's Department of Environmental Conservation. Thus, historically, this accounts for some of the public's misunderstanding and resistance to particular recreation management directives.

The first time visitor is usually unaware that the Adirondack Mountain Club is responsible for much of the trail system throughout the Park, yet the state's Department of Environmental Conservation (DEC) is responsible for region wide resource management directives. These directives include not only recreational concerns but also issues regarding watershed management, fish and wildlife management, and various law enforcement matters. Oftentimes, the way in which the various regions of the Park are managed is often confusing to the first time visitor.

A total of 169 groups were contacted over the three-month sampling period. Of those, 125 were contacted in and

around the Adirondack Loj and adjacent parking area. The remaining 44 groups were contacted at one of several critical trail junctures within the interior of the High Peaks region -- primarily those in and around Mount Marcy and the John's Brook Lodge -- as well as the summits of several frequently climbed peaks in the region. Within the study period, three weekend (Friday - Sunday) and two week day (Monday - Thursday) sampling clusters were randomly selected each month. During sampling all parties entering or leaving the area were contacted and a short interaction took place between potential study participants and a field research assistant to determine whether or not the person(s) was interested in taking part in the research.

Those people who were interested in partaking in the study (and were at least 18 years old), were given a 6-page questionnaire to complete and mail-back in a pre-addressed stamped envelope. Daily sampling occurred from the hours of 10:00 a.m. until 8:00 p.m. A total of 803 surveys were distributed over the three-month sampling period. Of the parties initially contacted, only five individuals declined to participate in the study. In addition to first-person field contacts, field research assistants left 27 questionnaires on parked vehicles left along the roadside in non-designated parking areas just outside the managerial boundary of either the Adirondack Mountain Club or the DEC.

#### Instrument

A review of relevant sense of place and place attachment literature did not reveal a standardized scale for measuring place attachment. Past research efforts have employed individualized methods suited to the specific study (Fredrickson & Anderson, 1999; Greene, 1996; Shumaker & Taylor, 1983). Toward that end a pilot study was conducted over a two-month period during the summer of 1998 in the High Peaks region of the Park. The pilot study aimed to identify and evaluate self-report response items that captured various aspects of the sense of place and place attachment phenomena.

A six-page questionnaire was devised in conjunction with the information that was originally gathered from the pilot questionnaire. The questionnaire used for this study contained four distinct sections. The first section focused on examining the individuals' experience of various place phenomena, including various characteristics that influence a sense of place, the emotional and symbolic ties one attaches to their special place. The second section focused on examining whether or not the individuals possessed an preservation/environmental ethic based on their understanding of the cultural and natural history of the Adirondacks. The third section gathered general demographic information, and the fourth section identified various trip characteristics of individual respondents.

The first section provided an introductory descriptive statement about what constitutes a sense of place and place attachment, and the following operational was put in a text box at the top of the first page to prompt the participant as to the various types of place phenomena the questionnaire was designed to explore:

*'Sense of place' and 'place attachment' refers to the emotional or affective bonds that you form with a particular place; this bond may vary in intensity from immediate sensory delight to long lasting and deeply rooted attachment. It may occur even though you have visited a particular place only once. In other words, the place takes on special and important meaning for you. When you experience this deep sense of place attachment, the particular place lingers in your mind long after you have left it. These are the types of places I want to know about.*

The first question was designed to distinguish between respondents who had no special attachment for a particular place in the High Peaks region of the Adirondack Park, and those who did. After reading the previous description, respondents were then asked the following question "Is there a place in the High Peaks region of the Park that is particularly important or special to you -- a place toward which you experience a deep sense of place or sense of attachment as described above?" Respondents were forced to choose between a 'yes', or 'no', response. The next series of questions (questions 2 - 5) were designed to explore the range of characteristics, emotional ties and symbolic associations that respondents held for their special place in the High Peaks.

The second section of the questionnaire focused on the participants' knowledge of the natural and cultural history of the Adirondacks as it relates to a conservation/environmental ethic. Two key questions were asked in this particular section and the first read as follows: "Has your knowledge of the cultural history of the Adirondacks encouraged a desire to preserve the long-term health and integrity of the 'people, places, and community' that make up the Adirondacks? In other words, has your knowledge of the cultural history of the Adirondacks stimulated a conservation ethic in you?" The second key question read: "Has your knowledge of the natural history of the Adirondacks made you want to preserve the long-term health and integrity of the 'natural places and biotic community' that make up the Adirondacks? In other words, has your knowledge of the natural history of the Adirondacks stimulated a conservation ethic in you?" Respondents were asked to answer each question with a 'yes', 'somewhat' or 'no, not at all' response. If they answered 'yes' to either of the questions, they were then asked to identify the specific part(s) of the cultural or natural history of the Adirondacks that was especially important to them.

The third section of the questionnaire solicited general demographic information such as the participant's age, gender, location of primary residence, and annual income. The fourth and final section of the questionnaire gathered basic trip characteristics for each participant such as: day of week visited, length of stay, activities pursued during visit, and group size.

#### **Data Analysis**

To learn more about the underlying characteristics that influence an individuals' sense of place or place attachment

for a particular place in the High Peaks region a general frequency distribution was run on 7 independent characteristic variables. The characteristic variables were then examined to determine any general trend in the data. In addition, general frequency distributions were generated to determine the emotional ties and symbolic associations participants' had towards their special place. As well, frequency distributions were generated to examine whether individuals' perceived an acceptable substitute for their special place within the Adirondack Park.

To compare the responses of two particular questions with several potential answers, two-way tables (contingency tables) were produced with a Chi-square analysis of the distribution ( $\alpha = .05$ ). Observed responses were compared with expected responses to determine the source of significant associations between two questions. For example, Chi-square analysis was used to establish whether a relationship existed between those individuals' who experienced the presence or absence of a sense of place and their overall level of understanding of the natural and cultural history of the Adirondacks.

In addition, Chi-Square analysis was used to determine whether or not a significant relationship existed between those individuals' who claimed their understanding of the natural and cultural history of the Adirondacks influenced their conservation/environmental ethic and their involvement -- vis-à-vis membership -- in an environmental or conservation organization, such as *The Nature Conservancy*, *The Adirondack Mountain Club* or the *Environmental Defense Fund*.

#### **Results**

Of the 803 surveys that were distributed, 312 were completed and returned through the mail by the fall of 1999. Three surveys were initially dismissed from the analysis due to the fact that the participant was either not 18 years of age or older, or the questionnaire had been only partially completed. A total of 309 surveys were used in the final analysis, yet some variation in the sample size still exists for a few questions due to respondents who randomly skipped a particular question.

Since one of the primary goals of this study was to learn more about the various characteristics that influence an individuals' sense of place or place attachment (i.e. strong sense of connection to a particular place), the first question on the survey was designed to distinguish between those respondents who did experience strong place attachment for a particular place within the High Peaks region of the Adirondack Park and those who did not. Of the 309 questionnaires that were used in the final analysis, 217 were from participants who self-identified as having experienced strong place attachment to a particular place in the High Peaks region and the remaining 92 responses were gathered from participants who claimed no special place attachment to a particular place in the High Peaks region. Sampling results are summarized in Table 1.

**Table 1. Survey Contacts and Response Rate**

Survey Contacts	Study Area		Total
	Adirondack Loj Parking Area	Hiking Trails & Trail Junctures	
Total individuals contacted (number of <u>groups</u> contacted)	627 (125)	176 (44)	803 (169)
Valid surveys completed and returned by mail	172	137	N = 309
Participants who experience a strong sense of place	145	72	217
Participants who do not experience a strong sense of place	61	31	92
Response rate per study area (%)	27	78	38(%)

**Key Question Results**

Participants were asked to rank the importance of several characteristics that potentially influence attachment to a special place: 'exceptional beauty' was the most influential characteristic (83% ranked it as "very important"), with 'the knowledge of the cultural & natural history of the Adirondacks as second-most influential (81% of 199 respondents). Participants also included characteristics such as: 'engagement in recreational activities' (67% of 202

respondents), and 'wilderness' (52% of 203 respondents). See Table 2.

The third question asked participants about the emotional ties that they had for their special place: eighty-three percent of the 217 respondents felt 'refreshed/restored'; seventy-one percent felt 'relaxed'; seventy-three felt 'wonder & awe'; and surprisingly, eighty-six of all 217 respondents indicated *not* feeling 'peaceful' toward their special place.

**Table 2. Characteristics That Influence Visitors' Sense of Place Within the High Peaks**

Characteristic	N	Response	Frequency	Percent
Past Personal History	203	Not Important	65	0.32
		Somewhat Important	52	0.26
		Very Important	86	0.42
Knowledge of the Cultural & Natural History of the Adirondacks	199	Not Important	8	0.02
		Somewhat Important	13	0.06
		Very Important	162	0.81
Engagement in Recreational Activities	202	Not Important	16	0.08
		Somewhat Important	51	0.25
		Very Important	135	0.67
Place of Exceptional Beauty	208	Not Important	5	0.02
		Somewhat Important	30	0.14
		Very Important	173	0.83
Place Has Spiritual Meaning	192	Not Important	54	0.28
		Somewhat Important	64	0.33
		Very Important	74	0.39
Place is Part of My Personal Identity	198	Not Important	30	0.15
		Somewhat Important	70	0.35
		Very Important	98	0.49
Place is Wilderness	203	Not Important	17	0.08
		Somewhat Important	80	0.39
		Very Important	106	0.52

The next question sought to determine the broader symbolic associations participants made in response to their special place: seventy-one percent of 217 respondents indicated the place represented 'serenity/peace'; sixty-nine percent indicated it represented 'wonderment'; and surprisingly, only eighty percent indicated their special place represented 'refuge/sanctuary'.

Of the 217 respondents who experienced place attachment to a particular locale in the High Peaks, nearly three-quarters of the participants (73%) felt there was a suitable substitute for their special place. Moreover, sixty-six percent felt they could find a substitute special place in another area of the Park.

The next question attempted to gauge the level of influence various environmental, social and managerial conditions had on visitors' sense of place. As shown in Table 3, respondents found: the 'absence of litter, soap in the water, and trail erosion' as extremely positive (69%); 'direct encounters with other park visitors' as extremely negative (75%), while thirty-nine percent indicated that 'in-direct encounters with other park visitors' as somewhat negative; almost half of the respondents (40%) found 'encounters with park officials (rangers, peak stewards, etc.)' as

somewhat positive; and nearly half of the respondents (40%) found the 'presence of park facilities (trail markers, lean-to's, interpretive signage)' as somewhat positive.

The following two questions were designed to assess whether the participants understanding and knowledge of the cultural and natural history of the Adirondacks precipitated a particular land ethic. For example, question number 7 read, "Has your knowledge of the cultural history of the Adirondacks encouraged a desire to preserve the long-term health and integrity of the people, places and communities that make up the Adirondacks? In other words, has your knowledge of the cultural history of the Adirondacks stimulated a preservation ethic in you?" The number of respondents (N=302) who responded 'yes', 'somewhat' and 'no, not at all' was 35%, 32% and 32% respectively. Participants were additionally asked to indicate which parts of the cultural history of the Adirondacks visitors found important. Typical responses included: era of the Great Camps; history of lumbering; history of the Adirondack Park formation; State declaration of the "Forever Wild" forests; era of guiding and the importance of guide boats; and the era of hunting & trapping.

**Table 3. Influence Various Environmental, Social & Managerial Conditions Has On Visitors' Sense of Place In High Peaks**

Condition	N	Response	Frequency	Percent
Absence of Human Induced Impacts (e.g. Litter, Soap in Water, Trail Erosion)	213	Extremely Negative	7	0.03
		Somewhat Negative	3	0.01
		Neutral	14	0.07
		Somewhat Positive	41	0.19
		Extremely Positive	148	0.69
Direct Encounters With Other Park Visitors (e.g. on trail, campsite, trail juncture)	203	Extremely Negative	152	0.75
		Somewhat Negative	37	0.18
		Neutral	11	0.05
		Somewhat Positive	3	0.01
		Extremely Positive	0	0.00
In-Direct Encounters With Other Park Visitors (e.g. distant sights and sounds)	206	Extremely Negative	35	0.17
		Somewhat Negative	81	0.39
		Neutral	73	0.35
		Somewhat Positive	12	0.06
		Extremely Positive	5	0.02
Encounters With Park Officials (e.g. rangers, peak stewards)	205	Extremely Negative	3	0.01
		Somewhat Negative	11	0.05
		Neutral	58	0.28
		Somewhat Positive	82	0.40
		Extremely Positive	51	0.25
Presence of Park Facilities (e.g. trail markers, lean-to's, interpretive signage)	205	Extremely Negative	4	0.02
		Somewhat Negative	3	0.01
		Neutral	45	0.22
		Somewhat Positive	81	0.40
		Extremely Positive	72	0.35

The next question read, "Has your knowledge of the natural history of the Adirondacks made you want to preserve the long-term health and integrity of the natural places and biotic community that make up the Adirondacks? In other words, has your knowledge of the natural history of the Adirondacks stimulated an environmental ethic in you?" Out of 293 respondents who completed this question, nearly half (49%) replied 'yes', roughly one-third (29%) indicated 'somewhat' and the remainder of the participants indicated 'no, not at all.' Additionally, participants were asked to identify which parts of the natural history of the Adirondacks visitors found important: extirpation of wolves and extinction of other species; geologic history and the landforms of the region; ecological history (e.g. natural fire regimes; shift in species composition; forest succession, etc.

Moreover, Chi-square analysis was performed on the results of those individuals who experienced a sense of place versus those who *did not* experience a sense of place to determine the degree to which the importance of their knowledge about the cultural history of the Adirondacks influenced a preservation ethic: there was a statistically

higher incidence of those individuals who experienced a sense of place (verses those who did not) and the likelihood of them possessing a preservation ethic (Table 4). In addition, Chi-square analysis was performed on the results of those individuals who experienced a sense of place versus those who *did not* experience a sense of place to determine the degree to which the importance of their knowledge about the natural history of the Adirondacks influenced an environmental ethic: there was a statistically higher incidence of those individuals who experienced a sense of place (verses those who did not) and the likelihood of them possessing an environmental ethic (Table 5).

Correspondingly, a comparison of results was conducted to determine the significance of an individuals' knowledge of the cultural and natural history of the Adirondacks and their membership in a conservation, preservation or environmental organization. Chi-square analysis showed a strong association between those who placed great importance on their knowledge of the cultural and natural history of the Adirondacks and the likelihood of them belonging to a conservation/environmental organization. (See Tables 6 and 7.)

**Table 4. Importance of Knowledge of the Cultural History of the Adirondacks with Regard to Visitors' Preservation Ethic**

	Park Visitors Who Did Not Experience A Sense of Place	Park Visitors Who Did Experience A Sense of Place	All Park Visitors
Cultural History Not At All Important to Visitors' Preservation Ethic	44 28.56	54 69.44	98 98.00
Cultural History Somewhat Important To Visitors' Preservation Ethic	20 28.56	78 69.44	98 98.00
Cultural History Highly Important to Visitors' Preservation Ethic	24 30.89	82 75.11	106 106.00
All Park Visitors	88 88.00	214 214.00	302 302.00

Chi-Square = 17.572, DF = 2, P-Value = 0.000

**Table 5. Importance of Knowledge of the Natural History of the Adirondacks with Regard to Visitors' Environmental Ethic**

	Park Visitors Who Did Not Experience A Sense of Place	Park Visitors Who Did Experience A Sense of Place	All Park Visitors
Natural History Not At All Important to Visitors' Environmental Ethic	30 18.41	35 46.59	65 65.00
Natural History Somewhat Important to Visitors' Environmental Ethic	21 23.80	63 60.20	84 84.00
Natural History Highly Important to Visitors' Environmental Ethic	32 40.79	112 103.21	144 144.00
All Park Visitors	83 83.00	210 210.00	293 293.00

Chi-Square = 13.275, DF = 2, P-Value = 0.001

**Table 6. Significance of Individuals' Knowledge of the Cultural History of the Adirondacks and Their Membership in A Conservation, Preservation or Environmental Organization**

	Non Member of Preservation Organization.	Member of Preservation Organization	All Park Visitors
Cultural History Not At All Important	70 55.53	28 42.47	98 98.00
Cultural History Somewhat Important	58 54.97	39 42.03	97 97.00
Cultural History Highly Important	42 59.50	63 45.50	105 105.00
All Park Visitors	170 170.00	130 130.00	300 300.00

Chi-Square = 20.961, DF = 2, P-Value = 0.000

**Table 7. Significance of Individuals' Knowledge of the Natural History of the Adirondacks and Their Membership in A Conservation, Preservation or Environmental Organization**

	Non Member of Environmental Organization	Member of Environmental Organization	All Park Visitors
Natural History Not At All Important	48 36.86	17 28.14	65 65.00
Natural History Somewhat Important	58 47.06	25 35.94	83 83.00
Natural History Highly Important	59 81.08	84 61.92	143 143.00
All Park Visitors	165 165.00	126 126.00	291 291.00

Chi-Square = 27.544, DF = 2, P-Value = 0.000

#### Socio-demographic Results

Exactly half of the participants were between the ages of 34-54, and 57 percent of the respondents were male while 43 percent were female. Half of the respondents had completed advanced graduate level education. One third of the respondents who permanently resided in a suburban location, while 25 percent resided in urban areas over 75,000 people. The remaining participants were from rural areas, small villages or lived within the Park itself. Of the respondents who participated in the study, 79 percent had previously visited the High Peaks before, and of those who had previously visited, over half (58%) claimed to visit the area several times a year. Well over half of the respondents (89%) had visited the High Peaks as part of a larger group (1-5 people), while only eleven percent traveled solo. Just over half of the respondents (56%) visited on a weekday and the remainder visited on a weekend. Sixty-six percent of the respondents included an overnight stay during their visit. The range of reasons for visiting the High Peaks included: the availability of diverse outdoor recreation opportunities (42% of respondents); because the High Peaks is a wilderness area (23%); because of their strong attachment to the place (22%); and fourteen percent of the respondents indicated it gave them time to enjoy companionship with others.

#### Discussion & Management Implications

What these study results clearly indicate, is that many visitors to the High Peaks region of the Adirondack Park

experience a strong sense of place or place attachment that is due, in part, to their knowledge of, and importance they place on understanding, the area's cultural and natural history. Furthermore, that this strong sense of place or place attachment is *not necessarily* based on past, repeat visitation to the area, nor living in close proximity to the area – which is a particular viewpoint several researchers and scholars hold (Low & Altman, 1992; Shumaker & Taylor, 1983; Tuan, 1974; Seamon, 1980). Rather, primarily the visitors' knowledge of the cultural and natural history of the Adirondacks, the relative beauty of the area, and the fact that much of the High Peaks is a wilderness area greatly influence visitors' experience of various place phenomena. This is not to suggest that visitors' past personal history with the area has no influence on sense of place – it is comparatively just less influential.

The state Department of Environmental Conservation, in conjunction with the Adirondack Mountain Club (ADK), may want to develop and promote additional cultural and natural history interpretive programming, considering the number of respondents who claimed that having knowledge of the history of the Adirondacks was important to their sense of place. Additionally, given the number of respondents who claimed their knowledge of the cultural and natural history was very important, and it was an influential factor on their membership in a preservation, conservation or environmental organization, the DEC and the ADK would be wise to further develop collaborative interpretive programming partnerships – similar to the collaborative effort demonstrated by the Peak Stewards Program.

Moreover, considering visitors' responses to the various environmental, social and managerial conditions present in the High Peaks and the impact direct encounters with other Park visitors had on participants' sense of place, it appears that the recently implemented reduction in party size limits in the High Peaks would be viewed as a positive management action. Additionally, considering the number of visitors who viewed direct encounters with Park officials, as positive overall, Park officials should continue with the various environmental/visitor-use education efforts they currently have in place – and perhaps, enhance those efforts to include basic information about the cultural and natural history of the Adirondacks.

Results also indicate that the DEC and other organizations that are involved in stewardship activities within the High Peaks – such as the Adirondack Mountain Club – should continue with various rehabilitative and conservation efforts in the area. For example, continuing with trail restoration efforts and re-vegetation and tree planting in areas that have experienced severe overuse, such as the site in the immediate vicinity of Marcy Dam. Another management strategy that could be implemented to mitigate or lessen the impact at heavily used areas is to amplify visitor education efforts regarding *other* wilderness options within the larger Adirondack Park considering the number of respondents who felt they could find a suitable substitute for their 'special place' in another part of the Park. In other words, put additional effort into educating users about other use options – thereby dispersing use overall.

Lastly, considering the number of visitors who claimed to experience a sense of place in the High Peaks region based on the fact that the area was a wilderness, additional visitor education efforts could be put into place to educate users about the unique characteristics that "define" wilderness. For example, some first time visitors might not understand the necessity of party size limits, non-motorized use regulations, or the need to limit future development on tracts of land that are classified as wilderness.

## Conclusion

Resource managers are just beginning to recognize the impact of managing recreational settings for their emotional, symbolic, and even spiritual values (Roberts, 1996; Salwasser, 1990), and the investigation of how sense of place and other place phenomena adds to our growing understanding of the importance of managing for these types of values. While the results presented here represent an initial exploratory step about how one's understanding of the cultural and natural history of an area helps to shape or influence sense of place, much remains to be done to understand and further measure the meaning of places outside the High Peaks.

The significance of a place approach is that it attempts to establish the connections between people and geographic areas directly rather than establishing such connections indirectly in the form of use and user characteristics, and activities-based recreation research. This approach can enhance future wilderness planning in the Adirondack Park.

For instance, much of the resource planning that has occurred in the past has failed to satisfy the public, in part because plans often do not indicate where proposed actions are to take place, *specifically*. Place attachment and strong sense of place reminds resource managers and other decision makers that the public is intimately involved with specific places under their jurisdiction. Furthermore resource planning fails to adequately capture the full range of meaning associated with wilderness and other wild lands. More often than not, planning has emphasized the ecological – and certainly the economic – values, while tending to ignore or overlook the emotional, symbolic and spiritual values of wilderness. Approaching the management of such richly complex areas as the Adirondack Park through a place perspective prompts managers to reconsider the outdated commodity approach to resource management. That is, the place perspective demonstrates that places are not just the sum of interchangeable attributes, but whole entities in themselves that people care passionately about. This type of approach acknowledges that resources – both ecological and historical – are not simply raw materials to be manipulated into a particular recreational opportunity. Rather, and perhaps more importantly, wilderness areas such as the High Peaks are places rich with deep history, places that hold significant symbolic value for the novice and return visitor alike, and lastly, those places which invoke a deep sense of place – for many people – bring shape, purpose and meaning to ones' life.

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## ATTACHMENTS TO PLACES AND ACTIVITIES: THE RELATIONSHIP OF PSYCHOLOGICAL CONSTRUCTS TO CUSTOMER SATISFACTION ATTRIBUTES

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**Abstract:** This study explores the nature of place attachment, enduring involvement and human territoriality and their relationship with customer satisfaction for a diverse group of anglers at lakes in the New England region. Previous work has made limited headway in our understanding of how place attachment, enduring involvement, and human territoriality relate to people's evaluations of experiences and settings. This study attempts to address the deficiencies of previous research by combining the three constructs and examining their relationship with customer satisfaction. These constructs and their sub-dimensions (independent variables) were examined with twelve importance and satisfaction items as well as gap scores (dependent variables). The results suggest that, as place attachment and attraction (EI) increase, satisfaction with the type of fish an angler can catch increases. Meanwhile, as territorial beliefs increase, anglers' satisfaction with the type of fish they can catch decreases. Significant paths were also found for other domains of customer satisfaction.

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### Introduction

A number of factors including feelings that an individual may have for an area can play an intricate role in his or her choice of facility or setting (Bryan, 1977; Peterson, Stynes, Rosenthal, & Dwyer, 1985). A better understanding of how people discern, choose and relate to recreation settings and activities is important to understanding the recreation experience. Managers of recreation facilities attempt to use their own personal experience and knowledge along with information provided to them to make the best decisions. In the end, both researchers and managers want the recreationist to have the most satisfying experience possible. This study includes many of the variables that have been previously studied in order to improve visitor experiences.

A person's attachment to a geographic location has been of interest in a variety of fields for many years. In the field of geography, attachment to a place has been studied in terms of environmental behavioral issues (Relph, 1976; Stolkols & Shumaker, 1981; Tuan, 1974) as well as a person's

emotional or symbolic attachment to an area (Low & Altman, 1992; Relph, 1976; Tuan, 1980). While fields like geography have been studying attachment to place for some time, recreation researchers began exploring the concept during the first half of the 1980s. Research has consistently shown (Bricker, 1998; Moore & Graefe 1994; and Williams & Roggenbuck 1989) that place attachment is comprised of two central dimensions known as place dependence (functional meaning) and place identity (emotional or symbolic attachment to an area). A particular recreation area can be especially valuable to a person if it fulfills both dimensions of place attachment.

Past place attachment research has sought to understand what variables are most likely to influence the level of attachment a person will have with a recreation area (Moore & Graefe, 1994; Williams & Roggenbuck, 1989) and what influence place attachment will have on experience and managerial options (Bricker, 1998; Wickham & Kerstetter, 2000). Mowen, Graefe, and Virden (1998) took an important step in our understanding of place attachment when they examined the relationship of a combined place attachment/enduring involvement scale with both setting and experience evaluations.

Work by McIntyre (1989) generated interest in the concept of "enduring involvement" (EI) and its relationship to recreation specialization. In his study, McIntyre (1989) proposed the application of an EI instrument for examining the relationship between level of commitment to camping and choice of campground setting. The four-component EI model did not hold up under factor analysis. Rather, three components characterized enduring involvement in relation to camping. The three factors were termed attraction, self-expression, and centrality. An important step in our understanding of EI was taken by Mowen et al. (1998) when they examined the relationship between place attachment and enduring involvement with experience and setting assessments. The combined typology exhibited a positive and significant relationship with both setting and experience evaluations, confirming some previous work on involvement and service quality (Dimanche & Havitz, 1995).

In this study, as well as previous studies in the field of Environmental Psychology, human territoriality has been conceptualized as a person's attitude towards a specific place. Human territory is believed to consist of three dimensions known as territorial cognition, emotion, and behavior (Taylor, 1988). Territorial behaviors are an attempt on the individual's part to control not only the activities of others, but their access to a particular area. Territorial beliefs include an individual's perceptions or beliefs about who should enter a site, what goes on at the site, and who should take care of the site (Taylor, 1988). Territorial emotions include a positive emotional bond for a place and the condition of that site as well as the type of user that should use the area, and negative emotional reactions to possible changes in conditions and users in that very same area. Because recreation sites are often symbolic and have deep personal meaning for people, territorial models (e.g. crowding and conflict) stress an

individual's perceived control as an important part of a satisfying experience (Zinn, 1992).

Since the 1960s, researchers have been trying to determine what represents quality in outdoor recreation and how satisfied recreation customers are with their experiences. Consumer behaviorists have conducted similar research related to service quality and customer satisfaction. Parasuraman, Zeithaml, and Berry (1988) have played the leading role by developing a 22-item instrument named SERVQUAL. In the recreation and leisure field, SERVQUAL was adapted by Mackay and Crompton (1988) to better understand how people engaging in recreation activities evaluate quality of service from recreation providers. The gap analysis method (as used in this study) has been used to examine service quality. Gap scores can be positive or negative. When there is a positive gap score, this indicates that an item is performing greater than a person's expectation. A positive score represents satisfaction with an item a person is evaluating. Conversely, negative gap scores represent items that are performing below a visitor's expectation.

In an attempt to make satisfaction models more tangible for researchers and managers, Burns, Graefe, Absher and Titre (1999) created a customer satisfaction model with four domains (facilities, services, information, and recreation experience). This customer satisfaction model is believed to be more easily translated and understood by recreation researchers and managers because the items within the domains are designed to be more relevant and tangible. The domains used are also believed to be flexible in nature and may be adapted to meet the needs of the specific recreation area under study.

The purpose of this study was to examine the relationships between place attachment, enduring involvement, human territoriality and customer satisfaction. This study investigates the individual and cumulative effects of these variables on customer satisfaction. Data were obtained from anglers in the New England District of the U.S. Army Corps of Engineers (COE). Anglers were asked about the lakes they fish most frequently. The study's overall intended purpose was to investigate the relationships between several psychological constructs, service quality indicators, and overall satisfaction. More specific to this paper was the examination of the relationships between place attachment, enduring involvement, human territoriality and customer satisfaction attributes.

## Methodology

A multiple-method approach was used for data collection to obtain a diverse sample of anglers from the New England region. Several COE project offices provided names of individuals, groups, and club representatives for researchers to contact by phone. A total of eight groups out of fifteen contacted agreed to provide the names and addresses of their members for a mail-out survey. As a means of increasing the sample size for the study, a stratified random sample of users was contacted on-site at four lakes (Hopkinton-Everett Lake, East Brimfield Lake,

Buffumville Lake, and West Thompson Lake). Upon the completion of a brief on-site interview, each respondent was asked if she/he was willing to provide his/her name and address for a follow-up mail-back survey.

In total, 433 addresses were collected for this survey. A modified implementation of Dillman's (1978) multiple mailing process was used (four instead of five mailings). A total of 123 usable surveys were returned from the address database for a response rate of about 33%. Surveys were also sent to two large state bass fishing organizations. By combining the surveys returned from the mail-out portion of the study and the surveys distributed to the state bass organizations, the total sample size for this study increased to 176.

A telephone survey of non-respondents was conducted as a precautionary measure in order to determine if there was a significant difference between non-respondents and respondents in the study. Thirty interviews were completed and the sample means of 13 items were compared with the results in the original mail survey. This comparison between respondents and non-respondents showed little significant difference between the two groups.

## Measurement

Customer satisfaction was measured using a list of 12 items patterned after scales developed by Parasuraman et al. (1985), Mackay and Crompton (1990) and Burns et al. (1999). The domains used in this study include facilities, services, information, and recreation experience. Respondents rated each statement using a five-point Likert-like scale ranging from "not at all important" to "extremely important" and "not at all satisfied" to "extremely satisfied."

Respondents were asked to respond to eight place attachment statements patterned after previous research (Moore & Graefe, 1994; Bricker, 1998). The proposed sub-dimensions of this construct are place dependence and place identity. A five-point scale ranging from "strongly disagree" to "strongly agree" was used to measure level of agreement with each of the place attachment items.

An angler's level of involvement with fishing was measured with 13 items. These items were closely designed after previous researchers' use of the scale. The four domains of enduring involvement included in this study are enjoyment, importance, self-expression, and centrality (McIntyre, 1989). For involvement, a five-point scale with possible responses ranging from "strongly disagree" to "strongly agree" was used.

Human territoriality (Wickham & Zinn, 2001) was measured with 12 items. The items used in this study are newly designed and intended to measure recreationists' emotions, beliefs, and behaviors towards a specific place. The items in the human territoriality scale use a five-point scale with responses ranging from "strongly disagree" to "strongly agree."

## Analysis

A factor analysis was used to determine the dimensions of place attachment, enduring involvement, human territoriality and customer satisfaction (importance/performance). One of the most important characteristics of factor analysis is its data reduction capability. Factor analysis and Cronbach's coefficient alpha were used to verify the internal dimensions of these constructs in an outdoor recreation setting. This study also used multiple regression analyses to examine the relationships between dependent variables (importance and satisfaction for each of the customer satisfaction items) and independent variables (place attachment, enduring involvement, human territoriality).

## Results

In terms of past research regarding place attachment, studies have traditionally found the construct to consist of two main dimensions, place identity and place dependence. In this study, the 8 items used to measure place attachment loaded onto one factor. With all items contributing to the factor, it was not necessary to remove any items for further analysis. The single factor for place attachment, with an Eigenvalue of 4.43, explained 55.35% of the variance and had a reliability level of .88.

A factor analysis for the construct, enduring involvement, initially achieved four factors. Factor 1 was made up of items from the importance, enjoyment, and centrality domains. Similar in nature to a dimension McIntyre (1989) found, the 5 items that made up the first factor were called "attraction" (Eigenvalue=4.66; Variance=35.86; Reliability=.81). The second factor loaded with all the self-expression items (Eigenvalue=1.62; Variance=12.43; Reliability=.79). This factor loaded exactly as McIntyre's four self-expression items did with beach campers. Two more factors were extracted during the analysis, each with two items. Because of conceptually unusual factor loadings (factor 3) and low reliability scores (factor 4), both factors were removed from further analysis.

The third variable to be tested with factor analysis was human territoriality. An initial factor analysis of the 12 items in the construct identified five factors. Of the 12 items originally predicted to represent human territoriality, two items loaded separately from the first three factors and were dropped from further analysis. The first dimension, territorial emotions, retained all four items originally hypothesized to represent this domain (Eigenvalue=2.67; Variance=22.26; Reliability=.69). The second dimension, representing territorial behaviors, retained three of the four items predicted to represent this aspect of human territoriality (Eigenvalue= 1.93; Variance=16.07; Reliability=.52). Lastly, the third factor represented territorial beliefs. As with the dimension representing territorial behaviors, territorial beliefs retained three of the four predicted items (Eigenvalue=1.23; Variance=10.23; Reliability=.55). While the reliability scores for the three dimensions revealed through factor analysis were moderate to low, principle component analysis with varimax rotation supported the three factors initially conceptualized as

components of human territoriality. Therefore, it is believed that further analysis of these dimensions is warranted.

For the importance and performance variables, principle component factor analysis was again used to examine the dimensionality of the variables. For both sets of variables, factor analysis did not reveal any logical relationships between the items. Because the items did not load together in a logical manner, all individual items representing importance and satisfaction domains were used and no composite indices were created.

The use of factor analysis revealed some expected and some surprising results regarding the internal structure of the constructs used in this study. In summary, one dimension represented place attachment, two dimensions (attraction and self-expression) represented enduring involvement, and three dimensions (beliefs, emotions, and behaviors) represented human territoriality. The created indices were used with multiple regression to better understand the relationship between independent and dependent variables.

Based on the proposed theoretical model (Figure 1), regression models were developed to identify the relationships between place attachment, enduring involvement, human territoriality, and the importance/performance customer service items. Standardized beta coefficients were used to identify the relative importance of each independent variable to the subsequent dependent variable. For the relationships between independent variables, correlations between variables (*r*-values) ranged from .003 to .761. While there were a few moderately high correlation scores among the independent variables, the majority were well within an acceptable range. Figures 2 through 4 show the significant relationships between the identified independent and dependent variables.

A total of twelve items were examined as dependent variables (Importance items 1-12) with the independent variables of place attachment, attraction (EI), self-expression (EI), territorial beliefs, territorial emotions, and territorial behaviors (Figure 2). The purpose of this section of the study was to examine the relative strength of the independent variables in explaining the importance of various customer service items.

Four of the twelve regression equations tested were statistically significant. The importance of cleanliness of toilet facilities was related to territorial beliefs and self-expression (6% of variance explained). The importance of appearance and maintenance of the lake area was related to territorial behaviors and territorial beliefs (15% of variance explained). The importance that an angler places on the type of fish they can catch was significantly predicted by the attraction dimension of enduring involvement (8% of variance explained). Lastly, territorial behavior was the only significant predictor of importance of the number of fish a person can catch at a lake (5% of variance explained).

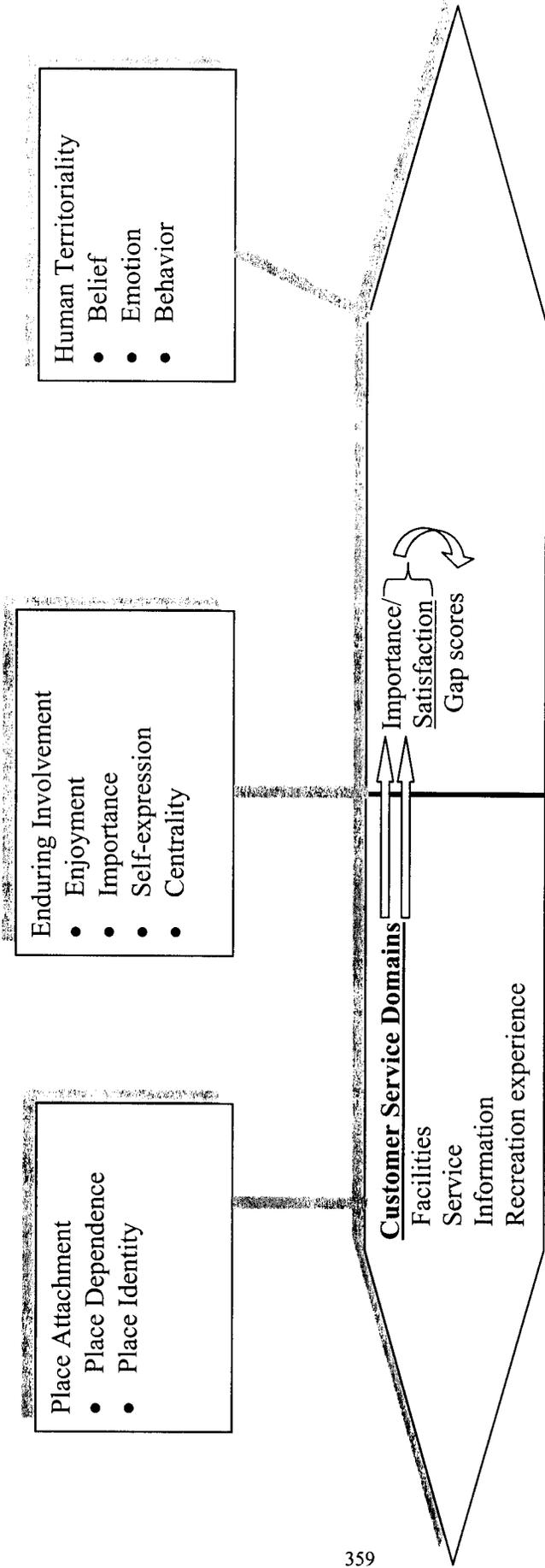
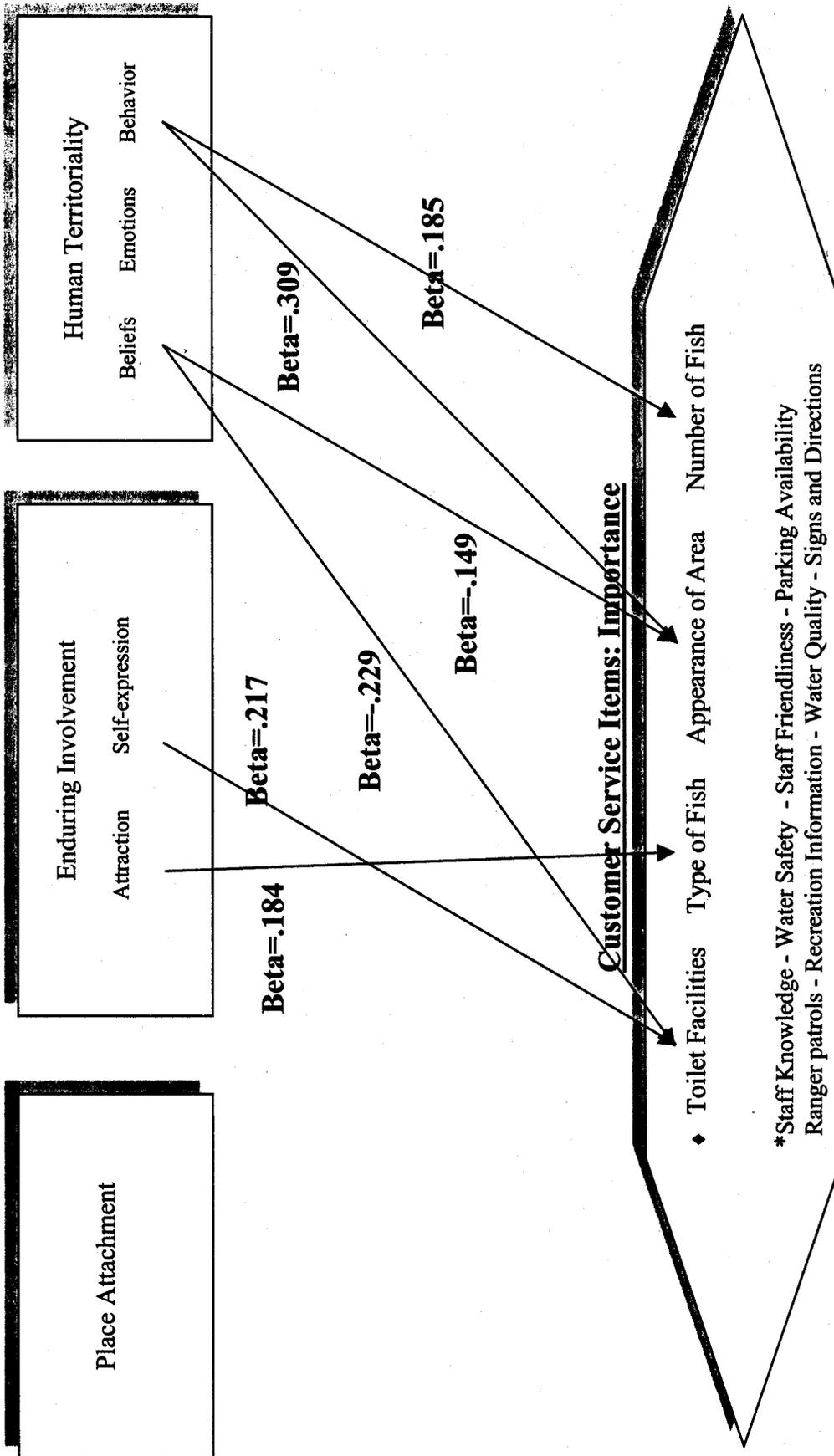
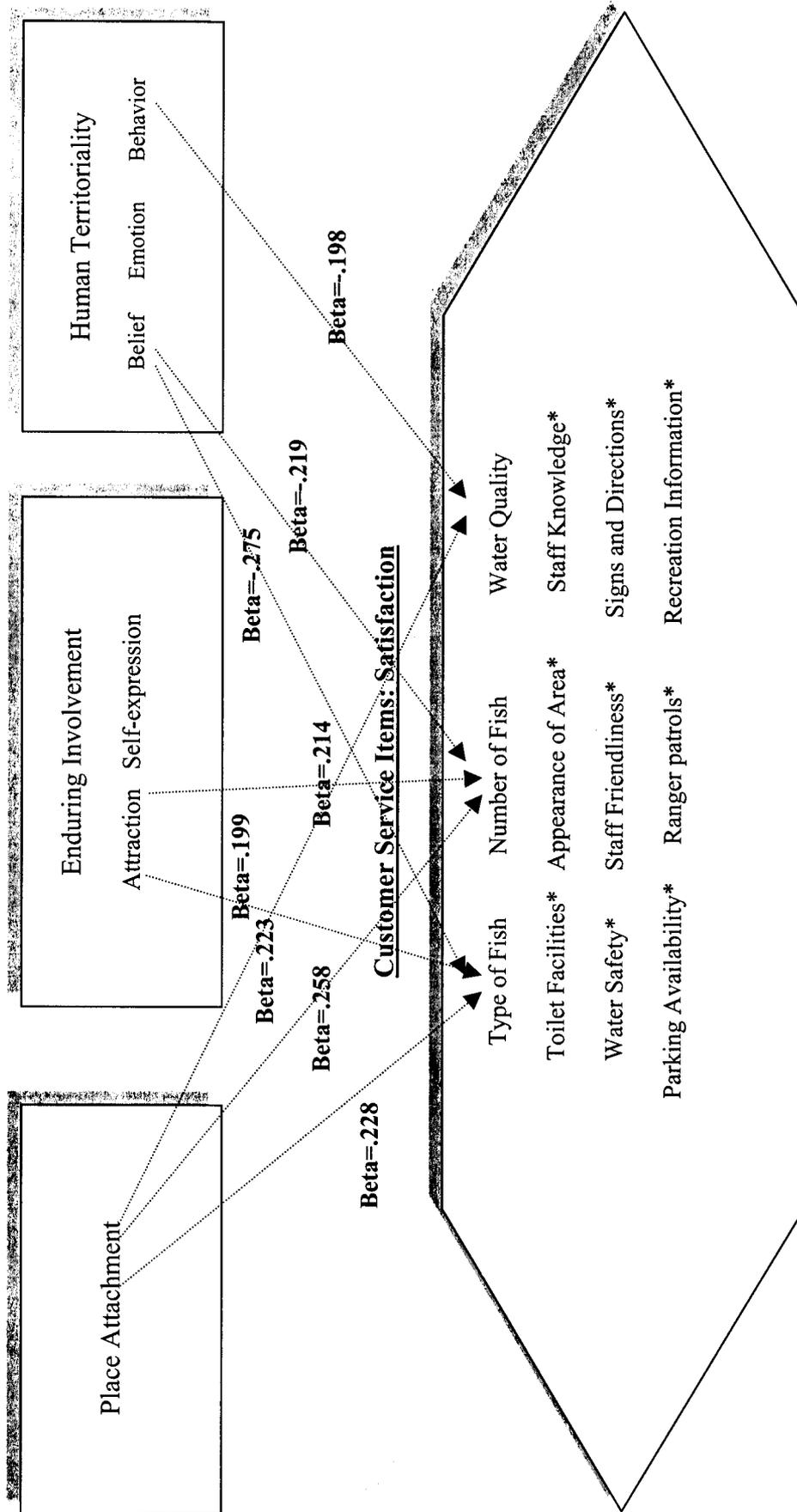


Figure 1. A Proposed Model of Place Attachment, Enduring Involvement, Human Territoriality, and Customer Satisfaction 1



- ◆ Dependent variables found to be significantly predicted by independent variables
- \* Dependent variables found to have no significant relationship with independent variables

Figure 2. Relationship of Place Attachment, Attraction, Self-expression, Beliefs, Emotions, Behaviors with Importance Items as Dependent Variables



\* Dependent variables found to have no significant relationship with independent variables

Figure 3. Relationship of Place Attachment, Attraction, Self-expression, Beliefs, Emotions Behaviors with Satisfaction Items as Dependent Variables

Place attachment, enduring involvement, and human territoriality were next tested for their relationship with level of satisfaction with the customer service items. For this hypothesis, three of the 12 regression equations were found to be significant (Figure 3). The significant relationships included: satisfaction with the type of fish that can be caught and territorial beliefs, attraction (EI), and place attachment (16% of variance explained); satisfaction with the number of fish a person can catch and place attachment, territorial beliefs and attraction (EI) (11% of variance explained), and satisfaction with water quality and territorial behaviors and place attachment (5% of variance explained).

The final step of the analysis was to examine the relationships between the independent variables of place attachment, attraction (EI), self-expression (EI), territorial beliefs, territorial emotions, and territorial behaviors and the item gap scores (Figure 4). Only one of the item gap scores was significantly predicted by any of the independent variables. Apparently, the independent variables are better predictors of importance and satisfaction scores than they are of the item gap scores (difference between importance and satisfaction). The only regression equation that was significant included the gap score for appearance and maintenance of the lake area with territorial behavior (7% of variance explained).

### Conclusions and Implications

The theoretical framework for this study was formulated from both existing research and newly designed instruments to measure formerly speculated relationships. Previous research has explored the relationship between variables like place attachment and enduring involvement with various satisfaction-related items. However, no studies were found that used a management-oriented customer service model. This study takes place attachment, enduring involvement and human territoriality and explores the relationship of these variables within a conceptual model of customer satisfaction.

The customer satisfaction model examined in this study uses items that are believed to be closely related to actual services at recreation areas. Because the independent variables measure psychological constructs related to place and activity, it should not be surprising that they best predict those items that are theoretically related to either activity or place. The results are similar to those found by Mowen et al. (1998) in which place attachment and activity involvement measures were significantly related to measures of satisfaction for both place and recreation experiences. Thus, the results of this study partially support previous research in this area. Place attachment, enduring involvement, and human territoriality were less successful in predicting items that were related to either the service or information domains of customer satisfaction.

Future researchers should consider using the same variables and perhaps other recreation-related variables; however, some of the results show a need for modifying the current constructs as they were used in this study. As Bricker (1998) determined, qualitative methods of researching

recreationists' attachments to special areas can produce vastly different results than quantitative methods. Certainly, all four constructs (place attachment, enduring involvement, human territoriality, and customer satisfaction) could benefit from future qualitative research.

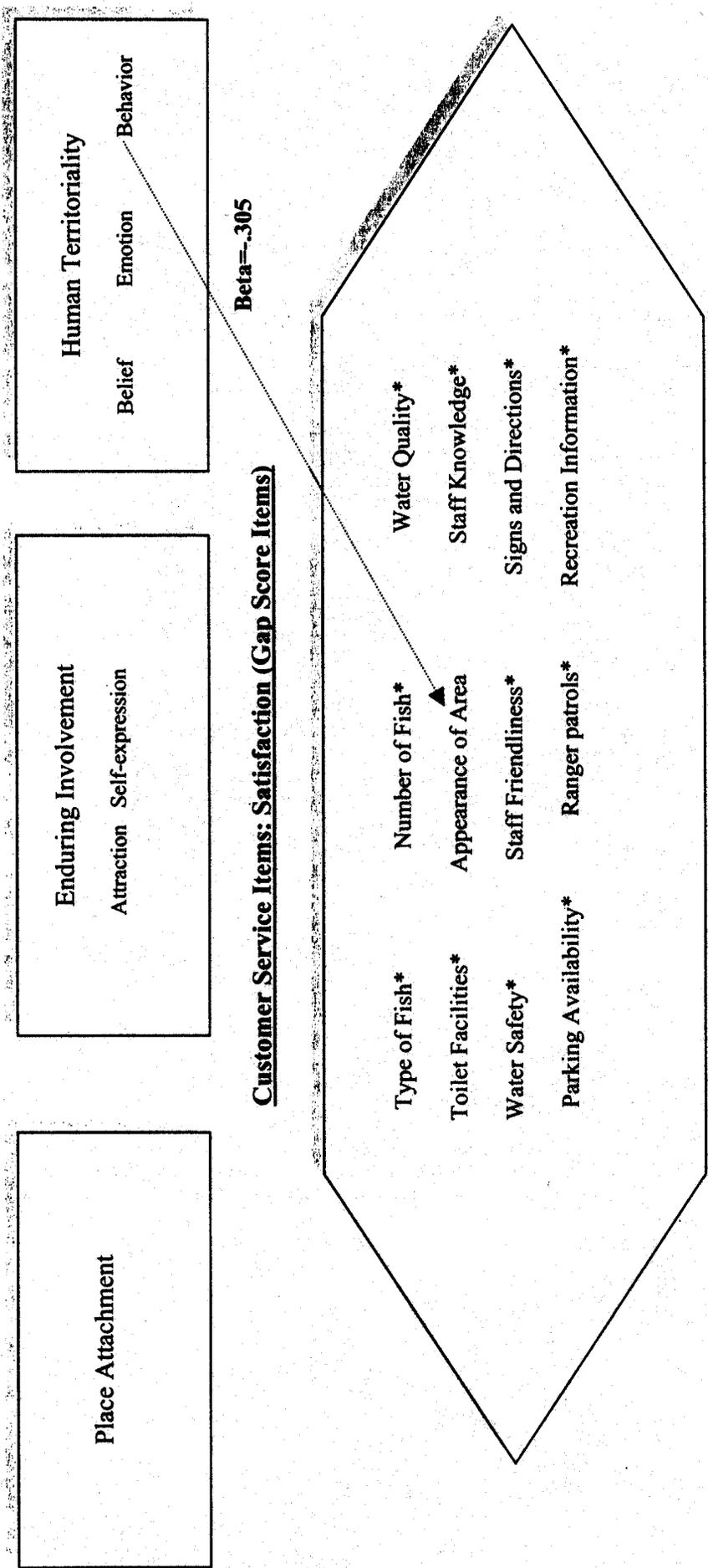
Most current studies examining involvement no longer use the construct examined in this study. A more common and current involvement scale has been designed and modified by Dimanche, Havitz and Howard (1991) and others over the last decade.

Human territoriality, as used in this study, will also have to be modified. Low to moderate reliability scores show a weakness in the current items and, perhaps, the dimensions will need to be altered for future research in this area. For the importance/performance domains, it may be useful to examine other domains such as a natural resources domain or a more developed recreation experience domain. While this study has opened many doors, it has also raised many questions. Researchers should continue to refine the measures that were used in this study and explore their relationships.

In this study, various dimensions of place attachment, involvement and human territoriality were related to different items measuring satisfaction. The continued use of these items and their refinement could help researchers and managers better understand how they might improve recreationists' experiences. Because public recreation agencies are being asked to provide a wide variety of activities and satisfying experiences within various settings, positively influencing place and activity attachment appears to be an effective strategy for increasing visitor satisfaction. This study supports this notion as has past research (Dimanche & Havitz, 1995; Mowen et al, 1998). A continued refinement of measures such as those used in this study could provide more information to make quality decisions with regard to management plans. In the end, if programs could target people in an effective and efficient manner, future policy decisions regarding the allocation of funds to specific programs could be more efficient and, ultimately, produce more satisfied customers.

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\* Dependent variables found to have no significant relationship with independent variables

Figure 4. Relationship of Place Attachment, Attraction, Self-expression, Beliefs, Emotions Behaviors with Gap Scores as Dependent Variables

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## AN EXPLORATION OF HUMAN TERRITORIALITY IN FOREST RECREATION

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**Abstract:** Previous studies in human territoriality have focused largely on behavior in urban settings. It is only recently that researchers are examining this construct in the context of forest settings. This study was designed to assess the territorial responses of visitors to Bald Eagle State Forest in central Pennsylvania and explore the structure and predictive validity of a proposed territoriality scale. Results indicated the sample was relatively homogenous in terms of demographics but included consumptive as well as non-consumptive forest visitors. Further analysis demonstrated only limited support for an exploratory territoriality scale and suggested the need for further research into the meaning and structure of human territoriality in forest recreation settings.

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### Introduction

Resource-based recreation is often place-specific, and recreationists can develop strong bonds to favored places, as has been investigated with the place attachment construct. Another construct, human territoriality, may add to our understanding of human-place bonds in recreation and how these bonds relate to management issues.

Human territoriality has generally been studied in urban locations (Edney, 1976; Taylor & Brower, 1985). Applying the construct in the context of outdoor recreation is likely to require modification of existing measures and the development of new measures.

Human territoriality has been suggested to consist of three dimensions: place-specific cognitions; emotions; and,

behaviors (Taylor, 1988). Territorial beliefs may address social contact, autonomy, escape, perceived control, and responsibility for place. Territorial emotions may include positive affect toward a place and preferred conditions there as well as negative affect toward possible changes in conditions. On-site territorial behaviors may include responses to intrusions such as defense of occupied space and exercise of dominance over perceived outsiders. Off-site, territorial behaviors may include advocating for favored uses and management practices.

This study is an exploration of the territoriality construct in the context of forest recreation. The study was designed to measure territorial responses to "favorite places" in a state forest and test the structure and predictive validity of an exploratory scale incorporating Taylor's (1988) three dimensions of territoriality.

### Methods

In a year-long survey of visitors to a central Pennsylvania State Forest, participants were asked to identify a favorite place in the forest and answer a battery of fixed-answer and open-ended questions about their relationship to that place. Key variables in this study included respondents identification of their favorite place, beliefs about managing their favorite place, satisfaction regarding forest management issues, and responses to an exploratory territoriality scale.

A total of 477 useable responses was received. Seventy-two participants (15%) identified large, undifferentiated areas (e.g., the trails, the mountains) as favorite places, and 405 (85%) identified specific sites. Because we were attempting to examine territoriality as it relates to a specific place, in our analyses, we used only the latter group.

Content analysis was used to examine the open-ended responses regarding beliefs about participants' favorite places. Primary categories were identified for each of the questions into which participants logically were grouped. Principle components factor analysis with varimax rotation was used to examine the structure and predictive validity of the exploratory territoriality scale. Correlation and chi-square statistics were then used to examine the relationship between the hypothesized dimensions of territoriality and responses to satisfaction and beliefs about forest management.

### Findings

#### User Characteristics

Respondents who identified a specific favorite place within the forest were generally white (98%), male (85%), long-time forest users (mean = 25 years), middle income (56% = \$30,000-\$79,000/year), and moderately educated (51% = more than a high school education). Approximately half of the respondents (46%) lived within 30 miles of the forest and their mean age was 47 years. Interestingly, Table 1 indicates that many members of this group identify both consumptive (e.g., hunting/fishing) and non-consumptive (e.g., hiking, viewing scenery, relaxing) as favorite activities.

**Table 1. The Most Important Activities in which Respondents Participate at Their Favorite Place**

Activity	N
Hunting/fishing	357
Hiking/biking/riding	208
Viewing scenery/wildlife	145
Relaxation/peace/solitude	86
Cookouts/picnics	48
Camping	47
Motorized recreation	40
Swimming	35
Being with friends/family	19

Note: Respondents could list up to three activities.

### Geographic Distribution

Locating all favorite places on a forest map indicated that these sites were predominantly in the valleys of the state forest near roads, and not in less accessible areas. Further examination revealed over 80% of the locations to be located near a stream, e.g., Penns Creek, Poe Valley Area, White Deer Creek Area, Cherry Run. This is typical of visitation to other public recreation areas where visitors are more likely to visit areas with water than those without if given the opportunity.

### Beliefs about Favorite Places

Content analysis of open-ended responses indicated that the characteristic that made favorite places special most often was conduciveness to a particular recreation activity (Table 2). Not unexpectedly, the same characteristic was typically enjoyed most by participants' during their most recent visits to their favorite places. Other frequently identified characteristics of favorite places included privacy, quiet, memories linked to the site, and natural qualities. Both positive and negative characteristics of favorite places were related to the impact of other people. For example, opportunities for privacy, memories (often of other people), and encounters with others were important to more than one-third of the participants. In contrast, characteristics of favorite places that were enjoyed least included other's behavior, litter, and inadequate or intrusive maintenance.

The next set of questions centered on management issues and asked respondents to identify what they would keep the same, as well as what they would change, about their favorite place. Again, responses were analyzed for content and results are provided in Table 3. Interestingly, almost equal numbers of respondents indicated that the current wilderness quality and existing uses were the most important items to keep as suggested that facilities be improved and use patterns be modified. There appears to be two distinct groups in terms of this particular set of responses.

**Table 2. Content Analysis of Open-ended Responses about Favorite Places**

Beliefs	Percent	N
<b>What makes this place special?</b>	<b>100%</b>	<b>452</b>
Conducive to recreation activities	27.9%	126
Privacy/Quiet	21.9%	99
Memories	15.3%	69
Natural quality	14.6%	66
Convenience	10.8%	49
Views/Scenery	6.2%	28
Encounters with others	3.3%	15
<b>What did you like most about your favorite place on your last visit?</b>	<b>100%</b>	<b>422</b>
Conducive to recreation activities	33.2%	140
Natural amenities	27.2%	115
Quiet/Private	17.3%	73
Views/Scenery	13.5%	57
Encounters with others	6.2%	26
Memories	2.6%	11
<b>What did you like least about your favorite place on your last visit?</b>	<b>100%</b>	<b>245</b>
Natural constraints	17.0%	83
Other's behavior	9.6%	47
Litter	8.4%	41
Inadequate maintenance	5.7%	28
Personal constraints	5.1%	25
Rules	2.9%	14
Intrusive maintenance practices	1.4%	7

**Table 3. How Favorite Place Should Be Managed**

Belief	Percent	N
<b>What would you keep about your favorite place?</b>	<b>100%</b>	<b>219</b>
Wilderness quality	32.8%	72
Existing maintenance	27.4%	60
Existing uses	27.4%	60
Accessibility	8.2%	18
Existing rules	3.6%	8
Quiet/peace	.5%	1
<b>What would you change about your favorite place?</b>	<b>100%</b>	<b>283</b>
Improve facilities	36.7%	104
Modify use patterns	24.0%	68
Modify nature management	17.3%	49
Enforce rules	11.3%	32
Improve roads	10.6%	30

### Territoriality Scale Items

Exploratory factor analysis of an exploratory scale provided limited support for Taylor's three-dimensional (beliefs, emotions, behaviors) structure of human territoriality (Tables 4 & 5). The four items that loaded unambiguously on the first factor were emotional in nature as suggested by Taylor. However, the structure of the second and third factors was unexpected and unclear. Neither belief nor behavioral items loaded together consistently, and two items did not load strongly on any factor. Furthermore the internal consistency of the three hypothesized sub-scales as well as the three sub-scales suggested by the exploratory factor analysis was low, with Cronbach's alphas ranging from a high of .64 to a low of .27. Finally, the three sub-scales were tested as predictors of expectations regarding favorite places, satisfaction with

forest management, and responses to forest management issues, but no significant relationships were found.

### **Conclusion**

The first issue to examine is the lack of relationship between the territoriality scale and respondents' satisfaction and beliefs regarding management. The satisfaction and management items were measured with respect to the entire forest. However, the territoriality items were measured within the context of the favorite place identified within the forest. Satisfaction and responses to forest management issues may differ according to the level of geographic specificity defined. Thus, it may be that territoriality of a specific place does not provide insight regarding beliefs and behaviors relative to the broader context within which that specific place operates.

**Table 4. Factor Structure of Hypothesized Territoriality Scale Items, Their Factor Loadings and Reliabilities**

Sub-scale	Sub-scale item	Factor Loading	Standardized Alpha
<b>Factor 1 (Emotion)</b>			<b>.6431</b>
	I have a lot of fond memories about this place.	.646	
	I have a special connection to this place and the people that use it.	.620	
	This place means more to me than any other place I can think of.	.591	
	For me, lots of other places could substitute for this one.	.568	
<b>Factor 2 (Behavior)</b>			<b>.4275</b>
	I know this place better than the people who run it.	.712	
	I treat this place better than most other people that come here.	.583	
	I don't tell many people about this place.	.576	
	I do (or would) bring my children to this place.	-.194	
<b>Factor 3 (Beliefs)</b>			<b>.3130</b>
	People should be free to do whatever they want at this place.	.678	
	Managers need to restrict use at this place.	.672	
	Everyone should be able to use this place.	.503	
	People who have used this place longest should have priority using it.	.172	

**Table 5. Factor Structure of Territoriality Scale Items as Revealed by Exploratory Factor Analysis, Their Factor Loadings and Reliabilities**

Sub-scale	Sub-scale item	Factor Loading	Standardized Alpha
<b>Factor 1</b>			<b>.5548</b>
	I know this place better than the people who run it.	.712	
	People who have used this place longest should have priority using it.	.591	
	I treat this place better than most other people that come here.	.583	
	I don't tell many people about this place.	.576	
<b>Factor 2</b>			<b>.6127</b>
	I have a lot of fond memories about this place.	.646	
	I have a special connection to this place and the people that use it.	.620	
	This place means more to me than any other place I can think of.	.591	
	For me, lots of other places could substitute for this one.	.568	
	I do (or would) bring my children to this place.	.533	
<b>Factor 3</b>			<b>.2713</b>
	People should be free to do whatever they want at this place.	.678	
	Managers need to restrict use at this place.	.672	
	Everyone should be able to use this place.	.503	

In addition, as previously mentioned, the investigation of human territoriality in dispersed, non-urban settings, is still exploratory. More in-depth, qualitative data may be necessary in order to better understand this construct in the context of forest recreation.

Finally, this study may have masked patterns within individual groups (i.e., between consumptive and non-consumptive types of activities). Previous research on specific user groups such as anglers (Wickham & Zinn, 2001) suggests a stronger relationship between the territoriality construct and expectations. More information may be obtained for managers, particularly in this exploratory stage, if research is focused on specific user groups such as anglers or specific recreation sites such as campgrounds or picnic areas.

While not supported strongly by this study, other research suggests that the human territoriality construct can contribute to our understanding of outdoor recreation and recreationists' responses to management issues. However, additional research will be required to develop items that best capture the dimensions of the territoriality construct and clarify the relationship between territoriality and recreation.

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## COMMUNITY ATTACHMENT AND RESOURCE HARVESTING IN RURAL DENMARK

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**Abstract:** Community attachment has been related to "sense of place," and by extension to factors such as the natural resource base of a local geographic area and the utilitarian uses of those resources—a functional attachment that helps root people to a place. The purpose of this study was to examine the resource harvest activities of residents of three modern rural communities in Denmark and relate their participation in these activities to community attachment and satisfaction. A total of 160 residents from the three small communities selected in Jylland, Denmark, responded to a single wave of the survey. Even though this was a limited sample, the study found that about one-third engage in harvesting of natural resources and two-thirds are involved in domestic resource use. Eighteen motivations for engaging in natural resource harvesting were reduced to four factors which were subsequently used in a k-means cluster analysis to differentiate five motivational types of harvesters: 1) Outdoor Recreation oriented, 2) Non-recreation oriented, 3) Experience Nature, 4) Recreation Activity Tradition, and 5) Self-sufficiency oriented. Analysis of Variance was used to determine if the five types differed in their participation in natural resource harvesting activities and domestic resource activity use; the "Self-sufficiency" type was differentiated by its greater participation in both sets of activities. A measure of community attachment was then regressed on natural resource harvesting motivations, an aggregated natural resource harvesting index, an aggregated domestic resource use measure, community satisfaction, and life satisfaction. The *t* values of the multiple linear regression suggest harvesting of natural resources has the strongest positive relation to community attachment, followed by community satisfaction, and that the other variables do not have a strong relation to attachment. While motivations appear useful for developing a typology for examining harvest activities, they do not appear to be strongly related to community attachment; rather, actual engagement in harvesting activities appears to be more significant. Further exploration of rural cultures is needed to determine if this functional attachment to communities is supported in other settings.

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### Introduction

Social researchers have described the tensions in modern cultures between the reward of residential mobility for economic and human capital development and the desire for a sense of place. Community attachment has been

empirically related to the intensity of a sense of place, contributing to bonding and helping to develop a rootedness (Tuan, 1980). Some authors have suggested these concepts of sense of place and community attachment also include an aspect of a culture's cosmology, a relationship with nature (Relph, 1976; Stokols & Shumaker, 1981). For rural cultures this has been conceptualized as not only a land ethic, but a utilitarian relationship, often involving consumptive uses of natural resources which bond people and people to place and thus, by extension, to community. Empirical studies in the U.S. have indicated that a positive, but weak, relationship exists between natural resource harvesting and place attachment (Williams, Patterson, Roggenbuck & Watson, 1992). A few studies have focused on such relationships in indigenous cultures, and found stronger relationships, but few have explored the relationship to community attachment in rural modern cultures with complex technology, mobility and education.

The purpose of this study was to examine a rural modern culture (i.e., rural communities within Denmark) with regard to their natural and domestic resource harvesting activities, explore the underlying motivations of those who engage in consumptive harvesting activities (e.g., hunting, fishing, vegetable/fruit farming, gathering wild edibles, and maintaining farm animals), and then relate these activities to community attachment and satisfaction.

### Study Setting

Three communities were selected in western Denmark for this study. Bobøl is primarily a farming community of less than 40 residences. The community has a well known private fishing area, Ribehøj Fiskepark. Stenderup is a crop and dairy farming community of approximately 160 households, and Jels is a large village and agricultural area of approximately 650 households. All three communities have existed since the 17<sup>th</sup> century as agricultural samfund (communities or unions). Even though 17<sup>th</sup> century buildings are still used for dwellings and housing farm/dairy animals and equipment, the crop, dairy, and swine operations are highly mechanized. The Danish government provides low cost capitalization loans, subsidies and tariff protection for much of the dairy and swine industries.

The communities were selected because of their location in rural Jylland, Denmark; a known area for hunting, freshwater fishing, and less than 35km access to saltwater fishing; variation in population size; and the researcher's familial ties to the area.

### Methods

A seven-page questionnaire booklet was designed for self administration. It included questions on number of adult relatives within a radius of 25km of the respondent, length of time in the lokalsamfund (community), three questions that were used in an aggregated community attachment measure, and questions on satisfaction with the local community and satisfaction with life in general.

Respondents were also asked a series of questions about whether they engaged in different types of hunting, fishing, and gathering activities, and activities related to domestic resource production such as gardening, raising farm animals, and of things others had discarded. In addition to their own activity and household use of these activities, the respondents were asked about their barter, selling and receiving of products from these activities. The sample members were also asked a series of questions about their motivations for participation in natural resource harvesting, rating the importance of each. They were also asked a series of socioeconomic and demographic questions. The questionnaire was translated to Danish, reviewed and checked by both the translator and a third party translator. It was then printed locally in Vermont.

Originally, the plan was to hand distribute the self-administered questionnaire to postal boxes at individual farm postal boxes in each of the three selected communities by walking or bicycling between residences. Upon the initial arrival in the communities and a two day surveillance, the initial distribution plan was abandoned as postal boxes were often at dwellings which were a quarter mile from the main road, residences were often considerable distances apart, and many residents retrieved their mail at the postal station. After receiving assistance and helpful suggestions from the regional post office in Rødding, a decision was made to distribute the questionnaire by mail, with a self-addressed stamped envelope for return. Subsequently, a census sample of households was drawn for Bobøl (N=37) and Stenderup (N=156), and a random sample of 350 households from Jels. As all stamps for the initial mailing, post card postage and return postage were purchased from the regional post office, postal authorities provided (after pleas and negotiation) two sets of labels for all households in the three lokalsamfunds. Questionnaire booklets were coded with an identification number, a cover letter was developed, translated to Danish, and printed in Copenhagen, and all 543 were mailed from Rødding, Jylland, Denmark. Returns were mailed to a postal pick-up in Copenhagen. Approximately three weeks later a postcard reminder and thank-you was sent to all members of the sample.

There were 532 deliverable questionnaires, a total of 160 were returned and considered to be useable. Response rates varied from 24 percent received from residents of Bobøl to 33 percent from Jels; a total response rate of 30 percent was obtained for the single wave of the survey and reminder.

## Results

Over fifty-four percent of the respondents were male, 41.6 percent female. Approximately seventy-nine percent (78.7%) were married or living with a partner, 11.5% single, 6.1% separated or divorced, and 4.7% of respondents were widowers or widows. Education varied for 130 respondents to the question, 39.2% reported having a folkeskole education (equivalent to 11-12 year schooling in U.S.), 7.7% have gymnasium (high school) education, 13.1% have a 2 to 3 year teacher certificate, 7.7% have a university or post-graduate degree, and 30% report having "other", which include technical schooling, folkehojskole, certificate programs, etc. Approximately 58% of respondents were employed full-time, 18.3% were employed seasonally or part-time, 8.8% were on paid student or paid parental leave, 6.6% were unemployed, and an additional 8.8% listed their employment status as "other."

Respondents were asked about the type of area in which they grew up; 42.7% grew up in a village, 23.1% grew up on a rural farm, 13.3% in the rural countryside, 11.9% in a provincial town or suburb, and 9.1% grew up in a city. Respondents lived in their communities for an average of 20 years (Std. Dev. = 16.66) with a distribution of less than 1 year local residence to 80 years. Respondents were asked to rate how satisfied they were with their lokalsamfund (community). Approximately 85.8% were somewhat satisfied or satisfied with their local community. In contrast no one reported being dissatisfied and only 4.1% were somewhat dissatisfied (see Figure 1).

Generally the respondents were satisfied with life. Only 6.2% were somewhat dissatisfied or dissatisfied as contrasted to the 85.6% who were at least somewhat satisfied (see Figure 2).

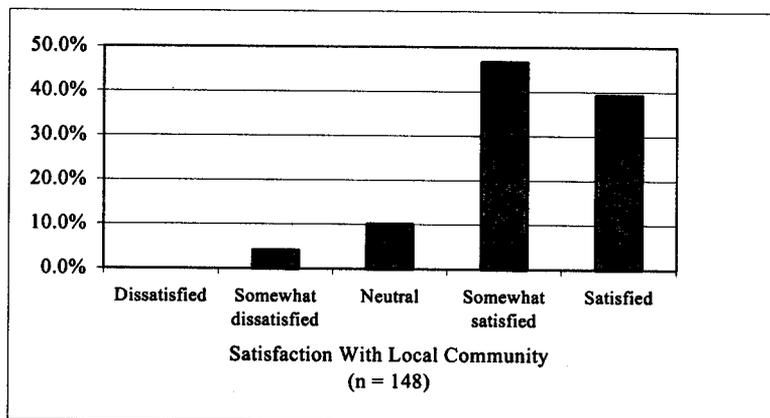
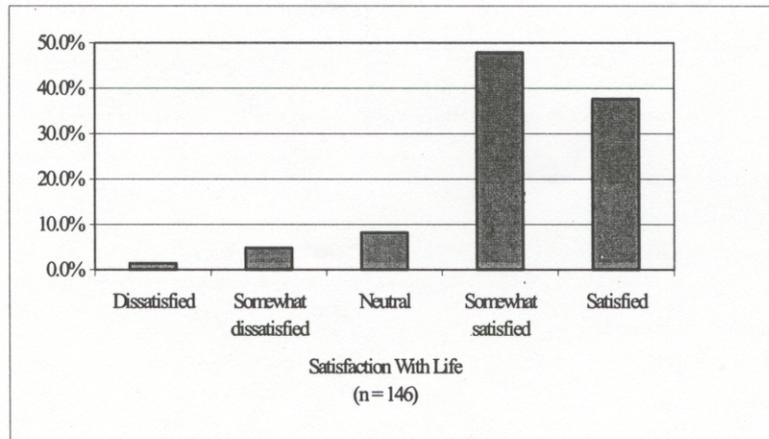


Figure 1. Respondent Satisfaction with Their Local Community



**Figure 2. Respondent Satisfaction with Life, in General**

Respondents engage in a variety of natural resource harvesting activities and domestic resource production activities; over 30.4% fresh water fish, 22.4% salt water fish, 19.4 % hunt birds, 21.4% harvest small game, and 31.7% gather wild edible plants. These five variables were aggregated to form an index of natural resource harvesting. Approximately 60% of the respondents plant and harvest their own gardens, 64.5% of the 138 respondents harvested from their own fruit trees, 21.8% raise farm animals, repaired discarded items for sale or own use (43.9%), sold things at yard sales or roadside (12.6%), 68.8% home canned vegetables or fruits, and 89.2% maintained own equipment and car. These latter seven variables were aggregated and used in an index of domestic production.

Respondents were asked to rate a series of 18 motivations of why people participate in natural resource harvesting on their importance each was to the respondent, with "not at all important," coded as 1 to "extreme importance," coded as 5. These were subsequently used in a principle components factor analysis with varimax rotation to reduce the 18 variables to linear combinations of variables representing underlying dimensions of the motivations. The number of components was determined by eigenvalues  $> 1$ , an examination of a scree plot, and interpretability of the components (factors). Factor loading greater than .500 were used to interpret the components. Cronbach alpha was used to assess the reliability of the motivation variables that were used to interpret the components.

A four component (factor) solution was selected as the best fit. The first component "loaded" on motivations related to the pleasure and enjoyment of the activity/experience and being and sharing with others. The first component was labeled as "Affiliative Recreation." The second component is defined by motivations related to self-reliance, independence and providing for self and family, it was labeled "Self-sufficiency." The third component was defined as "Experience Nature." The fourth component was defined by maintenance of "Tradition," and was labeled as such (see Table 1).

The factor scores on these four dimensions were subsequently used in a non-hierarchical cluster analysis to develop a typology of respondents based on the components (factor dimension). K-means cluster analysis runs were used to cluster the respondents into distinct groups or types. A five-cluster solution was selected based on changes in cluster groups and interpretability. Cluster 1 was defined by the relatively high standard deviation units above the mean for the "Affiliative Recreation" component and the .51 standard deviation above the mean on the "Experience Nature" component, this cluster was labeled "Outdoor Recreation." Based on the negative standard deviations units below the mean for the "Affiliative Recreation," component (1.1 sd.) and the 1.3 standard deviation below the mean on the "Experience Nature" component, the second cluster was labeled "Non-Recreation." Cluster 3 was defined by the 1.07 standard deviation units above the mean on "Experience Nature." On the fourth cluster Affiliative Recreation and Tradition were .72 and .50 above the mean respectively, the cluster was labeled as "Recreation Tradition." The fifth cluster was defined by the 1.4 standard deviation units above the mean on "Self-sufficiency." Clusters were then used as a constructed typology to examine respondents with regard to their involvement in natural resource harvesting.

One purpose of this study was to examine if respondents with varying motivations (as separated into "motivation" clusters) differed in natural resource harvesting activity and domestic resource use. A one-way ANOVA was used to compare the natural resource harvesting index scores of the five cluster types. A significant difference was found among the types ( $F(4, 99) = 2.836, p = .028$ ). Tukey's HSD was used to determine the nature of the difference among the types. This analysis revealed the Self-sufficiency type (cluster) had a higher harvest activity ( $m = 1.43, sd = 1.47$ ), than the Non-recreation oriented type ( $m = .222, sd = .73$ ). The other three types did not significantly differ from these two nor were statistically significant differences observed among the three other types.

**Table 1. Motivational Components for Engaging in Natural Resource Harvesting**

Motivation	Component			
	Affiliative Recreation	Self-sufficiency	Experience Nature	Tradition
Experience fun & pleasure of activity	.824			
Participate in a favorite outdoor activity	.816			
Do something exciting & challenging	.740			
Have an enjoyable experience	.630		.582	
Share skills & knowledge with others	.604			
Be with friend who do the activity	.596			
Share experiences with my family	.556			
To be self-reliant		.897		
Provide food for my family		.873		
To be independent		.825		
Provide income for self & family		.740		
Observe nature			.812	
Learn about nature			.807	
Maintain family tradition				.775
Maintain rural Danish tradition				.738
Because I have always done it				.649
Cronbach Alpha	.9094	.9010	.9130	.7918

A significant difference was also found among motivation types on domestic resource use ( $F(4, 101) = 3.835, p = .006$ ), using a one-way ANOVA. Tukey's HSD revealed the Experience Nature type ( $m = 4.3, sd = 1.48$ ) differed from the Non-recreation oriented type ( $m = 2.7, sd = 1.45$ ); and similarly the Self-sufficiency type ( $m = 4.2, sd = 1.17$ ) also differed from the Non-recreation type. No other differences among types were found for domestic resource use.

A community attachment index was developed by aggregating scores on ratings of how well they fit into their local community (1 = poorly to 5 = well), how much they have in common with most of the people within their community (1 = nothing to 5 = everything), and ratings of their community in terms of an ideal community in which they would want to live (1 = farthest from ideal to 5 = closest to ideal). An Alpha reliability of .710 was obtained for the three variables of the index.

The community attachment (ATTACH) index was then related to the natural resource harvesting motivations (the four linear components: FAC 1-FAC4 described above), natural resource harvesting index (aggregated harvesting activity: HARVEST), domestic resource production activity (aggregated domestic production activity: DOMESTIC), community satisfaction (SATCOM), and life satisfaction (SATLIF) using multiple linear regression. A significant regression emerged ( $F(8, 93) = 7.177, p < .001$ ), with an adjusted  $R^2$  of .329. Respondents natural resource harvesting is equal to:  $4.755 + .799(\text{HARVEST}) - .079(\text{DOMESTIC}) + .975(\text{SATCOM}) + .313(\text{SATLIF}) -$

$.016(\text{FAC1}) - .148(\text{FAC2}) + .114(\text{FAC3}) + .146(\text{FAC4})$ , where FAC1 is the component of Affiliative Recreation, FAC2 is the Self-sufficiency component, FAC3 is Experience Nature component and FAC4 is the component related to Tradition. Only HARVEST and SATCOM variables appeared to be significantly related. As shown in Table 2, the t values of the regression suggest harvesting of natural resources has the strongest relation to community attachment followed by community satisfaction, and that the other variables ( $t < .2000$ ) do not have a strong relation to attachment.

### Discussion

Motivations can be used to differentiate the rural Danes in this study on natural and domestic resource harvesting, primarily discriminating between those who are motivated by self-sufficiency aspects of harvesting and domestic production from those who are defined by their lack of recreation motives. The respondents motivated by "Self-sufficiency" are, as expected, more engaged in the attenuated harvesting and production activities. The differences among motivational types on other activities, such as bartering and actual consumption of these goods by the households, remains to be tested. Motivational types do appear to be useful for exploring activities and behavior of a rural modern culture such as found in Denmark's Jylland province.

While motivations appear useful for developing a typology and examining harvest activities, they do not appear to be strongly related to community attachment. Rather, actual

**Table 2. Regression Coefficients for Community Attachment Index**

Model	Coefficients		
	$\beta$	<i>t</i>	Sig.
(Constant)	4.755	3.836	.000
HARVEST	.799	5.561	.000
DOMESTIC	-.079	-.598	.551
SATCOM	.975	4.017	.000
SATLIF	.313	1.305	.195
FAC1 (Affiliation)	-.016	-.088	.930
FAC2 (Self-suffic)	-.148	-.810	.420
FAC3 (Exp Natur)	.114	.600	.550
FAC4 (Tradition)	.146	.83	.409
Regression	$R^2 = .329$	7.177	.000

engagement in harvesting activities appears to have a more significant and positive relationship with community attachment. Similar to what has been revealed in previous literature, community satisfaction in this study was related to community attachment, but natural resource harvesting appeared to be stronger predictor. The relationship of harvesting to community attachment suggests that the connection to the land and resources may be operating as a place dependent variable. Rural Danes from these three small communities appear to have a functional attachment to community as a result of the access and established relationship they have with the natural resource base of the region. The benefits of such harvest activities are often referred to as "process benefits" (Kruse, 1991) and may be particularly valued for their maintenance of social support and self-reliance (Muth, 1990) in the complexity of modern rural life. The increasing decline of such harvest activities and their meanings for rural residents as a result of policy initiatives (such as increased regulation), land fragmentation, and animal welfare concerns may result in erosion of a significant factor which maintains the fabric of community.

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