

WILDERNESS AS A PLACE: HUMAN DIMENSIONS OF THE WILDERNESS EXPERIENCE

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Abstract.—Understanding the experiences sought by visitors to wilderness areas and how satisfied they are with their experiences is an important type of information for wilderness managers. Understanding how these dimensions are measures of the concept of “place” can help wilderness managers develop better visitor education and management programs. This paper briefly summarizes seven studies of wilderness visitors conducted during 1997 through 2000 in state and federal managed wilderness areas in the northeastern United States. These studies attempted to identify and measure the important variables and dimensions (i.e., factors) of the human experience in wilderness areas. The overall goal of these seven studies was to develop a multi-dimensional scale to better understand the relationship between people and wilderness as a place.

1.0 INTRODUCTION

A substantial body of anecdotal, personal, and popular literature exists about wilderness and the experiences people have had on those designated and managed lands. However, wilderness and the corresponding “sense of place” it invokes has not often been investigated through empirical research studies. Managers need to more systematically measure and understand the relationships that visitors are developing or have developed with the lands they manage as wilderness. “Place” is defined as both a physical location and the visitor’s subjective experience or relationship with that place; the concept has been subdivided into a variety of factors, such as place meanings, attachment, identity, e.g., and dependence (Cheng et al. 2003).

Wilderness areas in the United States are public land areas designated as wilderness by federal and state governments (Hendee & Dawson 2002). Wilderness areas were chosen as the study areas because the emphasis is on protecting them for their ecological, cultural, and

scientific values for present and future generations. Visitors entering these wilderness areas are seeking to be immersed in an ecological setting that is different from human development and mechanical and motorized use. Some visitors come for short or long hikes that last only one day or less, while other visitors carry their camping equipment and stay several days within the area using only primitive means of travel and living.

The primary objective of these studies was to develop a multi-dimensional scale to better understand the relationship between people and wilderness as a place, including the importance of and satisfaction with multiple dimensions of that place.

2.0 METHODS

This paper is a brief summary based on seven studies of visitors conducted during 1997 through 2000 in state and federal wilderness areas in the states of New York, New Hampshire, and Maine. These studies attempted to identify and measure the important variables and dimensions (i.e., factors) of the human experience in wilderness areas.

The study areas were different size wilderness areas with varying densities of visitor use and proportions of user types (such as day hikers and backpackers). Also, the study areas were geographically distributed so that visitors would be arriving from different residential and rural areas to ensure that a variety of visitors’ interests, needs, and attitudes were included in the survey results. There were multiple areas to select from during different phases of the four-year study: 16 wilderness areas in the state-owned lands of the Adirondack Park in northern New York State, and seven wilderness areas in the White Mountain National Forest in New Hampshire and Maine. The studies were conducted in three phases or stages with each developing the research information needed to conduct the next phase.

Phase One of the wilderness visitor studies was based on four focus group discussions with visitors to several wilderness areas and a literature review that helped to

generate a list of visitor experience variables used in the first visitor surveys. Visitors in three Adirondack wilderness areas were surveyed to measure the importance of and satisfaction with wilderness experience attributes related to social, resource, and managerial conditions. Forty-eight variables on wilderness experience opportunities were developed and presented in a random list followed by 15 variables on conditions in the wilderness area; other variables about visitor use and characteristics were also developed for the questionnaire. The data collection involved two parts: (1) a brief interview at the access points to the wilderness areas to ask for their participation in a mail survey; and (2) a mail questionnaire that was sent to them by U.S. mail carrier with up to two reminder notices to visitors who did not complete their questionnaires within several weeks of their trip.

Phase Two of the wilderness visitor studies was based on the results and exploratory factor analysis of the visitor surveys in the first phase. Visitors in one Adirondack and one White Mountain wilderness area were surveyed to measure the importance of and satisfaction with wilderness experience attributes related to social, resource, and managerial conditions. The 48 variables on wilderness experience opportunities were used from the first phase and presented in a list organized under eight factor dimensions, followed by 15 variables on conditions in the wilderness area in a list organized under four factor dimensions; other variables about visitor use and characteristics were also developed for the questionnaire. The data collection involved two parts: (1) a brief interview at the access points to the wilderness areas to ask for their participation in a mail survey, and (2) a mail questionnaire that was sent to them by U.S. mail carrier with up to two reminder notices to visitors who did not complete their questionnaires within several weeks of their trip.

Phase Three of the wilderness visitor studies was based on the results and analysis of the visitor surveys in the second phase. Visitors in all 16 Adirondack and seven White Mountain wilderness and backcountry areas were surveyed to measure the importance of and satisfaction with wilderness experience attributes related to social, resource and managerial conditions.

Eight variables (dimensions) on wilderness experience opportunities were used from the phase two studies and followed by four variables (dimensions) on conditions in the wilderness area; thus, only 12 variables were measured in this phase. Other variables about visitor use and characteristics were also developed for the questionnaire. The data collection involved only brief structured interviews at the access points to the wilderness areas and along the visitor hiking trails of the wilderness areas.

The response categories for the importance and satisfaction variables and dimensions remained the same throughout the three phases of the project. The importance rating responses categories were: 0 = not important, 1 = slightly important, 2 = somewhat important, 3 = moderately important, 4 = very important, and 5 = extremely important. The satisfaction rating responses categories were: -2 = very dissatisfied, -1 = dissatisfied, 0 = neutral, 1 = satisfied, and 2 = very satisfied. All interviews and mail surveys were conducted during the high-use summer season from late May through mid-September. All data analysis was conducted using the Statistical Package for the Social Sciences (SPSS); statistical techniques ranged from simple descriptive statistics to exploratory factor analysis to determine the experience dimensions for the surveys.

The complexity of the dimensions reported in this summary paper were studied and examined in a variety of publications (Johnson & Dawson 2004, Dawson & Alberga 2004, Dawson et al. 2002, Dawson et al. 2000, Dawson & Watson 2000, Newman & Dawson 1999, Dawson et al. 1998). Only the 12 final dimensions from Phase Three will be described in this paper.

3.0 RESULTS AND DISCUSSION

The visitors were very cooperative in all three phases of the studies and between 95 and 100 percent of those visitors asked to participate in a brief interview agreed to participate. High response rates of 60 to 75 percent were obtained from visitors who were sent a mail questionnaire and who completed and returned it for analysis (Table 1). A high percentage of visitors (95 to 98%) willingly participated in the Phase Three interview studies (Table 1). These high response rates (and low non-respondent

Table 1.—The number of visitors interviewed and sent a mail survey (First and Second Phases) and those only interviewed (Third Phase) and their response rates by year of study and wilderness or backcountry area

Year of Study and Wilderness or Backcountry Area	Number Visitors	Response rate
First Phase (Interview and mail survey)		
1997- High Peaks in Adirondacks	710	67%
1997 - Siamese Ponds in Adirondacks	98	74%
1997 - Ha-De-Ron-Dah in Adirondacks	93	75%
Second Phase (Interview and mail survey)		
1999 - High Peaks in Adirondacks	586	64%
1999 - Great Gulf in White Mountains	317	60%
Third Phase (Interview)		
2000 - 16 Adirondack areas	104	98%
2000 - 7 White Mountain areas	403	95%

bias based on a comparative analysis of interview data from respondents and non-respondents to the mail survey) allowed us to conduct the statistical analyses with little concern for non-respondent biases (i.e., these are representative samples).

A reliable 12-dimension survey was developed and successfully tested in field conditions for use with visitors to wilderness areas to understand their relationship to wilderness as a place. The importance of the 12 dimensions and the visitor satisfaction with those dimensions is presented for wilderness experiences and management conditions.

The eight dimensions of wilderness experiences (and examples) that were developed based on the Phase One and Two studies were:

- 1. Personal and Social Experiences:** Get away from daily routines; Develop a sense of self confidence; Chance to think and solve problems; Simplify daily priorities and needs.
- 2. Solitude:** A small, intimate group experience, isolated from all other groups.
- 3. Connections with Nature:** Get in touch with my true self; Opportunity for self discovery; Develop a sense of oneness with nature.
- 4. Exploration and Remoteness:** An environment free of man-made noises; Develop a sense of remoteness from cities and people; Having an

adventure and sense of discovery; Feel like I was one of the first people to experience this place.

- 5. Connection with Other Wilderness Users and Inspiration:** Feel connected to a place that is important to me; Celebrate wilderness as a symbol of naturalness; Feel a sense of an earlier and rugged time.
- 6. Physical Activity:** Physical exercise and health; Physical challenge.
- 7. Remote Travel Skills:** Improve travel skills; Learn to travel to a remote destination and return successfully; Develop a sense of self-sufficiency; Recreation in a primitive environment.
- 8. Natural Environment:** Enjoy the view from a mountain top; Experience the scenic quality of nature; Observe and hear wildlife in a natural setting; The tranquility & peacefulness of the remote environment.

The four dimensions of area management conditions that affected wilderness experiences (and examples) that were developed based on the Phase One and Two studies were:

- 1. Information on Wilderness Area:** Finding safe drinking water; Information on where other users are likely to be; Find an unoccupied campsite.
- 2. Management Conditions:** Condition of the trail system; Publicized rules and regulations at

Table 2.—Average visitor importance and satisfaction ratings of eight dimensions of the wilderness experience in 16 areas in the Adirondack Park and seven White Mountain areas in 2000

Dimension	Importance		Satisfaction	
	Adirondack	White Mtn.	Adirondack	White Mtn.
Natural environment	4.5	4.5	1.5	1.6
Personal/social experiences	4.3	4.1	1.4	1.6
Physical activity	4.0	4.2	1.6	1.7
Exploration & remoteness	3.9	3.9	1.0	1.1
Solitude	3.8	3.7	1.1	1.2
Connections with nature	3.7	3.7	1.2	1.4
Remote travel skills	3.6	3.3	1.0	1.2
Connections with others	3.1	3.3	1.0	1.1

entry point; The number of visible places where others have hiked and camped.

3. Litter and Waste: Amount of litter along the trails and at campsites; Campfire rings; Human waste.

4. Numbers of Users: The number of hikers you saw on trails; The number of large groups you saw on trails; The number of groups that camped within sight or sound of your campsite.

The survey results of the eight dimensions of wilderness experiences documented that these were all moderately to highly important and that visitors were satisfied to very satisfied with their experiences. The visitor interviews in the wilderness areas of the Adirondack Park and wilderness and backcountry areas of the White Mountains reported very high average scores for the importance of these eight dimensions (Table 2). Also, the visitor response patterns regarding these eight dimensions for the Adirondack areas were similar as shown in Figure 1; the exception was the higher importance of the natural environment over other dimensions. Overall, the experience sought by visitors is complex and multi-dimensional. They have sought out these experiences and come to the

wilderness area with many types of attitudes and needs that they expect to be fulfilled.

The survey results of the four dimensions of wilderness area management conditions reported that these were moderately to highly important and that visitors were neutral to satisfied with their experiences. The visitor interviews in the 16 areas of the Adirondack Park and wilderness and backcountry areas of the White Mountains reported high average scores for the importance of and low satisfaction with these four dimensions (Table 3). These data demonstrate that the visitors have higher expectations for management performance than are being achieved (i.e., visitor satisfaction is not high). Also, the visitor response

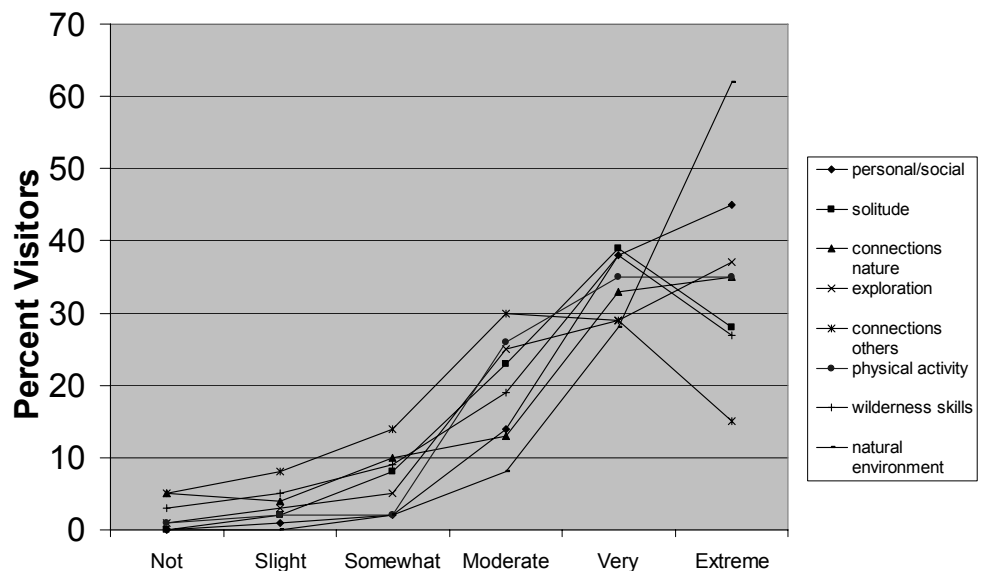


Figure 1.—Distribution of visitor responses to the importance of eight dimensions of the wilderness experience in 16 areas in the Adirondacks in 2000.

Table 3.—Average visitor importance and satisfaction ratings of four dimensions of the wilderness management conditions in 16 areas in the Adirondack Park and seven White Mountain areas in 2000

Dimension	Importance		Satisfaction	
	Adirondack	White Mtn.	Adirondack	White Mtn.
No litter and waste	4.3	4.4	0.8	1.5
Wilderness area information	3.8	3.2	0.8	0.8
Management conditions	3.5	3.6	1.0	1.2
Number of other users	3.4	3.2	0.7	1.0

patterns regarding these four dimensions for the Adirondack areas were similar as shown in Figure 2; the exception was the higher importance of no evidence of litter and human waste over other dimensions.

4.0 CONCLUSIONS AND IMPLICATIONS

Managers can use the 12-dimension survey instrument developed to more systematically measure and understand the relationships that visitors have developed with the lands they manage as wilderness. More clearly understanding the importance of those dimensions and visitor ratings of their satisfactions provides more input to management activities. The survey instrument could be used in a variety of ways:

- Monitor visitor responses over time to see if high levels of importance and satisfaction continue to be reported across all eight dimensions of the wilderness experiences.
- Monitor visitor responses over time to see if high importance for management conditions and lower satisfaction with the actual conditions continue to be reported for the four management condition dimensions.
- Conduct an importance-satisfaction analysis to check the relationship between visitor satisfactions and their

relative importance from the perspective of the visitor (e.g., are managers focused on what is important to visitors and are visitors satisfied).

- Conduct comparisons between management areas and comparisons before and after management actions have been taken or conditions have changed.

These study results have many implications for wilderness management from visitor marketing to information programs to management of the conditions in the wilderness area. For example, marketing and information programs need to provide accurate and realistic information about the wilderness area and expected visitor experiences to prepare visitors for their experiences and help to set realistic expectations about the natural and social conditions present in the area.

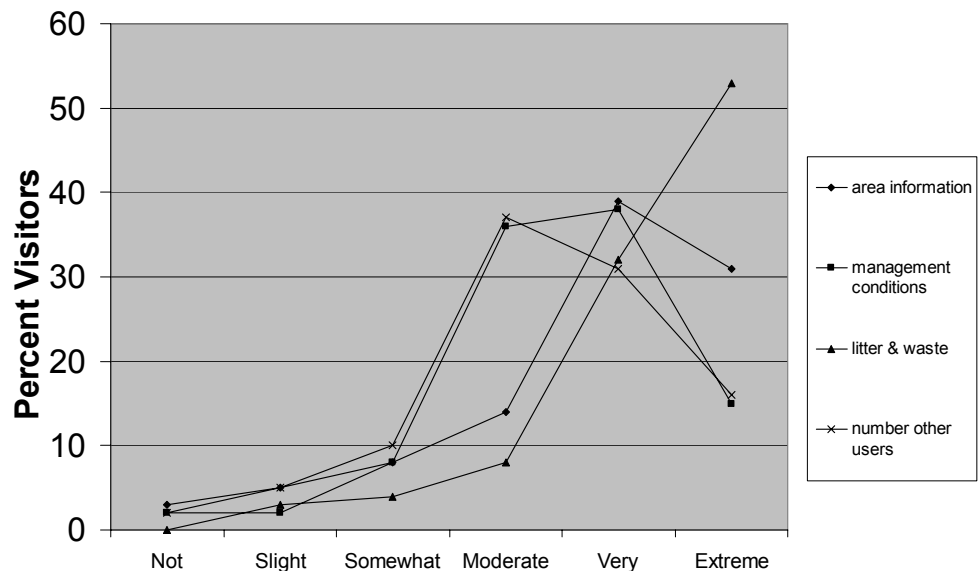


Figure 2.—Distribution of visitor responses to the importance of four dimensions of the wilderness area management conditions in 16 areas in the Adirondacks in 2000.

Visitor satisfactions are related to maintaining a high quality of resource and social conditions. These types of study results may suggest to managers that information programs are an important indirect management tool. Also, managers can use the importance and satisfaction data to help them understand the situations and conditions that most support or detract from satisfying visitor experiences. The general application of this research is for managers to be able to understand when they need to : (1) inform and educate visitors about the existing opportunities and conditions, appropriate behaviors, and rules and regulations; (2) know when and how to adjust management to increase visitor satisfactions that are legal and appropriate within the legislative mandate for management; and (3) know when to redirect users to other areas for a more appropriate type of experience that is better provided elsewhere or to help them meet their expectations.

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