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**Demographics**



## TRENDS IN PARTICIPATION RATES FOR WILDLIFE-ASSOCIATED OUTDOOR RECREATION ACTIVITIES BY GENDER AND RACE/ETHNICITY

John F. Dwyer

Project Leader/Research Forester, USDA Forest Service, North Central Research Station, 845 Chicago Avenue, Suite 225, Evanston IL 60202-2357

Allan Marsinko

Associate Professor, Department of Forest Resources, School of Natural Resources, Clemson University, Box 341003, Clemson SC 29634-1003

Jonathan Fisher

Forestry Aide, USDA Forest Service, North Central Research Station, 845 Chicago Avenue, Suite 225, Evanston IL 60202-2357

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**Abstract:** In response to recent interest in trends in outdoor recreation participation by gender, this study looks at trends in the proportion of men and women participating in wildlife-associated recreation activities (i.e., participation rates) between 1980-1990. While differences in participation rates between men and women vary a great deal by activity and racial/ethnic group, there appears to be a general trend of men and women moving to more similar participation rates across a wide range of wildlife-associated recreation activities as time passes. The rate of change varies by activity and racial/ethnic group.

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### Introduction

We have recently used cohort-component projection models (Murdock et al. 1990, 1991, 1996) to predict how demographic changes may affect the number of participants in selected outdoor recreation activities in the years ahead (Dwyer 1995, 1996; Dwyer and Marsinko 1998). Our focus has been on the implications of increased aging and racial/ethnic diversity for the proportion of the population participating in selected outdoor recreation activities. In discussions of our research and its implications for outdoor recreation planning and management, we are inevitably asked about differences in activity participation rates by gender, and how these differences change over time. Gender is not a part of cohort component projection models since the gender mix in the population is not expected to change significantly over time. However, there seems to be considerable interest in how participation rates are changing by gender. There appears to be an expectation that the male and female participation rates might show different trends over time. Differential changes in

participation rates by gender over time would alter the gender mix of outdoor recreation participants, and could have significant implications for outdoor recreation in the years ahead.

Heberlein and Thompson (1996) report that male participation in hunting declined by 3 percent from 1980-1990; but female participation increased between 1985 and 1990. They also found that income, residence, and education were not as useful for predicting female participation as they were for male participation. This provides one indication of differences in outdoor recreation participation trends by gender, and perhaps different forces for change in the participation of each group. Their analysis was based on screener surveys from the National Surveys of Fishing, Hunting, and Wildlife-Associated Recreation.

### The Analysis

We decided to look at gender differences in participation rates of several outdoor recreation activities in context with age and race/ethnicity; which had been the focus of our past research (Dwyer and Marsinko 1998). Our initial expectations were that differences in participation rates by gender, and trends in those differences, would vary by activity, age, and race/ethnicity. We used data from the National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.

The National Survey of Fishing, Hunting, and Wildlife-Associated Recreation is conducted in two phases. The first phase or screener survey includes a large sample and asks information on demographics as well as limited participation information. After weights are applied to each observation, the results are representative of the population of the United States. We used weighted activity participation data for 1980, 1985, and 1990 from the screener surveys. The activities included in the analysis are: hunting, fishing, special interest in wildlife around the home by observing or identifying wildlife, feeding wildlife, photographing wildlife, or maintaining a natural area or plantings for the benefit of wildlife, and taking trips or outings for the primary purpose of observing, photographing, or feeding wildlife (i.e., wildlife-associated trips). We looked at participation rates (i.e., percent of individuals' participating) by race, age, and gender.

Following the U.S. Bureau of the Census protocol, the National Survey of Fishing, Hunting, and Wildlife-Associated Recreation breaks down the population into five racial groups: White; African American; American Indian, Eskimo, and Aleut; Asian and Pacific Islander; and "Other." A separate question asked if they were Hispanic or Non-Hispanic. An individual in any of the five racial groups can be Hispanic or non-Hispanic. In this study we categorized all individuals who reported that they were Hispanic into a single group, regardless of race. Consequently all other groups included only individuals who reported that they were non-Hispanic.

Our initial focus was on male/female differences in participation rates and how they have changed over time. As an index of gender differences in an activity at a point in time, we chose percent male participation divided by percent female participation in a given year. The resulting ratio tells how much more likely it is for a male than a female to participate in an activity at a particular time, all other things being equal. A ratio of 1 indicates that male and female participation rates are the same, while a higher ratio means that more men are participating relative to women, and a lower ratio that more women are participating relative to men. We also looked at patterns and trends in activity participation rates by males and females, as well as trends in participation rates by age group.

#### **Male/Female Participation Ratios**

If we look at male/female participation ratios by activity and race/ethnicity for wildlife-associated recreation activities for 1990, there are major differences across racial/ethnic groups and activities (Table 1). Across all racial/ethnic groups, men are much more likely than women to participate in hunting, and to a much lesser extent, fishing. With other wildlife-associated activities, the male/female participation ratio is considerably lower than for hunting and fishing across all racial/ethnic groups. Women from all racial/ethnic groups are slightly more likely than men to participate in feeding wildlife around the home, and women from the "Other" racial/ethnic group are more likely than men to take wildlife associated trips and maintain areas around the home to benefit wildlife.

Male/female participation ratios in each activity vary by racial/ethnic group. They tend to be highest for African Americans and lowest for "Other" and American Indians. This pattern may be due to the different behavior patterns by gender in each culture, and possibly different household structures. It is interesting that those who did not identify with one of the census-designated racial/ethnic groups (i.e., "Other") tended to have among the lowest differences between male and female participation rates across most activities.

#### **Changes Over Time in Male/Female Participation Ratios**

Participation patterns in wildlife-associated recreation by gender appear to be changing over time. With traditionally male activities such as hunting and fishing there are trends toward more similar rates of participation for males and females (Table 2). The rate at which the male/female participation ratios changed between 1980 and 1990 sometimes differed with racial/ethnic background and activity (Table 3). Whites had a drop in the male/female participation ratio for hunting, with the male/female participation ratio remained relatively static over time for most other activities. However, African-Americans (who initially had triple the male/female participation ratio for hunting as Whites) show a much more dramatic drop in this ratio for hunting, perhaps suggesting that groups with the

largest differences in participation rates by gender will show the most dramatic movement toward convergence. However, this does not seem to be born out with Asian Americans who had the second highest male/female participation ratio for hunting in 1980; but had a relatively small change in that ratio between 1980 and 1990. With other racial/ethnic groups there is a general pattern over time of decreased male/female participation ratios for hunting, and smaller changes for other activities; but the patterns are not as clear or distinct as with African Americans and Whites. Smaller sample sizes with these other groups may have affected the results for Asian-American hunting trends and the trends for other race/ethnicities and activities as well.

Hunting is the activity with the most readily apparent trends in male/female participation ratios over time. The overall trend for all racial/ethnic groups is a drop in the ratio; but with some differences in trends across the two periods of 1980-1985 and 1985-1990 (Table 2).

With fishing and wildlife-associated trips there is also a downward trend in male/female participation ratios over time; but the decline is not as steep as with hunting. With other activities there is not a clear pattern of change over time with male/female participation ratios as was the case with hunting, fishing, or wildlife-associated trips (Tables 2, 3). However, with feeding wildlife around the home where female participation rates exceed those of males, there is a tendency (1985-1990) for male participation to increase relative to female participation (Tables 2, 3). This may suggest that, in general, wildlife-associated activities are moving towards a more similar rate of participation for men and women.

We thought that male/female participation ratios might be different by age since people of different ages grew up in different eras with different gender roles, and change in different ways over time according to age. Limited numbers of cases for some racial/ethnic groups somewhat restricted our analysis. With whites, male/female participation ratios for hunting and fishing increase with age, particularly over the age interval 30's to 70's. A sharp peak in male/female participation ratios is reached at age 70-75, with a sharp drop after that. Over time there appears to be a general downward shift in male/female participation ratios across all age groups (Figure 1)

#### **Activity Participation Rates By Gender**

While discussion of male/female participation ratios offers some advantage in looking at differential changes in participation rates between the two groups over time, it masks patterns and trends for men and women as separate groups. In this section we look at some of those patterns and trends.

Both male and female participation rates vary a great deal by activity and racial/ethnic group (Tables 4, 5). Hunting tended to have by far the lowest participation rate for

women of any of the activities studied, and this was the case over all racial/ethnic groups. With men, the highest participation rates tended to be for fishing, and this was the case with all groups except "Other." With women, the highest participation rates tended to be with feeding and observing wildlife around the home. With both men and women, the highest participation rates across all activities were for Whites and American Indians.

Both male and female participation rates for the activities studied are generally increasing over time. The major exception is hunting where male participation is declining over time across most racial/ethnic groups, although it is increasing for women. The general pattern of participation is for participation rates for females in hunting and fishing to increase at a faster rate than males, and for male participation in feeding wildlife around the home to increase at a faster rate than females. With other activities there are no major changes in male/female differences in participation rates. The highest percent increases in participation rates for both males and females across all racial/ethnic groups are for observing wildlife around the home.

#### Summary

There is a great deal of variation in the differences between male and female participation rates across racial/ethnic groups for a range of wildlife-associated recreation activities. The overall trend over time is for a convergence in male and female participation rates. We have observed increases in female participation rates relative to males in activities (such as hunting) where males have traditionally had higher participation rates. In activities where females have had higher participation rates (i.e., feeding wildlife) male participation rates are increasing slightly relative to females. In other activities where male and female participation rates have been similar, there are only small differential changes, with no clear pattern. Male/female participation ratios tend to increase with age, especially among those in their 30's-70's, particularly with hunting and fishing. Changes in participation ratios over time appear to be similar across age categories.

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Note: Tables and Figures are on the following three pages.

**Table 1. Male/Female Participation Ratios by Race/Ethnicity and Activity (1990)**

Wildlife-associated Activity	Race/Ethnicity					
	White	African American	American Indian	Asian American	Other	Hispanic American
Hunting	8.6	16.5	3.6	15.7	3.3	8.3
Fishing	2.0	2.2	1.6	2.0	1.4	2.2
Taking a Trip <sup>a</sup>	1.1	1.1	1.0	1.0	0.7	1.1
Observation <sup>b</sup>	1.1	1.2	1.2	1.0	1.0	1.1
Photography <sup>b</sup>	1.1	1.6	1.3	1.1	1.2	1.2
Maintaining <sup>b</sup>	1.1	1.4	1.2	1.2	0.8	1.1
Feeding <sup>b</sup>	0.9	0.9	0.9	0.8	0.9	0.9

<sup>a</sup> For the primary purpose of observing, photographing, or feeding wildlife

<sup>b</sup> Within one mile of the home

**Table 2. Male/Female Participation Ratios by Race/Ethnicity and Activity (1980, 1985, 1990)**

Race/Ethnicity	Year	Wildlife-associated Activity						
		Hunting	Fishing	Taking a Trip <sup>a</sup>	Observation <sup>b</sup>	Photography <sup>b</sup>	Maintaining <sup>b</sup>	Feeding <sup>b</sup>
White	1980	12.1	2.3	1.1	1.1	1.3	NA	NA
	1985	11.1	2.2	1.1	1.0	1.2	1.2	0.9
	1990	8.6	2.0	1.1	1.1	1.1	1.1	0.9
African American	1980	36.6	2.2	1.2	1.2	1.5	NA	NA
	1985	17.1	2.2	1.2	1.1	1.3	1.0	0.9
	1990	16.5	2.2	1.1	1.2	1.6	1.4	0.9
American Indian	1980	7.5	2.0	1.2	1.1	1.1	NA	NA
	1985	7.4	2.0	1.0	1.3	1.2	1.3	1.0
	1990	3.6	1.6	1.0	1.2	1.3	1.2	0.9
Asian American	1980	17.0	2.0	1.1	1.1	2.0	NA	NA
	1985	9.0	2.2	0.9	0.9	2.1	0.8	0.8
	1990	15.7	2.0	1.0	1.0	1.1	1.2	0.8
Other	1980	14.1	1.9	1.1	0.7	1.1	NA	NA
	1985	14.9	1.7	1.1	0.8	1.2	0.8	0.7
	1990	3.3	1.4	0.7	1.0	1.2	0.8	0.9
Hispanic American	1980	9.4	2.5	1.1	1.0	1.3	NA	NA
	1985	11.0	2.7	1.0	1.1	1.4	0.9	0.8
	1990	8.3	2.2	1.1	1.1	1.2	1.1	0.9

<sup>a</sup> For the primary purpose of observing, photographing, or feeding wildlife

<sup>b</sup> Within one mile of the home

**Table 3. Change in the Male/Female Participation Ratios  
by Race/Ethnicity and Activity (1980-1990)**

Wildlife-associated Activity	Race/Ethnicity					
	White	African American	American Indian	Asian American	Other	Hispanic American
Hunting	-3.4	-20.1	-3.9	-1.3	-10.7	-1.2
Fishing	-0.3	-0.1	-0.4	0.0	-0.5	-0.3
Taking a Trip <sup>a</sup>	0.0	-0.1	-0.2	-0.1	-0.4	0.0
Observation <sup>b</sup>	0.0	0.0	0.1	-0.1	0.2	0.0
Photography <sup>b</sup>	-0.2	0.0	0.3	-0.9	0.0	-0.1
Maintaining <sup>b</sup>	0.0 <sup>c</sup>	0.4 <sup>c</sup>	-0.2 <sup>c</sup>	0.4 <sup>c</sup>	0.1 <sup>c</sup>	0.2 <sup>c</sup>
Feeding <sup>b</sup>	0.1 <sup>c</sup>	0.1 <sup>c</sup>	0.0 <sup>c</sup>	0.0 <sup>c</sup>	0.1 <sup>c</sup>	0.1 <sup>c</sup>

<sup>a</sup> For the primary purpose of observing, photographing, or feeding wildlife

<sup>b</sup> Within one mile of the home

<sup>c</sup> These numbers are based on change from 1985-1990

**Table 4. Percent of Females Participating by Race/Ethnicity and Activity (1990)**

Wildlife-associated Activity	Race/Ethnicity					
	White	African American	American Indian	Asian American	Other	Hispanic American
Hunting	2.1	0.3	5.2	0.2	1.0	0.6
Fishing	21.7	10.4	27.2	11.4	13.1	10.5
Taking a Trip <sup>a</sup>	17.9	5.4	19.9	9.8	16.4	10.5
Observation <sup>b</sup>	31.7	10.1	27.6	11.0	20.1	13.2
Photography <sup>b</sup>	11.7	2.0	8.5	4.8	6.6	4.7
Maintaining <sup>b</sup>	13.0	2.4	10.0	3.5	6.5	4.5
Feeding <sup>b</sup>	41.7	19.2	34.6	13.6	24.2	18.3

<sup>a</sup> For the primary purpose of observing, photographing, or feeding wildlife

<sup>b</sup> Within one mile of the home

**Table 5. Percent of Males Participating by Race/Ethnicity and Activity (1990)**

Wildlife-associated Activity	Race/Ethnicity					
	White	African American	American Indian	Asian American	Other	Hispanic American
Hunting	18.1	5.0	18.7	2.4	3.3	5.0
Fishing	43.2	22.7	43.8	22.8	18.4	23.3
Taking a Trip <sup>a</sup>	20.1	5.9	20.0	9.7	11.3	11.1
Observation <sup>b</sup>	33.7	12.5	33.5	10.9	19.1	13.9
Photography <sup>b</sup>	12.9	3.2	11.3	5.3	7.6	5.6
Maintaining <sup>b</sup>	14.8	3.3	11.5	4.3	5.4	4.8
Feeding <sup>b</sup>	39.1	17.7	32.4	10.9	20.8	17.2

<sup>a</sup> For the primary purpose of observing, photographing, or feeding wildlife

<sup>b</sup> Within one mile of the home

**Table 6. Change in the Percent of Females Participating by Race/Ethnicity and Activity (1980-1990)**

Wildlife-associated Activity	Race/Ethnicity					
	White	African American	American Indian	Asian American	Other	Hispanic American
Hunting	0.6	0.2	2.4	0.1	0.6	0.0
Fishing	5.5	2.5	10.2	0.5	3.3	2.4
Taking a Trip <sup>a</sup>	7.0	2.3	9.0	4.4	8.2	4.2
Observation <sup>b</sup>	15.2	4.6	16.7	5.2	9.9	6.2
Photography <sup>b</sup>	6.6	0.6	4.0	2.7	2.4	2.4
Maintaining <sup>b</sup>	4.8 <sup>c</sup>	0.2 <sup>c</sup>	5.6 <sup>c</sup>	0.9 <sup>c</sup>	-1.5 <sup>c</sup>	0.9 <sup>c</sup>
Feeding <sup>b</sup>	-3.1 <sup>c</sup>	-4.2 <sup>c</sup>	3.3 <sup>c</sup>	-3.5 <sup>c</sup>	-9.2 <sup>c</sup>	-3.9 <sup>c</sup>

<sup>a</sup> For the primary purpose of observing, photographing, or feeding wildlife

<sup>b</sup> Within one mile of the home

<sup>c</sup> These numbers are based on change from 1985-1990

**Table 7. Change in the Percent of Males Participating by Race/ Ethnicity and Activity (1980-1990)**

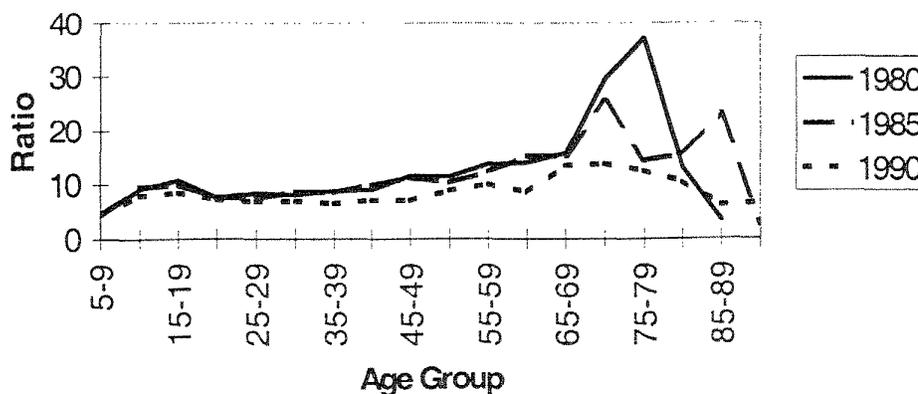
Wildlife-associated Activity	Race/ Ethnicity					
	White	African American	American Indian	Asian American	Other	Hispanic American
Hunting	-0.2	-0.5	-2.3	0.7	-1.6	-0.3
Fishing	5.5	5.1	9.9	1.0	-0.7	3.3
Taking a Trip <sup>a</sup>	7.8	2.3	6.8	3.6	2.3	4.5
Observation <sup>b</sup>	16.1	5.9	21.6	4.7	11.5	9.2
Photography <sup>b</sup>	6.1	1.1	6.6	1.0	2.8	2.6
Maintaining <sup>b</sup>	5.3 <sup>c</sup>	1.1 <sup>c</sup>	5.8 <sup>c</sup>	2.2 <sup>c</sup>	-0.6 <sup>c</sup>	1.4 <sup>c</sup>
Feeding <sup>b</sup>	0.4 <sup>c</sup>	-2.2 <sup>c</sup>	2.6 <sup>c</sup>	-2.2 <sup>c</sup>	-3.2 <sup>c</sup>	-1.4 <sup>c</sup>

<sup>a</sup> For the primary purpose of observing, photographing, or feeding wildlife

<sup>b</sup> Within one mile of the home

<sup>c</sup> These numbers are based on change from 1985-1990

**Figure 1: Male/Female Ratios of Hunting for Whites Over Time**



## GENDER AND AGE GROUP DIFFERENCES IN RECREATIONAL CONFLICT AND TOLERANCE AMONG ADULT SKIERS AND SNOWBOARDERS

Brijesh Thapa

The Pennsylvania State University

Alan R. Graefe

The Pennsylvania State University

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**Abstract:** The purpose of this study was to examine gender and age group differences in recreational conflict and tolerance among adult skiers and snowboarders, based on Jacob and Schreyer's (1980) conflict model. Conflict was operationalized through two measures: 1) a single 7-point Likert scale item and 2) multiple summated items. Tolerance was operationalized using multiple summated items to create three tolerance indices. Data were collected at a rural ski town in Colorado using on-site surveys during a 10 day period in early March, 1996 (skiers=153; snowboarders=33). Upon analysis, some differences in conflict and tolerance by both age and gender (from bivariate analysis) existed. However, these differences disappeared when activity was introduced as the mediating variable. Therefore, the relationships of conflict and tolerance to age and gender among adult skiers and snowboarders are dependent upon the activity engaged in.

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### Introduction

Participation in outdoor recreation escalated after the Second World War, and with the increased emphasis on leisure, the explosive growth contributed to competition over land and water use (Owens, 1985). This increase in the demand for outdoor recreation led to shortages of resources that ultimately led to the creation of recreational conflict. Conflict research began in the late 1960s and early 70s, but the definition and conceptualization of recreational conflict has remained a problem for researchers conducting empirical research, due to the lack of similarity of findings (Gramann & Burdge, 1981; Owens, 1985; Watson, Niccolucci, & Williams, 1994).

Previous research describes conflict as a case of competition over resources by different activities (Devall & Harry, 1981; Owens 1985), or a result of incompatibilities between activities (Bury et al., 1983; Deutsch, 1971; Noe, Wellman & Hull, 1982). Some of the findings of earlier research highlight differences between cross-country skiers and snowmobilers (Jackson & Wong, 1982; Knopp & Tyger, 1973); canoe-paddlers versus motorized boaters (Adelman, Heberlein & Bonnicksen, 1982); motorized versus non-motorized rafters (Nielsen & Shelby, 1977; Shelby, 1980); ORV (offroad vehicles) users and bathers (Noe, Wellman, and Buhoff, 1982); and hikers versus stock users (Stankey (1972) in Devall & Harry, 1981).

Measures to minimize or methods to resolve conflict have been applied in various situations. For example, spatial separation between activities and zoning have been suggested (Bury, Holland & McEwen, 1983; Jackson & Wong, 1982). Some authors, however, contend that separation may be insufficient as the source of the problem could be different social and/or psychological underlying factors (Ivy, Stewart & Lue, 1992, Owens, 1985; Vaske, Donnelly, Wittman & Laidlaw, 1995).

From the mid 1970s onwards conflict research reached a new era. Previous research had made connections with crowding, density and satisfaction but, due to weak significance levels, researchers shifted their focus towards the underlying theoretical concept of conflict (Owens, 1985; Williams, 1993). Jacob and Schreyer (1980) defined conflict as "goal interference attributed to another's behavior" (p. 369). The shift from competition for scarce resources to goal interference by another's behavior gave rise to numerous empirical studies to test the goal interference theory. Recreational activities examined in recent conflict studies include: hikers and mountain bike riders (Ramthun, 1995; Watson, Williams & Daigle, 1991); hikers and stock users (Watson et al., 1994); helicopter skiers and backcountry users (Gibbons & Rudell, 1995); hikers, stock users and llama packers (Blahna, Smith & Anderson, 1995); hunters and non-hunters (Vaske et al., 1995); walkers, runners, in-line skaters, and bicyclists (Moore, Scott & Graefe, 1998); and skiers and snowboarders (Baird, 1994; Thapa, 1996; Williams, Dossa & Fulton, 1994).

One consistent finding in recreational conflict research is that conflict most likely arises between motorized and non-motorized activities, and is often one way or asymmetrical. For example, cross-country skiers disliked their encounters with snowmobilers, but snowmobilers did not mind the encounters (Jackson & Wong, 1982; Knopp & Tyger, 1973). Similarly, canoeists did not want to encounter motorboaters (Adelman et al., 1982). However, conflict between two non-motorized activities has also been detected (Baird, 1994; Blahna et al., 1995; Moore et al., 1995; Thapa, 1996; Vaske et al., 1995; Watson et al., 1991; Watson et al., 1994; Williams et al., 1994), and conflict may or may not be mutual between activity groups.

The goal interference approach introduced by Jacob and Schreyer (1980) indicated that, for conflict to occur, there must be social contact, indirect or direct. They defined indirect social contact as knowledge of another's behavior, and direct contact as face to face encounters. Furthermore, Jacob and Schreyer (1980) identified four major factors that contribute to conflict: (a) activity style, (b) resource specificity, (c) mode of experience, and (d) tolerance for lifestyle diversity. A single factor is sufficient to cause conflict but, in most circumstances, a combination of factors will occur. Although four factors are involved in the conflict model, this paper focuses on the tolerance factor and its relationship to recreational conflict.

Tolerance for lifestyle diversity refers to the tendency to accept or reject lifestyles different from one's own.

Intolerance for lifestyle diversity stems from stereotypes that are linked to use of technology and resource consumption and prejudice. People who are intolerant are more vulnerable to experience conflict (Jacob & Schreyer, 1980, Ivy, 1990).

Tolerance is generally associated with attitudes towards an outgroup and is not a behavior or a specific behavior towards a situation (Ivy et al., 1992). Individuals are more likely to be tolerant of others who they perceive to have similar recreational pursuits (Jacob & Schreyer, 1980). Williams et al. (1994) indicated that skiers and snowboarders shared an asymmetrical tolerance relationship. Skiers were less tolerant of snowboarders while snowboarders did not mind the presence or behavior of skiers on the mountain.

The variables gender and age are very likely to be linked with stereotypes and attitudes. Age is an interesting element of study as there is an inverse relationship between age and participation in physical activity (McPherson, 1984). However, McPherson (1984) indicates that individuals who are physically active at an early age usually sustain their zest for physical activities later in life. Pasksepp & Miller (1996) indicate that "humans generally tend to become less volatile as they age. . ." (p. 16). Additionally, Lawton, Kleban, Rajagopal & Dean (1992) add that, with increasing age, there is a decrease in sensation seeking and emotional surgency, and an increase in emotional control and maturity. Carstensen & Turk-Charles (1994) support the notion that older people are in a better position than younger people to understand and control their emotions, due to their myriad life experiences.

Similarly, Rosen and Neugarten (1960) conclude "that older people are less able to perceive and deal with complicated or conflict situations and integrate wide ranges of stimuli, tend more towards inactivity and passivity, and tend less often to perceive emotion as an important part of life situations" (In Malatesta, 1981, p. 158-159). The passive nature of older people usually results in emotion-focused coping strategies during complex or conflict situations (Lazarus, Primley, & Novacek, 1987 in Labouvie-Vief & DeVoe, 1991, p. 182). Emotion-focused coping is usually associated with distancing, selective attention, or avoidance (Schneider & Hammit, 1995).

However, Erikson (1978) suggests that humans typically undergo various changes during their phase of life development. The argument suggests that at a younger age people tend to care for everybody, including those near and dear as well as those who are different. However, with age this universal notion of caring is restricted to those one is familiar with, and in fact, the care reverts to *negative emotions* toward those who are different ( In Labouvie-Vief & DeVoe, 1991, p. 184). This view seems to be contradictory to DeVoe (1990), who suggests a positive relationship between age and the notion of caring and concern (In Labouvie-Vief & DeVoe, 1991, p. 182).

Similarly, males and females seek various experiences and goal interference may vary among individuals of both genders. The socialization process of societal institutions can be credited with gender differences in participation in physical recreation activities. Block (1979) indicates that, during the process of adult development, only males are predominantly conditioned to be "independent and competent" (In Kane, 1990, p. 53). Kane (1990) further elaborates that young girls are conditioned to "learn skills, roles and attitudes that encourage dependency, a lack of exploration and thus result in a deficit in self-expression and sense of mastery" (p. 53). Furthermore, Kane (1990) states that research has consistently shown that boys are more likely to engage in more physical and aggressive sports than females. In fact, Unkel (1981) found that participation in outdoor activities was significantly lower for females (In Freysinger, 1990, p. 49). On a similar note, Robinson and Godbey (1993) deduced that the participation gap in sport and exercise/fitness among gender groups was widening.

To summarize various researchers' inferences, due to societal factors and the way individuals are raised through adulthood, men and women have been conditioned on different surfaces. Therefore, it can be assumed that experiences sought would vary among the genders, and researchers have found varying motivations for participation in physical recreation activities among males and females (Freysinger, 1990). Finally, Freysinger (1990) indicates that on comparison between gender groups over the course of the aging process, females are more likely than males to decrease involvement in physical recreational activities

#### **Purpose**

The purpose of this study was to examine gender and age group differences in recreational conflict and tolerance among adult skiers and snowboarders, based on Jacob and Schreyer's (1980) conflict model. To test for these differences, three research questions were formulated:

1. Is there a relationship between gender and conflict/tolerance?
2. Is there a relationship between age and conflict/tolerance?
3. Are the relationships between gender, age, and conflict/tolerance mediated by activity?

#### **Research Methodology**

Data were collected at a rural ski town in Colorado using on-site surveys during a 10-day sampling period in early March, 1996. Sampling occurred between 3:00 and 7:00 p.m. at five designated sample sites that included a shopping plaza, three equipment rental shops (2 for skiers and 1 exclusively for snowboarders), and a condominium-owned shuttle bus. These sampling sites were alternated daily and were all used twice during the sampling period. A total of 246 participants were approached and 186 participants responded, yielding a response rate of 76% (skiers=153 and snowboarders=33). All participants surveyed were 18 years of age or older.

Males comprised about 66% of the total sample while 34% were females. The age distribution was skewed more towards the ages of 18-27 years, which represented 43% of the total sample. The other categories were 28-38 (24%), 39-49 (17%), 50+ (16%). The youngest person to be sampled was 18 years of age while the oldest person was 71 years old.

Conflict was measured in two ways. The first measure operationalized conflict in terms of the presence or behavior of others encountered at the resource site on the day of the activity. Respondents were asked how the presence or behavior of skiers/snowboarders had affected their enjoyment that day. A single item 7-point rating scale (greatly reduced enjoyment to greatly increased enjoyment) was used to determine this aspect of conflict. Conflict was divided into skier and snowboarder conflict measures, as both skiers and snowboarders were asked for their perception of conflict resulting from skiers and snowboarders.

The second measure of conflict included a series of items representing potential problems that may reflect goal interference due to another's behavior. A 7-point rating scale (not a problem to very serious problem) was also used for these items. These items also were combined into two different indices: a conflict index for skiers and a conflict index for snowboarders. Each index had a total of 11 items and the means of the items were computed to generate a single index measure for each activity category. Cronbach's alpha was used as a measure of reliability for both indices. An alpha value of .90 was found for the skiers' conflict index while an alpha value of .94 was found for the snowboarders' conflict index.

Similarly, multiple summated scales were used to measure tolerance. Tolerance was categorized into 3 different

indices: Snowboarder tolerance index (4 items, alpha=.80), Skier tolerance index (3 items, alpha=.51), and General compatibility index (3 items, alpha=.69).

For the first research question, the two conflict measures (dependent variables) were analyzed against gender (independent variable) for both activities. Similarly, for the second research question, age was grouped into four categories and was analyzed against the same dependent variables. The tolerance variables were tested using the three tolerance dimensions, snowboarder tolerance index, skier tolerance index, and general compatibility index (dependent variables), against gender and age, respectively. The relationships for conflict and tolerance were tested employing a series of a one-way analyses of variance. The statistical tests were measured at a .05 level of probability. In addition, a series of regressions were employed to see if the relationships between gender, age, and conflict/tolerance were mediated by activity. To test for possible relationships, a theoretical model was developed (explained later) to see if activity was the mediating variable for conflict and tolerance among various age groups and gender classifications.

### Results

For the first research question, on comparison of gender differences in the perception of conflict resulting from *skiers*, neither conflict measure differed significantly between males and females. However, perceived conflict resulting from *snowboarders* was significant for the single item conflict measure at the .01 level. The mean degree of conflict experienced by males was 3.78, compared to 4.31 for females. The relationship suggests that females were more likely than males to experience conflict due to the presence or behavior of snowboarders. However, this finding was not replicated for the second snowboarder conflict measure.

Table 1. Comparison of Gender Differences Among Skiers' and Snowboarders' Perception of Conflict

Conflict Measure	Males		Females		F value
	Mean (n)	Std. Deviation	Mean (n)	Std. Deviation	
<b>Ski Conflict</b>					
Single Item <sup>a</sup>					
(Effect on Experience)	3.57 (110)	1.24	3.78 (59)	1.23	1.07
Conflict Index <sup>b</sup>	2.72 (121)	1.21	2.41 (62)	1.01	3.10
<b>Snowboarder Conflict</b>					
Single Item <sup>a</sup>					
(Effect on Experience)	3.78 (121)	1.46	4.31 (62)	1.34	5.68**
Conflict Index <sup>b</sup>	2.77 (121)	1.53	2.92 (62)	1.53	.37

\*\* significant at .01 level (2-tail significance)

<sup>a</sup> Variable coded on a 7-point scale where 1=greatly increased enjoyment, 4=no effect, and 7=greatly reduced enjoyment.

<sup>b</sup> Composite index score computed as the mean of index statements coded on a 7-point scale where 1=not a problem, 4=moderate problem, and 7=very serious problem.

In the comparison of tolerance levels toward skiers and snowboarders, results showed two out of three significant relationships. The snowboarder tolerance index illustrated a mean score of 4.81 for males and 4.28 for females, significant at the .01 level. The means reflected that males were more tolerant of snowboarders than females.

Similarly, males were more likely than females to be tolerant towards the general compatibility of both activities. The means for the skier tolerance index were not statistically significant, suggesting that males and females were equally tolerant of skiers.

Table 2. Comparison of Gender Differences in Tolerance Levels between Among Skiers and Boarders

Tolerance Dimensions <sup>a</sup>	Males		Females		F value
	Mean (n)	Std. Deviation	Mean (n)	Std. Deviation	
Skier Tolerance Index	4.61 (121)	1.21	4.52 (62)	1.27	.22
Boarder Tolerance Index	4.81 (121)	1.35	4.28 (62)	1.59	5.53**
General Compatibility Index	4.71 (121)	1.42	4.08 (62)	1.47	8.01***

\*\*significant at .01 level (2-tail significance)

\*\*\*significant at .001 level (2-tail significance)

<sup>a</sup> Composite index scores computed as the mean of index statements recoded on a 7-point scale where 1=low tolerance; 7=high tolerance.

Similar to the first analysis, the second research question revealed only one significant relationship. Again, there were no significant differences in conflict resulting from *skiers* among the four age groups. However, perceived conflict resulting from *snowboarders* was significant for the single item conflict measure. The means for this relationship show that those individuals in the 39-49 age

bracket were most likely to experience conflict (4.43), followed by the above 50 group (4.17), and then the 28-38 age group (4.14), respectively. The mean value for the 18-27 age group (3.55) reflected that enjoyment tended to be increased due to the presence of snowboarders for the youngest respondents.

Table 3. Comparison of Age Differences Among Skiers' and Snowboarders' Perception of Conflict

Conflict Measure	Age Groups				F value
	Above 50+ Mean (n)	39-49 Mean (n)	28-38 Mean (n)	18-27 Mean (n)	
<b>Ski Conflict</b>					
Single Item <sup>a</sup>					
(Effect on Experience)	3.50 (26)	3.61 (28)	3.83 (40)	3.63 (40)	.42
Conflict Index <sup>b</sup>	2.65 (29)	2.57 (30)	2.67 (44)	2.59 (77)	.06
<b>Snowboarder Conflict</b>					
Single Item <sup>a</sup>					
(Effect on Experience)	4.17 (29)	4.43 (30)	4.14 (44)	3.55 (77)	3.78**
Conflict Index <sup>b</sup>	3.15 (29)	2.99 (30)	2.88 (44)	2.61 (77)	1.09

\*\*significant at .01 level (2-tail significance)

<sup>a</sup> Variable coded on a 7-point scale where 1=greatly increased enjoyment, 4=no effect, and 7=greatly reduced enjoyment.

<sup>b</sup> Composite index score computed as the mean of index statements coded on a 7-point scale where 1=not a problem, 4=moderate problem, and 7=very serious problem.

On comparison of the tolerance levels between age brackets, only the snowboarder tolerance index was significant. The means for this significant relationship suggest that individuals in the above 50+ age bracket were the least tolerant of snowboarders, followed by the 39-49 age group and 28-38 bracket and 18-27 age groups, respectively. The insignificant differences in the means of the skier tolerance index and the general compatibility

index imply that different age groups were equally tolerant of skiers as well as towards the general compatibility of both activities.

The analyses show the bivariate relationships between gender, age, and conflict/tolerance, irrespective of what activity the respondent was engaged in. In order to test whether activity was a potential causal factor, a series of

regression analyses were conducted. To facilitate the analysis, a theoretical model was developed, with activity

as the *mediating* variable for conflict and tolerance among various age groups and gender classifications.

Table 4. Comparison of Age Differences in Tolerance Levels Among Skiers and Boarders

Tolerance Dimensions <sup>a</sup>	Age Groups				F value
	Above 50+	39-49	28-38	18-27	
	Mean (n)	Mean (n)	Mean (n)	Mean (n)	
Skier Tolerance Index	4.51 (29)	4.68 (30)	4.42 (44)	4.65 (77)	.43
Boarder Tolerance Index	4.10 (29)	4.46 (30)	4.47 (44)	4.97 (77)	3.07**
General Compatibility Index	4.09 (29)	4.49 (30)	4.38 (44)	4.70 (77)	1.33

\*\*significant at .01 level (2-tail significance)

<sup>a</sup> Composite index scores computed as the mean of index statements re-coded on a 7-point scale where 1=low tolerance; 7=high tolerance.

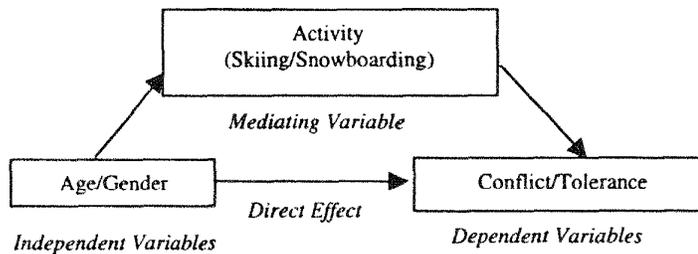


Figure 1. Theoretical Model

For the first analysis, the relationship of gender and recreational conflict among adult skiers and snowboarders was examined. In support of the earlier findings, it was confirmed that females were more likely to experience

conflict than males due to the presence or behavior of snowboarders. However, the conflict was mediated by activity. Females were more likely to be skiers and, hence, more likely to experience conflict with snowboarders.

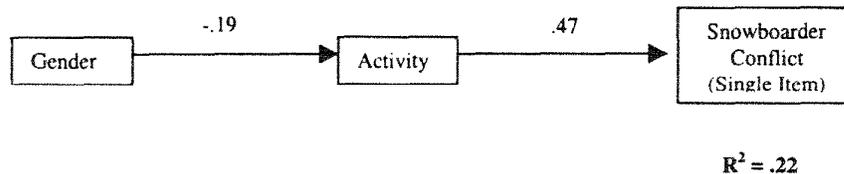


Figure 2. The Relationship of Gender and Recreational Conflict (Adult Skiers and Snowboarders)

Similarly, the tolerance analyses resulted in two significant relationships (snowboarder tolerance and general compatibility index). Again, in support of the earlier findings, males were more tolerant of snowboarders and towards the general compatibility of both activities than females. However, this relationship also was mediated by activity. It should be noted that a direct relationship also existed between gender and the general compatibility index, in which regardless of activity, females were less tolerant towards the general compatibility of both activities on the mountain.

The test for the relationship of age and recreational conflict showed both snowboarder conflict measures to be

significant, unlike the bivariate analyses where only the single item was significant. Similar to our initial findings, increasing age results in more conflict with snowboarders. However, the relationship is again mediated by activity in that older respondents were more likely to be skiers than snowboarders.

Finally, the analysis of age and recreational tolerance among adult skiers and snowboarders showed the snowboarder conflict index and the general compatibility index to be significant, unlike the bivariate analyses where only the snowboarder tolerance index was significant. Similar to our earlier findings, the relationships suggest

that increasing age results in lower tolerance for snowboarders as well as for the general compatibility of both activities. The relationship is also mediated by

activity in the sense that snowboarders are more likely to be younger participants while skiers are older participants.

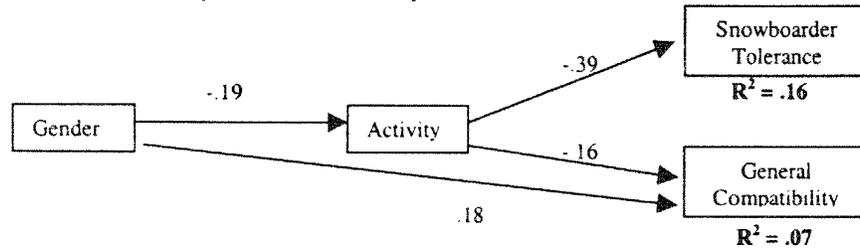


Figure 3. The Relationship of Gender and Recreational Tolerance (Adult Skiers and Snowboarders)

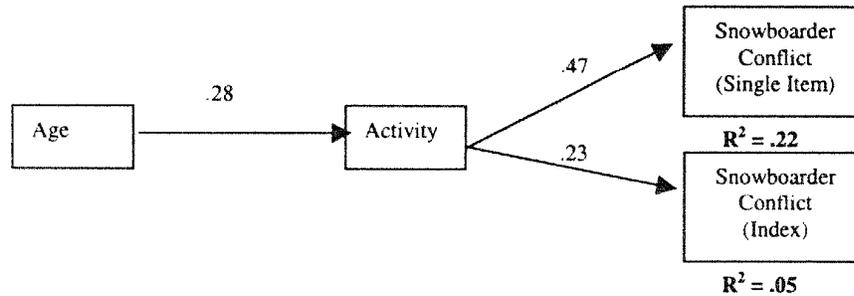


Figure 4. The Relationship of Age and Recreational Conflict (Adult Skiers and Snowboarders)

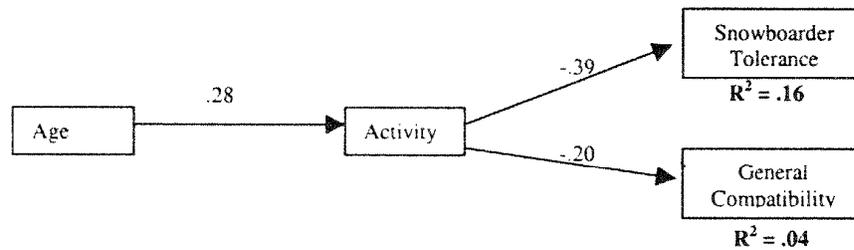


Figure 5. The Relationship of Age and Recreational Tolerance (Adult Skiers and Snowboarders)

Relative to our third research question, relationships between gender, age, and conflict/tolerance were *mediated* by *activity*. In short, some differences in conflict and tolerance by both age and gender (from bivariate analysis) existed. However, these differences disappeared when activity was introduced as the mediating variable. The only exception in which a direct relationship existed, was that females were less tolerant than males towards the general compatibility of both activities. Therefore, the relationships of conflict and tolerance to age and gender among adult skiers and snowboarders are dependent upon the activity engaged in.

#### Discussion

The younger age group bracket was less likely than the older age group to experience conflict. Although the perception of conflict as a result of skiers remained insignificant, the presence of snowboarders enhanced their

enjoyment. As indicated earlier, the initial analysis were in conduct regardless of the activity engaged in by the age groups, however, predominantly, snowboarders were 18-27 years old, and those skiers who had tried snowboarding were also mostly 18-27 years old. This factor could help explain this outcome. Additionally, 47% were respondents in the 18-27 age group, of which almost 50% were high skilled skiers. This implies that high skilled skiers were more likely to ski challenging terrain and have fewer encounters with snowboarders, who represented a smaller sample and also were reported to have predominantly low skills (57%).

The individuals of the other age groups were essentially skiers whose activity norms may have conflicted with snowboarders. Conflict may be a result of incompatibilities between norms (Watson et al., 1994). Jacob and Schreyer (1980) had proposed that "conflict results when users with

a possessive attitude towards the resource confront users perceived as disrupting traditional uses and behavioral norms" (p. 374). Furthermore, they indicated that interaction between individuals' contrasting *standards* results in conflict. Similarly, Williams et al. (1994) concurred with Jacob and Schreyer (1980) in their findings that "skiers characterized snowboarders as being primarily *upstarts* who were intruding on skiing's pristine environment with little appreciation of its scenic attractiveness" (p. 202). A study conducted by Vaske et al. (1995) between hunters and non-hunters (non-hunters and former hunters) at Mt. Evans, Colorado, revealed that the extent of conflict was largely associated with differences in social values held by non-hunters.

It was interesting to note that those individuals within the 39-49 age group were more prone to conflict with snowboarders than the other age groups. The means for the 50+ age group and the 28-38 age group were 4.17 and 4.14, respectively. These means are very similar and do not contrast significantly with the 39-49 age group, which showed a mean value of 4.43.

However, the oldest age group (50+) were the least tolerant of snowboarders than any other age group. This age group was more conflict prone and reflected a lower degree of tolerance. People who are intolerant of lifestyle diversity are more vulnerable to experiencing conflict (Jacob & Schreyer, 1980). Individuals are more likely to be tolerant of others who they perceive to have similar recreational pursuits through similar activities (Jacob & Schreyer, 1980). Ivy (1990) confirmed the theory that individuals with a high level of tolerance towards an activity would experience less conflict than individuals with a low level of tolerance. Furthermore, Jacob and Schreyer (1980) proposed that "if group differences are evaluated as undesirable or a potential threat to recreational goals, conflict results when members of the two groups confront one other" (p. 117). Therefore, these results are inconsistent with the results as outlined in the literature review. Based on the literature, older folks should be more caring, more emotionally controlled and thus, possess a higher level of tolerance than younger folks. The reverse was true for both conflict and tolerance. So, is it plausible to deduce that expectations, recreation experience or goals for older recreationists are different when compared to the younger recreationists? Or is it a generational gap in which, regardless of the activities, the younger generation would more or less have similar recreational goals or pursuits than the older generation? To put it in perspective, McPherson (1984) stated "although individual experiences vary, there are common patterns to the aging process whereby individuals born at about the same time (age cohort) are influenced by similar historical or social events" (p. 214).

On gender differences in recreational conflict and tolerance, females consistently were more conflict prone and less tolerant of snowboarders. Also, this was mediated by activity in that females were predominantly skiers. However, it should be noted that, regardless of the activity,

females were less tolerant of the general compatibility of both activities on the mountain. Based on the literature review, females are conditioned in a different manner, and this factor could have caused them to feel threatened by the aggressiveness of the snowboarders. Also, goal interference varies among individuals and especially gender groups, in which males are more or less attuned with aggressiveness than females. Therefore, the slightest issue with snowboarder's presence or behavior could have been taken as a goal interference for females. Hence, due to the experience in conflict with snowboarders, females' tolerance towards snowboarders also declined to the point that compatibility of both activities on the slopes was not seen as a viable option. It will be interesting to note if such reactions towards snowboarders by females will change in the future, as more females have been filtering into the snowboarding scene.

The results of this study cannot be generalized towards the skiing and snowboarding population as the results are site specific. Also, the total sample of skiers and snowboarders was 186, in which there were 153 skiers and 33 snowboarders. The unequal distribution of skiers and snowboarders could have influenced the results, especially the perception of conflict and level of tolerance towards skiers as statistical significance was lacking on their statistical tests. However, in defense of the small sample of snowboarders, the ratio between participants of skiers and snowboarders is well above the national average. According to 1996 figures reported by the National Sporting Goods Association, there were 52.5 million skiers and 3.7 million snowboarders. Also, snowboarding has witnessed rapid growth over the years while skiing has experienced only a small increase (Tourism works for America Report, 1997). However, the results of this study does contribute to our understanding of gender and age group differences in recreational conflict and tolerance among adult skiers and snowboarders.

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**THE ECONOMIC IMPACT OF  
CONFERENCES AND CONVENTIONS IN AN  
OFF-SEASON RESORT AREA -- A CASE  
STUDY FROM THE 1998 NERR SYMPOSIUM**

Bruce E. Lord

Senior Research Assistant, School of Forest Resources, The Pennsylvania State University, 206 Ferguson Bldg., University Park, PA 16802.

William F. Elmendorf

Instructor and Program Coordinator, Community Forestry, School of Forest Resources, The Pennsylvania State University, 108 Ferguson Bldg., University Park, PA 16802.

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**Abstract:** Hosting off-season conferences and conventions seems like a natural way for a resort to expand its operating season and help cover year round fixed expenses. However, if the region's amenities are not open, then the benefits may not extend far beyond the host facility. A survey of the participants to the 1998 NERR symposium was conducted. The results indicate the current economic impacts and describe the loss of potential economic impacts due to the limited availability of open facilities. A survey of year-round residents of Bolton Landing, New York was conducted. The stakeholder survey provides information on the attitudes of year-long residents towards tourism and towards a possible increase in off-season tourism. Information gained in the stakeholder survey provides a social dimension to economic research regarding the importance of off-season tourism to the areas economy.

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**Introduction**

Resort facilities often look to conferences and conventions as a method of filling their excess capacity during the off-season. While not nearly as profitable as regular season bookings, such activities enable them to stay open all year. As long as they can at least cover their variable costs, it makes sense for them to continue to stay open. This, in turn, allows them to keep some of their staff employed full time for the entire year. In addition they can stay current with maintenance and upkeep, and avoid the problems that may be associated with shutting down for extended periods. However, the degree to which the remainder of the community benefits from this off-season use is limited by the availability of support services in the surrounding area.

Currently, there is limited off-season tourism in Bolton Landing other than at the resort. Many of the services are closed from November through May, although the attraction of fall foliage, ice fishing and other off-season activities is growing. The degree to which the remainder of the community benefits from this off-season use is limited by the availability of support services in the surrounding area. In addition, there is the question of whether the area's

residents want to promote year-round tourism and consequently give up their annual respite from the crowds. Increased tourist activity during the off-season may impact community interaction and well being.

**Procedures**

A survey of participants in the 1998 Northeastern Recreation Research (NERR) Symposium was implemented during several breaks on the second day of the meeting. The respondents were asked to indicate the expenditures that they had made in the region for a 24-hour period. They were then asked if they had participated in previous NERR conferences that were held at Saratoga Springs. If so, queries were made as to whether they spend more or less during those previous events. Additional questions determined their residence and whether attending NERR was the primary reason for their coming to the area.

Surveys were provided to 60 business owners, local leaders, workers, and residents using a drop-off/pick-up technique during a two day period during the 1998 NERR symposium. The stakeholder survey was provided to gain information on the attitudes of year-long residents and business owners in Bolton landing towards two questions:

- 1) What do residents of Bolton Landing like and dislike about tourists and tourism?
- 2) Do residents want tourism to increase in the off-season months?

Where applicable, descriptive statistics were used to provide a summary of survey results. However, some of the most important information was gained by the answering of open-ended questions. Information provided in open-ended question was summarized by the authors and key words and themes were identified.

**Results**

*Participant survey*

Responses were obtained from 32 of the 118 participants in the conference (27%). An average of 2.6 nights was spent in the region. Several people were on multiple day trips and had their expenditures prorated accordingly. Consequently, per day expenditures were multiplied by 2.4 to get total trip expenditures.

The average visitor spent \$120.30 per day, independent of the conference registration (Table 1). The bulk of this went towards Lodging at the hotel (\$90.76). Food was the next largest purchase item at \$17.85 per visitor day. Gasoline and miscellaneous purchases made up the remainder of the expenditures (\$5.77 and \$5.92 respectively). When multi-purpose and multi-day trips are accounted for, the result was \$289.73 per person, per trip.

Table 1. Per day expenditures of visitors to the 1998 NERR Symposium.

	Lodging	Gas	Food	Other	Total
Mean	\$90.76	\$5.77	\$17.85	\$5.92	\$120.31
St. Err.	\$2.24	\$0.59	\$0.71	\$0.46	\$2.47

Registration fees for the conference were paid to NERR, rather than directly to local entities. NERR spent \$6,400 in the local region in conjunction with running the conference. In total, \$40,600 of regional expenditures was associated with the conference.

The economic impacts of the 1998 NERR Symposium were modeled with the IMPLAN input-output model (Table 2). The impacts can be described by several measures. The output measures total sales by businesses in the region that may be attributed to the conference. Value added measures the wages, profits and other income derived from these sales. Finally, jobs provide a measure of the employment supported by the activity. The \$40,600 of regional expenditures resulted in \$34,200 of output by local business and industry. The difference between these two figures is associated with the importation of retail goods such as gasoline. An additional \$6,900 was generated as these local industries made purchases from other local businesses. As the employees of these impacted industries spend their income, an additional \$10,500 of regional output was generated. The total impact was \$51,600 of regional output. This generated \$29,500 in value added for the region. On an annual basis, this supported 1.1 jobs in the region.

Table 2. Regional economic impacts of the 1998 NERR Symposium.

	Output	Value Added	Jobs*
Direct	\$34,000	\$19,700	0.8
Indirect	\$6,900	\$3,500	0.1
Induced	\$10,500	\$6,400	0.2
Total	\$51,600	\$29,500	1.1

\*Jobs are stated as an annual equivalent of full and part-time employment.

This economic activity can be identified with the general regional industries receiving the impacts (Table 3). The service industry receives most of the impacts (61%). This is due to both the large direct impact associated with lodging, and the placement of induced impacts. Sizable amounts were also indicated in the trade sectors. This sector includes the restaurant trade, as well as the marginal impacts of other retail sales. More specifically, the top five value added sectors are indicated in Table 4. The main impacted sector is the hotel (\$15,000) which receives almost all of its impact from the direct expenditures by conference participants. The two food related sectors receive the next largest impacts. They combined for \$3,000 of direct impact, along with an additional \$600 of secondary impacts (indirect and induced). The next two valued sectors received no direct impacts. Owner occupied dwellings, which represents individual gains in equity through mortgage payments, was the source of \$900 in secondary impacts. The maintenance and repair sector also was the site of \$900 in secondary value added impacts.

Just over a third of the respondents indicated that they had attended previous conferences in Saratoga Springs. Based upon their responses, and increase direct expenditures of 8% would have been realized if the conference had been held in that location. The larger, more active off-season

economy of Saratoga Springs would no doubt have also produced greater secondary impacts.

Table 3. Regional industries impacted by the 1998 NERR Symposium.

Sector	Value Added
Agriculture	\$128
Mining	\$13
Construction	\$914
Manufacturing	\$1,101
Trans., Comm. and Public Utilities	\$932
Trade	\$6,192
Finance, Insurance and Real Estate	\$2,001
Service	\$17,982
Government	\$218
Other	\$27

Table 4. The top five value added sectors impacted by the 1998 NERR Symposium.

Sector	Direct Impacts	Secondary Impacts	Total Impacts
Hotel	\$15,000	\$100	\$15,100
Eating and Drinking Places	\$1,700	\$300	\$2,000
Food Stores	\$1,300	\$300	\$1,600
Owner Occupied Dwellings	\$0	\$900	\$900
Maintenance and Repair	\$0	\$900	\$900

#### Stakeholder survey

Responses were obtained from 41 individuals and no temporary workers or tourists were included in the survey population. The average length of residents surveyed was 28 years with resident lengths from 6 through 60 years. Sixty-four percent of those surveyed were provided income over \$500.00 a year from tourism. Sixty-six percent were in food or retail business, seventeen percent were professionals (teachers, municipal staff, librarian), and six percent were retired.

Question One: Is Bolton Landing a better place to live in winter or summer?

Forty-seven percent replied summer, seventeen percent winter, and thirty-six percent both seasons. Open-ended comments of those who preferred summer included such sentiments as more activity, fun, more people, more money, good weather, and nothing to do in winter but drink. Comments of those who preferred winter included quieter, community becomes smaller and more caring, not as much work to do, and better service. Comments of those who preferred both seasons included people make this place delightful, it is nice to share this lake and our activities with others.

Question Two: What do you like about tourism and tourists?

Fifty-seven percent liked the economic activity provided by tourists. Forty-three percent liked the people. Comments by those who liked economic activity included more

money, more jobs, and a better economy. Comments of those who liked people included I enjoy assisting their (tourists) stay, fresh faces, eligible women, meeting interesting people, more opportunity for learning and conversation, sharing the lake with others, and we are people persons, that's why we live here.

Question Three: What do you like least about tourists?

Twenty-five percent replied with sentiments such as rude, obnoxious, stuck-up, impatient, and poor attitudes. Twenty-two percent answered bad traffic, seventeen percent answered too many people, and five percent answered too much work. Twenty-three percent did not answer the question. One interesting comment was from a restaurant owner- "I work so many hours that I lose contact with the local gossip."

Question Four: Would you like to see more tourists in winter?

Eighty-four percent answered yes, eight percent answered no, and eight percent did not answer the question. Comments of those answering yes included such sentiments as more money, will receive health benefits all year long, less unemployment, more stabilized work, and a steadier income. Comments of those answering no included such sentiments as its nice to slow down, I get tired, and we need time off from those bastards (tourists).

Question Five: Would you be willing to forfeit any part of your income to reduce tourism?

Ninety-seven percent answered no and three percent answered yes. Comments were only provided by those people answering no and included we can't live on what we make now, absolutely not, you can't get blood from a rock, and in-your-dreams.

Question Six: What was the strangest thing you ever saw a tourist do?

More positive comments included wait in the park for a bus that was never coming, Fed-ex a dead chipmunk home to be stuffed, many comments on destroying and sinking boats, and ask silly questions like number five above- this person was referring to the last survey question about forfeiting income.

Although this question was asked to provide some amusement in the presentation of the research project, the question provided an unexpected look at deviant tourist behavior. Comments surrounding unacceptable tourist behavior included children not being watched or supervised by parents; vandalism by youth; adults having tantrums over restaurant seating and service; parents abusing children, spousal abuse, and people driving drunk.

### Conclusions

The economic impact of the 1998 NERR Symposium was primarily related to the expenditures made at the Hotel. This accounted for over 50% of the total value added impacts. Respondents indicated that they would have spent more money if the conference had been located in an area with more restaurants and other facilities open. Antidotal evidence indicated that Explosion and subsequent fire that

razed the local grocery store further limited impacts as people brought groceries from home. Conservation with local businesses that were open indicated that they were operating with a limited staff during the off-season. The said that if they were aware of the hotels conference plans then they might gear up their operations to better serve the visitors and benefit themselves from the economic opportunity presented by the off-season activity.

The fact that many of the locally owned businesses were not fully operational leads to the question of whether the town is interested in promoting off-season tourism. The stakeholder survey addressed the attitudes of local residents towards tourism and the potential for increased off-season tourism.

What do the residents of Bolton Landing like and dislike about tourism?

The residents of Bolton Landing seem to like tourists and tourism and they are important for both economic and cultural reasons. In consideration of resident lengths and comments, many of the people who choose to live and stay in Bolton Landing seem to be "people persons" who have made a conscious decision to move-to, live, work, play, and stay in the area.

Although there are problems associated with tourists including crowds, poor behavior, noise, traffic, and congestion, the economic and cultural benefits of tourism seem to outweigh these costs and their impacts on residents attitudes. The unacceptable behavior of tourists identified by residents may be related to the quality of the experience that tourists are enjoying, the ability of individuals to relax in tourist settings, and the healing/calming effect of particular tourist settings.

Do residents want tourism to increase in off-season months?

It seems that there is an interest in increasing winter tourism because of a chance for increased incomes, more stable employment, and more stable benefits. But setting these points aside, it became apparent in the surveys that people work hard during the current tourist season and there is a sentiment that people need and desire a break from five months of long hours and hard work. Furthermore, it can be conjectured that both the social and physical infrastructure of the community needs a break from the pressure of "outsiders." Given the small town nature of Bolton Landing and the family ownership of many of the businesses, a break from the pressures of tourism provided during the "off-season" may help facilitate repairs, construction, community decision making, family life, and provide opportunities to "catch up on the local gossip." When considering the literature on the impacts of growth pressures on small communities (Luloff and Swanson 1990) and literature on competent communities by sociologists like Wilkinson (1979) and Cottrell (1951), an interesting question may be asked- whether and to what degree the pressures of tourism impacts community interaction and thus community agency or well-being?

Two concerns of the stakeholders survey are the small sample size and the high number of people engaged in the service sector who completed the survey, although a high number of year-round residents involved in the service sector may be very typical of tourist localities. Another consideration is a temporal one. This survey was completed in the late spring after months of slow economic and other activity. Residents attitudes towards tourists and winter tourists may be different in November, at the end of a busy and perhaps chaotic tourist season, than they would be in April at the end of winter and the "off-season."

The information gained in the stakeholder survey provides a social dimension to economic research regarding the importance of off-season tourism to the areas economy. Furthermore, this type of preliminary social research can be used as a basis of understanding to construct agendas for focus groups, develop key informant interview schedules, and develop more in-depth written surveys. As a result of preliminary social research, investigative techniques and instruments can be designed that are both more practical and useful to the needs and peculiarities of communities like Bolton Landing.

The economic impacts generated by the off-season conference lagged slightly behind what would have been generated in a fully operational locale. Local businesses however were not geared up to take advantage of the opportunity. Stakeholder surveys reveal that residents may not be uniformly interested in promoted year-round tourism, with many valuing the winter as a respite from the crowds of summer. Given the amount of human capital devoted to work during the tourist season, the off-season may provide the time and energy for maintenance and development of community

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**Roundtables, Management Sessions,  
and Poster Presentations**

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## RESPONSE TO THE ADIRONDACK WINDSTORM OF JULY 15, 1998 BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Wayne G Blanchard

New York State Department of Environmental  
Conservation

On the steamy evening hours of July 14th, 1995 high altitude jet stream winds steered a huge cluster of thunderstorms clockwise around the periphery of a bubble of high pressure over southern Canada. In the early morning hours of July 15th, the storm turned southeast toward New York State and the result was catastrophic.

At the Watertown airport, instruments broke as 87 mph winds were measured. Gusts of up to 106 mph were recorded in some areas. Meteorologists detected over 3000 cloud-to-ground lightning strokes per hour. Typical severe thunderstorms can generate 60 mph winds for 10 to 15 seconds. In contrast, this type of storm can produce such severe winds for 10 to 15 minutes, with gusts up to hurricane force.

This widespread, powerful windstorm is called a derecho. The Spanish word for "straight ahead" is reference to the straight-line winds that characterize a derecho. Powerful currents in the upper reaches of the storm steered 90 mph winds downward. The wind splayed out along the ground, producing the straight-line winds.

On radar screens this derecho appeared as a bow-shaped, 100 mile wide mass, bulging in the middle where winds were most intense. About 4 a.m. the storm matured over Ontario and then cruised southeast at 80 mph. It struck the Adirondacks about 5:30 a.m.; an hour later it was over the Albany area. At 7:30 a.m. it died just north of N.Y. City.

This storm left a path of destruction, especially where it slammed into the northwestern slopes and interior sections of the Adirondacks. Large numbers of trees were blown down on a million acres of publicly and privately-owned forest land. Falling trees and branches killed two people at state campsites, three people outside the Forest Preserve and injured many others. More than 300,000 customers lost electric service and more than 1,000 residences suffered structural damage.

The New York State Dept. Of Environmental Conservation or DEC emergency response began immediately after the storm. The extensive blowdown closed roads and trails, necessitating that first priority be placed on rescuing stranded and lost hikers and campers and reopening campgrounds, blocked roads and trails.

DEC also immediately embarked on an assessment of storm damage to Forest Preserve lands, State lands outside the Forest Preserve and private lands. After an initial visual survey of the storm impacted area, DEC directed aerial and satellite photos of the survey area and verified the evidence through field sampling. Analysis of the results of these aerial and field surveys using Geographic Information System (GIS) computer technology gives a picture of the storm's impacts. Inventory and analysis of damage to campgrounds, campsites, trails, day-use areas, state historic sites and related facilities were also completed.

The forest resource damage survey reported in this assessment covered approximately one million acres of the area most affected by the storm. Within this area, the Department estimated the land area damaged by the storm, the amount (volume) of wood blown down, uprooted or broken and the value of that resource. DEC assessed the storm impacts in the Forest Preserve using the same measures (acreage impacted, degree of impact, volume and value) used to evaluate storm impacts on other forest lands, even though timber on Forest Preserve lands is, by law, not subject to sale. The "Forever Wild" clause of the state constitution prohibits the sale, removal or destruction of timber in the Forest Preserve.

impacts on the Forest Preserve were extensive. One person was killed at the Lake Lila Primitive Area, a number of persons were injured and over 100 required rescue from the back country. Facility damage surveys using GIS map overlays were completed. The surveys showed storm impacts to more than 700 miles of trails, nearly 300 miles of roads, 85 campsites, 18 lean-tos, 100 boundary line miles, 22 trail registers and 100 parking areas. Estimated repair costs ranged between \$4 and \$5.5 million dollars.

DEC responded to impacts on State Forest and Reforestation Areas outside of the Forest Preserve by initiating salvage operations to recover as much as possible of the value of timber blown down or broken by the storm. As the agency with management responsibility for managing state forest lands, the Department wanted to ensure that the value and volume of these trees was recovered to the largest extent possible.

Private forest resources appear to have been less severely damaged than state-owned resources. Nonetheless, impacts to private forest resources were significant, with damage to over 50,000 acres.

DEC Regional offices responded to a multitude of private landowner requests in one or more of the following ways: field visits; printed information; referrals to the Directory of Cooperating Consultant Foresters; advice about environmental and economic impacts from the storm; guidance on damage assessment, salvage operations and restoring the resource; and information about claiming casualty loss for tax purposes.

A number of DEC campgrounds in the Adirondacks were particularly hard hit because of their proximity to the path of

the storm. Others, as far away as the Catskills, also suffered some damage. In campgrounds nearest the storm path, falling trees blocked roads, knocked down power lines, and damaged tents, trailers, and vehicles. More serious were the personal injuries, including one fatality at the Eighth Lake Campground near Raquette Lake.

Adversity sometimes brings out the best in people, and the response to this storm was a prime example. Numerous volunteers joined with DEC staff immediately after the winds subsided to attend to the injured and to clear roads of blowdown. Every DEC Campground has "Emergency Action Plans" in place that are practiced by Staff annually. All employees jumped into action immediately putting the procedures they had trained for into place.

The storm damaged or destroyed more than 60 buildings in the campgrounds. Falling trees and limbs destroyed 235 picnic tables and 198 fireplaces and grills. Some 2,750 trees were blown down and another 2,619 trees were weakened or damaged, requiring their removal. Because many of these trees were located in campsites or day-use areas, it was also necessary to remove stumps that posed a safety hazard. A total of 1,327 stumps had to be removed. The uprooting of trees left 318 campsites with large holes that needed to be re-graded to provide for safe use by the camping public. In addition, areas with exposed mineral soils had to be re-seeded to prevent erosion. Damaged roads, culverts, power lines, and erosion associated with the strong winds and heavy rains that accompanied the storm had to be repaired in order to safely operate campground facilities. More than 9,000 feet of power line with associated poles and cross arms had to be replaced, as well as damaged roads, parking areas, trails, and water and sewer systems. Total damages in the State Campgrounds exceeded \$2 million dollars.

The Department was committed to involving the public in the storm response effort from the beginning of the process. The primary goal of public involvement was to identify the issues associated with the 1995 storm impacts to the land and forest resources of the region and helped shape recommendations for storm response. Several activities were undertaken to carry out that goal. These included: providing opportunities for representatives of key interests to fly over the region and see first hand the impacts of the storm, participation of DEC staff at meetings to provide updates on response, reaching out to local legislative representatives in the region to listen to their concerns, fielding hundreds of calls from the public and, hosting two public information sessions which provided an opportunity for the public to learn about Department response efforts and to express their needs and concerns.

The 1995 Adirondack Storm Working Group was formed and provided a forum for interested people that worked with us to: offer advice and insight to the Commissioner, provided people with information about impacts, and helped the Department determine courses of action to follow in response to the storm. The working group comprised scientists, local government officials, environmentalists, sportsmen and forest products industry representatives. Three Working Group Sessions were held during the assessment phase of the storm response effort.

In composing the "Assessment report & recommended actions", the primary concerns that needed to be addressed were the health and safety of the people who live, work and visit the region and the continued protection of the resources which were impacted. All recommendations were developed by DEC staff in consultation with the Adirondack Storm Response Working Group. The recommendations were intended to provide the basis for programs of mitigation, emergency response, economic recovery and provide for long term scientific research in response to the storm.

After the blowdown, DEC's Division of Lands and Forests assessed the storm's impact on the potential for fire and the danger to hikers, hunters and campers. The thousands of downed trees significantly increased the amount of burnable material on the ground. In addition, ignition sources abound in the affected area because it is heavily used by recreationists, many of whom build campfires. NYS Forest Rangers gathered data to assess the risk of fire, to predict the seriousness of a fire in weather conditions that may occur in dry, summer months and to outline procedures to be taken to help prevent fires and to fight fires. The storm blowdown created an abnormally high volume of forest residue: tree stems, branches, twigs, and bark; all considered potential fire fuel. DEC examined this residue to determine whether the accumulation of slash-like debris presents an acceptable or unacceptable fire hazard to the surrounding forest areas, improvements and forest users. In doing this, DEC evaluated the fuel as to loadings (quantity), moisture content and investigated the fuel bed characteristics (continuity, arrangement and compactness). Fuel models with different scenarios were analyzed to help estimate fire behavior in the blowdown areas. To get a picture of the fire potential, it was necessary to combine the previous assessments that set the stage for the possibility of fire. From that we drew reasonable assumptions about the risks imposed by human behavior and natural causes. The core of the storm damage lies in the Five Ponds Wilderness Area and further southeast, one of the most popular wilderness camping destinations in the state. Most of these visitors light campfires. Past records show that 13% of all fires necessitating a response by NYS Forest Rangers are caused by campfires. Restricted burning permits for open burning of clean-up materials on private lands were another cause for concern. The more fine fuels present and looser their configuration, the greater the probability is of a lightning strike causing fire ignition. This is the situation in the blowdown areas, particularly those dominated by a strong conifer component.

In order to reduce the risk of fire, the potential for ignition was reduced in areas of concentrated human activity. Such areas included areas of blowdown adjacent to communities, residences, trails, campsites and along highways and railroads. Reduction of ignition potential by lowering of smaller sized fuels (less than 1 inch in diameter limbs and tops) to the ground where it will retain moisture and decompose more rapidly was necessary in the vicinity of Star Lake, Wanakena and Raquette Lake.

DEC also assessed the risk of people becoming lost or disoriented in the woods because the storm had closed trails

and altered the forest landscape, removing many landmarks. The Ranger's search-and-rescue effort had to be ready to deal with the possibility of more hunters and hikers trying to find their way through a suddenly unfamiliar environment. The blowdown has produced a dense tangle of uprooted and broken trees making it very difficult for searchers to move around and to see beyond a few yards. Under these conditions, search-and-rescue is more dangerous, less effective, will take longer and may prove unsuccessful.

Two years have passed since the storm and almost all mitigation measures in the "Recommendations" by the Storm Response Working Group have been accomplished. The Division of Operations administers and manages DEC Campgrounds and maintains all interior facilities. Operation's crews have restored campgrounds to pre-storm conditions, with many improvements, such as; putting electric cables underground, wide tree trimming of above-ground electric lines, installing emergency generators to provide power for potable water and sanitary systems, and the enlarging of some sites.

Interior trails and lean-tos have been restored in almost all impacted areas. A few secondary trails still need full side trimming and restoration, which will be completed this summer. Worker safety has been paramount in our mitigation efforts. Historically, renovation and salvage operations have shown higher accident rates and fatalities than normally associated with timber harvesting, which is among the most risky professions. In blowdown areas, trees are bent or tipped over and uprooted, or broken off. The result is a tangle of material, often under extreme tension and subject to snapping back violently when cut. The tangled stems and downed tops also significantly inhibit visibility, an important safety consideration for workers operating near one another. Fortunately, we have not experienced any bad accidents or worker injuries. Among the 35 recommendations, worker safety was addressed in 3 of them.

The lasting impacts from the storm of July 15, 1995 are diverse and many. Historically, windthrow or blowdown is a relatively frequent, natural ecological occurrence in forests of the Northeast. It is the major catalyst of gradual and abrupt change in most forest types in this region and may be essential to long-term ecosystem stability in the Adirondacks.

The 1995 windstorm had a catastrophic effect on individual trees on a small scale, with some patches of extreme windthrow. However, long-term forest stability will be enhanced by the resulting mosaic of stand types and ages unique to the areas most affected. Rather than destroying the forest, this disturbance should be viewed as a natural process in old-growth landscapes.

There is an area of future concern for DEC besides fire potential and/or search-and-rescue activities, and that is future maintenance needs. Weakened trees from the storm continue to blow down, blocking trails and damaging facilities. Hazardous trees need to be identified and removed in intensive use areas on a semi-annual basis and as needed. Another factor is the extreme sprout, briar and grass growth that is occurring in the damaged areas. As the sun hits the forest floor prompting the new understory growth, the maintenance requirements to keep trails open will accelerate at a tremendous rate. We have seen this before following major insect defoliation and the resultant new growth. This will create maintenance needs beyond existing DEC resources for the next 20 years.

The whole response effort has clearly been a lesson in DEC teamwork as six divisions, two regions and the central office focused on the development of a good working plan and then the follow through of every aspect of that plan.

## A ROUNDTABLE: THE STUDENT INTERNSHIP-A LINKAGE TO THE FUTURE OF THE PROFESSION

Steven W. Burr

Associate Professor of Recreation, Park and Tourism Administration, Western Illinois University, 400 Currens Hall, 1 University Circle, Macomb, IL 61455-1390

Andy Holdnak

Assistant Professor of Recreation, Parks and Tourism, University of Florida, P.O. Box 118208, Gainesville, FL 32611-8208

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**Abstract:** In most Recreation, Park, and Tourism degree programs, students need to complete an internship, either at the undergraduate or graduate level, in order to fulfill requirements associated with their program of study. Sometimes, among professionals working in Recreation, Park, and Tourism agencies and organizations, there is lack of a clear understanding about what a student internship entails, the responsibilities of an on-site supervisor, institutional and student goals and expectations, and the linkage with the academic supervisor back on campus. This Roundtable presentation and discussion was designed as an opportunity for information exchange between professionals in the field, undergraduate and graduate students, and faculty with regard to student internships.

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### The Internship Experience

The internship experience represents a full-time opportunity over an extended period of time for conscientious students to have the best experience of their academic careers. It is the culmination of course work, prior field experience, and personal aspirations into direct application under the supervision of outstanding professional practitioners. During the course of the internship experience, students may find themselves in a variety of positions, from collecting trash with maintenance crews to accompanying the chief administrator to a staff or board meeting. It is this variety of exposure as well as the intensity of the experience that makes for a successful internship. The experience should allow students opportunities to assess their knowledge and skills in relation to immediate and long-range career goals. This can be accomplished by students challenging themselves to not only experience success, but failure as well. It is therefore essential that careful planning by the student, agency or organization supervisor, and faculty supervisor be done to guarantee the best internship experience possible.

It is naive for faculty in academic programs to think every agency or organization offering an internship program will view the intern as a student who is completing his or her academic training. Yet, student interns do receive credit for this internship experience, and this experience is often considered the culmination of the student's program of

study. Sometimes, agencies or organizations advertise their internship positions, and these are often very job specific, as the agencies or organizations have specific needs to be met by the student intern. This seems to be especially true in the commercial or private sector setting. However, it is very important for the student to get a "holistic" experience with the agency or organization during his or her internship.

Such an internship experience should be informative, innovative, expansive, and encompassing, in addition to being "hands-on" for the student. It should include experiences with as many of the following as are available and appropriate: 1) administration of the agency/organization-time with the top administrator to learn about responsibilities, day-to-day operations, problems and challenges, and unique qualifications for the position; 2) time with others on administrative and supervisory staffs; 3) involvement in program delivery and leadership; 4) involvement in maintenance and operation of facilities, buildings and grounds; 5) work with planners and resource managers; 6) management of food service, lodging facilities, and other hospitality services; 7) attendance at meetings involving boards and professional staff; 8) attendance at planning sessions with contractors, architects, fund-raising professionals, special committees, and other professionals; 9) visits to a variety of other agencies and organizations in order for the student intern to gain exposure to other programs, facilities, philosophies, and administrative procedures and to become acquainted with the variety of professionals in the field. Some agencies or organizations may have a more specific focus, such as resource management or therapeutic recreation, and be more limited with regard to their resources in terms of providing a "holistic" internship experience for a student. However, it still may be possible to provide a student intern with a varied experience in such situations.

All of these experiences may be a bit overwhelming, not only for the student intern, but for the professional as the on-site supervisor as well. Yet, all of this is appropriate since the successful internship represents the emergence of professionals who must guide the course of their own careers. Thus, the student internship can be viewed as a very important linkage to the future of the profession.

### A Goal Driven Process

A student internship is a goal driven process. As such, the academic program at the college or university, the undergraduate or graduate student, and the agency or organization all have goals which need to be met through the internship experience.

### Academic Program Goals

The academic program at the college or university may have the following or similar goals associated with the internship program: 1) To operationalize a set of goals and objectives prepared by the student with the assistance of his or her faculty advisor and internship coordinator; 2) To provide the student with practical experience in the organization and administration of leisure service agencies and to increase knowledge and skill at the face-to-face,

supervisory, and executive levels; 3) To broaden the student's concept of the leisure services field, provide experiences that will expand the student's understanding of human behavior, and help the student develop better human relations skills; 4) To initiate learning experiences capable of assisting both the student and supervisor to discover student strengths and weaknesses as related to career expectations; 5) To assist university faculty with perspectives for evaluating student performance and the preparatory curriculum; 6) To provide agencies with quality, senior-level students to supplement staff, as well as providing an opportunity for active involvement in the preparation of future professionals.

#### **Internship Student Goals**

Ideally, goals associated with a student's career aspirations should play a major role in the student's selection of an internship site. In reality, however, other variables such as timing, personal contacts, geographic location, and compensation often come into play.

Goal statements developed by the student in conjunction with the agency or organization supervisor, and approved by a faculty internship supervisor, become the "guiding light" for the internship experience. Clearly stated goals allow all of the "players" to determine whether or not the goals of the internship are actually achieved. A good approach is to develop goals in terms of specific outcomes or actions which are recognizable. By observing such outcomes or actions, in the end, the student should be able to definitely say, "Yes, I did it!" A written goal should be observable, measurable, and attainable within the context of the internship experience.

Following are some examples of Goal Statements, all of which are observable, measurable, and attainable:

- To develop and display professional written communication and promotional skills by designing, preparing, and distributing calendar and press releases, informational pamphlets, inter-office memos, and children's exhibit worksheets.
- To develop and demonstrate competent interpersonal skills by positively interacting with staff and visitors in an effective and courteous manner.
- To design and prepare a functional and educational interpretive tour on area prehistory incorporating thorough research methods and an eclectic mix of interpretive media.
- To successfully present a 45 to 60 minute guided interpretive tour to visitors of varying ages, knowledge levels, and abilities, effectively addressing questions and interacting positively with the group.

Internship student goals are not necessarily "set in stone." They may be revised, modified, reformulated, developed anew, or perhaps even abandoned, depending on circumstances as the internship unfolds. However, having a good set of goals for the internship experience, even as such change occurs, is again a "guiding light" for the internship experience and a measure of success for the

student, the agency or organization, and the academic program.

#### **Agency or Organization Goals**

The agency or organization facilitating the internship experience for the student may have as a main goal utilizing the student intern to supplement staff, to complete a special project, or to meet other more specific needs in day-to-day operations. The agency or organization may even view the internship as an opportunity for training a future employee. However, one goal which is important to keep in mind is that of the agency or organization's active involvement in the preparation of future professionals by establishing a quality student-mentor relationship for the internship experience.

#### **Elements For Success**

There are certainly a number of elements which can contribute to a successful internship experience for all involved:

1. Student preparedness through prior field experience and a pre-internship course or seminar on campus. Prior field experience, such as a summer or school year job with a leisure services agency or organization, helps to prepare the student for the actual internship experience. Many academic programs require students to complete a certain number of hours of field experience as part of the degree program of study. Such experience may also make the student more attractive to the agency or organization. In addition, many academic programs now have a pre-internship course or seminar. Such a course is designed to prepare students as interns and future professionals and cover such topics as orienting the student to the internship program, completing applications, putting together a résumé, polishing those interviewing skills, and familiarizing students with professional organizations. Students also can initially develop and refine goal statements for their internship during this time.

2. An internship manual prepared and disseminated by the academic program. As a resource, such a manual is valuable for the student intern, the agency or field supervisor at the agency or organization, and the faculty supervisor as a representative of the academic program, as it describes the relationship between these "three players." It also describes the internship experience in terms of objectives, selection of an internship site, the placement process, guidelines, student responsibilities, internship coordinator responsibilities, faculty supervisor responsibilities, agency or field supervisor responsibilities, the evaluation process, and a student checklist in terms of things to do in establishing an internship experience. In addition, this manual can contain any needed forms for the internship, such as an internship information form, internship agreement form between the student and the agency or organization, format for weekly reports, and forms for use in student evaluation.

3. The development of observable, measurable, and attainable goals, and perhaps more specific objectives linked to each goal, as a basis for negotiation of the

internship experience. As discussed previously, such goals help to measure the success of the internship experience. Although these may be initially developed by the student in a pre-internship course, oftentimes it is necessary for the student intern to personally meet with the on-site supervisor at the start of the internship experience to finalize these goals and objectives.

4. An agency or organization guidebook or manual for the student during the internship experience. More and more agencies or organizations providing internship opportunities for students are producing internship guidebooks or manuals as a valuable resource for the internship experience. The contents of such a manual may a) present the purpose or mission and philosophy of the agency or organization, b) provide a brief history of the agency or organization, c) present an organizational chart along with a map of areas and facilities, d) explain the internship program from the perspective of the agency or organization, e) list the experiences possible for the student during the internship experience, f) further define the responsibilities of the student to the agency or organization, of the field supervisor to the student, and of the field supervisor to the academic program, g) provide a list of required assignments the student will be expected to fulfill during the internship experience, h) present a list of opportunities for special projects, i) identify a means of evaluation of the student, and j) present other general information such as specific responsibilities, working hours, mealtimes and breaks, dress attire, compensation, housing, supplies, use of facilities, insurance, and transportation. The benefits of such a manual are many. The student knows up front what the agency or organization can offer in terms of possibilities for the internship experience and expects of the student during the internship experience. Such a manual allows the agency or organization to standardize their presentation and certain procedures for the internship experience across the board for a variety of student interns. Manuals may be kept on file by the academic program as resources for students seeking a compatible agency or organization for their internship experience and also allow the academic program to evaluate the appropriateness of a certain agency or organization as an internship site.

5. A viable and meaningful student internship project for the agency or organization. Such a project allows the student to take on personal ownership of a project while meeting a need of the agency or organization. Such an experience provides the student with a certain measure of independence or autonomy with the project, if appropriate, and allows both the field supervisor and faculty supervisor to evaluate the student's effectiveness in completing the project and producing a quality product.

6. Effective and ongoing communication between the student intern, agency supervisor, and faculty supervisor. Such communication may be in the form of weekly or bi-weekly student reports which are completed by the student intern, focusing on significant experiences and progress

made in the attainment of goals and objectives. These can be reviewed by the field supervisor, discussed with the student intern, and then used as a means of evaluation by the faculty supervisor. In addition, if possible, an on-site visit by the faculty supervisor may be beneficial, probably at the mid-term of the internship, in order to personally meet the student intern and agency supervisor, to experience first-hand the internship site, and to discuss the student's progress in attaining goals and objectives of the internship experience. Some academic programs also require their student interns to return to campus for a mid-term evaluation meeting, often with their agency or field supervisors being invited also. This allows the student intern to share his or her experiences with other students, provide suggestions or recommendations for changes in the internship program or preparatory curriculum, meet with the internship coordinator of the academic program, and meet with his or her faculty supervisor.

7. Effective means of student intern evaluation. The student's progress should be continually monitored, with regularly scheduled opportunities for meeting and discussion between the student intern and the agency or field supervisor. Many internship programs have a mid-term and final evaluation form which the agency or field supervisor completes, reviews with the student intern, and then sends on to the faculty supervisor for review. Overall, student interns may be evaluated in the areas of professional qualities, professional performance and leadership, professional personality and attitude, and professional communication and interpersonal skills.

#### **Agency or Organization Involvement**

It does take some time, energy, money, and commitment by agency or organization personnel to become involved in providing students with internship experiences, but there can be many rewards, the foremost being the knowledge your agency or organization and you are actively involved in the preparation of future professionals through the establishment of a quality student-mentor relationship for the internship experience. The professional needs to assess what can be offered to students in an internship experience, what on-site resources are available to make it a meaningful experience, and what agency or organization needs can be met through an internship experience. Then, local or regional colleges and universities with specific degree programs may be contacted about the possibility of establishing an internship program. For example, if your work entails resource management, look for academic programs in natural resource management, forestry, or wildlife management. If you are involved in leisure services management, look for programs in recreation and park management, or if you are working in tourism, travel, or hospitality, look for programs in these areas. Each program will have an internship coordinator or other faculty member who can help you set up an internship program at your agency or organization. As a professional, you then make a commitment to the future of your profession, by offering students opportunities for meaningful and worthwhile internship experiences.

## SPIRITUAL VALUES: CAN THEY BE INCORPORATED INTO FOREST MANAGEMENT AND PLANNING?

Laura M. Fredrickson

Assistant Professor of Environmental Studies  
St. Lawrence University  
Canton, NY 13617

William Kerr

Landscape Architect  
USDA Forest Service - Monongahela National Forest  
Elkins, WV 26241

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**Abstract:** Spiritual values represent a deeply personal, intimate association with natural environments. A deeply seated person-nature experience and a sense of place can lead to inner peace and a sense of "connectedness" to the land. Thus, spiritual values can be among the most powerful of all determinants of people's responses to land management practices and policies. Yet, how can we relate these deeply personal values to the existing structure of forest planning and management? Does the person-nature experience vary by scale from region to state? Is there a difference between spiritual and aesthetic values? Why should we research these hard-to-define values? Should we even be trying to incorporate spiritual values into our land management practice given the First Amendment? What research is needed to begin to allow us to understand people's values and the various meanings that people attach to or derive from natural environments? Scoping questions such as these were posed and discussed by a diverse group of round-table discussants at the 1998 Northeast Recreation Research Symposium. This paper attempts to capture and articulate the various points of view that were shared and discussed at the symposium.

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### Introduction

Certain landscapes have the capacity to instill in people a sense of place, conveying a sense of inner peace and connectedness to the land itself. Experiencing a sense of place implies being acutely aware of all the sensual qualities of a place -- the sights, the sounds, the tactile elements, the scents that evoke remembrances of landscapes past. It's the way the place feels. Throughout life each of us shapes, and is shaped by the interactions we have with our surroundings. Within certain limits we may choose settings which are people-centered or settings which are not; but at no point in our period of consciousness will we be unaffected by our surroundings. Experiencing a sense of place warrants a certain reflectiveness, a certain ability to reflect upon the place itself and consider how we derive or attach meaning to the place and its various inhabitants (Relph, 1976; Seamon, 1980, 1987; Tuan, 1977) And in turn, how it makes the individual acutely

aware of the impermanence of things, the rapidity with which time passes. The notion of place and how it influences our beliefs, attitudes and behaviors concerning the natural environment runs deep, and many would argue that a 'sense of place' permeates our deepest held values about our natural resources and how they are to be managed.

A place may be understood aesthetically, that is, as an artifact or work of art. For a fuller understanding, however, a place must be further examined for what it reveals about the traditions, lore and myth of the local culture. Strongly aesthetic and powerful landscapes are made more vivid and more meaningful through culture and social interaction and can imbue even common landscapes with meaning. There is a growing body of literature that suggests a meaningful nature-based place interactions can invoke feelings connecting with something infinitely larger and more permanent than ourselves; a reverence and wonder for something we can never reduce to mere data; or a mysterious sense of well-being in the world and renewal of the human spirit (Graber, 1976; McDonald & Schreyer, 1991; Schroeder, 1996; Stringer & McAvoy, 1992). And in particular nature-based place experiences can inspire introspection and reflection on deep personal values, which can ultimately lead to a sense of humility and deep reverence for all forms of life. Ultimately, various landscapes have the power to initiate within the observer an investigation of one's deepest self and core values. These core values reflect one's basic beliefs and orientation to the world around oneself, and for many people this includes higher order spiritual values. Sense of place, sense of self, and sense of psychological and spiritual well-being are inextricably linked, even when we are only vaguely conscious of that fact. Call it what you like, but what is clear is that public landscapes are capable of evoking deep feelings, whether they are described as spiritual, ethical, emotional, aesthetic, cultural, or existential.

Yet how do certain person-nature place experiences reinforce or reduce our sense of well-being? And how do certain nature-based place experiences continually influence our attitudes and behaviors? What meanings are derived from person-nature experiences? And moreover, how do the meanings that we derive from person-nature place experiences mediate our perceptions about the world around us? Are there certain commonalities of the person-nature experience that cut across various socio-demographic variables that usually tend to separate us as a people rather than unify us as all just trying simply to deal with the challenges of being human? To be certain, there are a multiplicity of ways in which people interact with, and derive meaning from, various natural landscapes. And hence, various ways in which people come to "know" and value the land. Some attach value to a landscape, basing it primarily on its commodity value -- in other words for how many board-feet of timber it can supply. While others approach a landscape and appreciate its aesthetic value -- as an end in itself. Furthermore, as it becomes increasingly more important to manage public lands for a multiplicity of values, land management agencies are justly struggling to

determine how to better manage for all the various values that society holds for our public lands.

Historically, public land management agencies, such as the USDA Forest Service, have focused prior planning efforts primarily on the resource base rather than on the values and meanings that people -- both visitors and local residents alike, derive from places such as our national forests. Current planning efforts are strong to ecosystem classification systems and geographical information systems (GIS), and no one would argue that a sound, ecologically based scientific resource inventory is not needed for any planning process. But defining optimum ecological conditions, as is the implicit goal of most resource management paradigms is not possible. Good or bad ecosystems cannot be defined scientifically and can only be based on definitions from society. Both society and the environment shape what we feel and believe about the ecosystem -- in effect, what the environment and the landscape *mean* to us; this goes back to the importance of core values just previously discussed. Ecological classification and GIS systems set parameters for plans, but they do not address meanings. They cannot set goals. Goals come from society and are based on values and meanings.

The different reactions to the landscape and identifications with the landscape that visitors and local residents display are a useful illustration of the range of meanings and values in the landscape. The visitor primarily sees the landscape as scenery, making aesthetic judgments. The local person lives within a complex interaction with the environment. The visitor's view is easily stated and has been the basis for much aesthetic research and was the basis for the Forest Service Visual Management System. The local's identification is much more complex and can only be expressed with difficulty and indirectly through behavior, tradition, lore, and myth. The visitor often seeks aesthetic experiences, the breathtaking view, the enclosed glen. But no matter how intense the experience, it is somewhat fleeting. Afterwards, culture again mediates. Yet both alike -- the visitor and the local -- derive meaning from their place experience. This is why we must look to meaning in the landscape, not just the aesthetic. A landscape in harmony with the culture is enduring. Landscape is a work of the mind. Its scenery is built up from the strata of memory. A landscape comes from within us as much as surrounds us (Abram, 1996; Schama, 1995).

It is our position that spiritual values and societal meanings are co-equal with commodity values and as such are deserving of equal attention in research, data collection, and plan implementation. But the fact is that resource based planning efforts are still the norm for most land management agencies. Coming to understand the various ways in which people are shaped by powerful nature-based place experience allows us as researchers, resource managers, and other natural resource stewards to develop management plans that are both responsive to, and respectful of the multiplicity of ways in which people derive meaning from -- and attach meaning to public natural landscapes.

### **Managing the Public Domain and the Importance of Studying Spiritual Values**

Nearly three centuries ago, approximately two-thirds of the United States was held under federal ownership as "public domain". In brief, the public domain was originally established in 1777 when the Articles of Confederation were being proposed as a way of linking the states together in the interests of national unity after the American Revolution. In hopes of keeping the newly formed confederation intact many of the original thirteen colonies were asked to relinquish any land claims they had made on territory immediately to the west of the original colonies. In 1780, the continental Congress pledged that if the claiming states ceded the lands west of the existing boundaries of the thirteen original states to the federal government, the land would be disposed of for the common benefit of the United States. The cessions began slowly and reluctantly, but eventually by 1802 all land claims had been relinquished to the federal government. The western lands ceded by the original colonies, as well as additional territory that the US government conquered or purchased over the next century, became part of the national public domain. And while the federal government agreed to manage the public domain "for the benefit of all", it also sought to form new states and retained the title to the land, behooving themselves the authority to sell it to private parties.

In retrospect, many of today's national parks, national forests, fish and wildlife reserves, and areas administered by the Bureau of Land Management and other federal agencies have since been carved out of that original public domain. Currently, these public lands constitute over one-third of the United States. And in keeping with the original goal of managing the public domain 'for the benefit of all', they are to be managed to meet the specified needs and values of the American people. Yet, however, these needs and values inevitably shift and evolve over time. And as open land becomes more scarce and the population continues to expand and become increasingly more socio-culturally diverse, this continues to place extraordinary pressures on an already dwindling resource base. Moreover, as the needs and values of the American people shift, so too, do our natural resource management policies and legislative mandates that have been designed to protect this dwindling natural resource base.

Take for example the USDA Forest Service, which was originally established in 1905 and directed by the federal government's leading conservationist at the time, Gifford Pinchot. The central focus of the Forest Service during these early years was on watershed protection, timber production, mining and grazing. Originally, the USFS was primarily in the business of supplying trees to a timber-hungry society. Yet in time, as the post WW II housing-boom settled down and the environmental movement got underway, the Forest Service broadened its mission to include non-commodity values and non-traditional uses such as forest recreation and nature study. And correspondingly, the Multiple Use and Sustainable Yield Act of 1968 was then passed. Of course the enactment of such Forest Service policies was in response to the larger

cultural and political changes that were occurring on the on the broader social landscape throughout the 1950's, '60's, and '70's. In general, people had more free time, increased mobility, larger disposable incomes, and were becoming concerned about the deteriorating state of the environment. In response there were increased demands for outdoor recreational opportunities on our public lands, and the Forest Service was viewed as one of the major suppliers who could provide these such recreational opportunities. Yet to think that the Forest Service, or any other federal land management agency for that matter, could ever meet the needs and values of an ever-changing, ever-increasing recreating public is a considerable challenge. Especially considering the ways in which people have come to value and use our various natural resource areas to help maintain and renew the human spirit in the particularly chaotic 1980's and 90's.

We are living in an age where we can barely keep up with the "average" pace of life -- what, with the current rate of information exchange and technology transfer, a globally expanding marketplace, an environment that is perceived to be ecologically unstable, and a population that is growing exponentially! Many people simply are left feeling stressed-out, pessimistic, and doubtful about any kind of economic and ecological security, let alone the potential of a personally rich and satisfying career and/or lifestyle. There is, however, a growing concern among many of us about just how we are dealing with today's faster pace of life. The personal trend is towards increased physical activity, proper nutrition, quality time spent with family and friends, and about nurturing a healthy mental disposition towards everyday stresses -- cultivating that sense of inner peace amidst the external mayhem that constitutes hope in our everyday lives. Not surprisingly, more and more folks are turning to the out-of-doors in search of finding this sense of inner peace. Correspondingly, the use of our public lands goes way beyond your traditional outdoor recreational activities to include more passive and contemplative activities, which contribute uniquely to the psychological essence of life itself for today's recreating public.

The question is not whether the USFS and other federal land management agencies should respond in terms of "supplying" places for people to go and relax, rejuvenate and renew themselves, but rather, how? How specifically can public land management agencies respond to and manage for these non-commodity values such as spiritual values, which are fundamentally hard-to-define? Yet in fact, the Forest Service was charged with just such a task when the National Forest Management Act was passed in 1976. This act in particular mandates that 'all relevant values' be explicitly incorporated into management planning -- including those hard-to-define, deep psychological values such as spiritual and aesthetic values. What's more, is that accomplishing this is made all the more difficult considering these hard-to-define, spiritually enhancing values and non-traditional uses typically conflict with the values that underlie the more traditional uses of our public domain. Also, consider the fact that even among

those uses and values that could be classified as non-commodity, there are certain land uses that conflict with one another. Take for instance those people who want to visit one of the national forests to locate themselves in one of the last remaining, relatively pristine, and remote natural forests by the aid of an all-terrain vehicle. How does this contradict and conflict with the needs and values of the nature purist, who wants nothing more than to hike in by foot, carrying the weight of all that he or she will need for an extended stay in the backcountry in a backpack? Certainly, we have put into place certain guidelines and stipulations that regulate and monitor our behavior in Congressionally designed wilderness. But what about the management guidelines we have in place for various natural areas that lie outside the jurisdictional protection of wilderness? Remember, ours is an ever-changing socio-political landscape, and the legislation that circumscribes our public lands and natural resource base is just as likely to change in response to the changing needs and values of today's outdoor recreationist. All told, if today's public land managers are to be responsive to the changing needs and values of an increasingly diverse and multicultural citizenry, they must work toward a much fuller understanding of the hard-to-define values such as spiritual values. And to that end the Forest Service appears to be moving toward a more widespread recognition that spiritual values and societal meanings have value in themselves, and are equal to the traditional commodity values which have been typically managed for in the past.

#### **An Historical Overview of Forest Service Planning Efforts**

With the advent of ecosystem management in the early to mid 1980's -- a dynamic new resource management approach that attempts to incorporate people's explicit non-commodity values towards the environment along with maintaining a degree of ecological integrity -- the Forest Service has been inching its way towards making some fundamental changes in its forest management planning and project implementation (Lackay, 1998; Brussard, Reed & Tracy, 1998). That is, there is an increasing understanding within the agency that people's beliefs and feelings about the forest need to be looked at, and utilized as a guide when undertaking future management plans (Bengston, 1994; Szaro, Sexton & Malone, 1998). But there is still little understanding about the ways that people's beliefs and values are formed and how the landscape plays a part in that process. Past efforts at integration of the values of people into Forest Service plans has been sketchy at best. An example is the old Visual Management System (VMS) which, in part, was based on the manager's evaluation of the visitor sensitivity level toward a particular scene or vista. That is, a guess about whether or not the visitor found the forest aesthetically appealing or not? And to some degree it was just that -- a best guess. And so landscape preference rankings were developed to help us systematically measure visitor preference for one scene over another, which then enabled us to prioritize and implement various management actions. Past research into various forest practices as they relate to widespread acceptance by the public has focused largely on

the pictorial scene, utilizing scenic beauty estimates to determine which management practices might be favored among various possible alternatives. At its most elemental, research such as this asks only one question, "Which scene is prettier?" Yet are we not an ever-increasing, socially diverse and dynamic society? That is, people derive meaning and value from the landscape not only through its visual appeal -- which varies across cultures -- but also from the various ways they live in relation to the landscape and recreate in close conjunction with the land itself. Very little research has looked at the ethical, social, and political attributes of meaning in the landscape. All the while, consistent efforts have been made at gathering more traditional resource data on vegetation, soils, fauna and so on. Still, efforts to stir research into the human component of the ecosystem continue to lag behind. And even less recognized is the concept that the values and beliefs of people are informed by and grow out of the landscape. That in effect, the landscape/person interaction is a two-way dialog.

Yet some of us are coming to the belief that there is an overlap between ecosystem and *meaning*. Culture grows out of the landscape it exists within; we cannot separate nature and human perception into two different realms. They are indivisible. Landscape comes as much from within us as from the rocks and trees of the forest. And at the same time, there are no natural systems on earth which have not been modified by human culture. It is always the inherited tradition that makes landscape out of mere geology and vegetation. But how do we come to grips with this in our planning? How can we come to understand both the local and larger scales of ecosystem and meaning? How do we move successfully beyond out-dated planning systems such as VMS, which treat the landscape as scenery, as pictorial images? A system that was based on aesthetic principles that come from the world of art and visual sensory perception. That is not to say that the notion of visual aesthetics should be overlooked, but we are highly sensate creatures, and we take in and interact with our environment in a multi-sensorial way, making meaning out of a myriad of sensorial cues -- not simply the visual.

We need to devise a management system, a tool per se, whereby we can thoughtfully consider, discuss, and integrate the notion of landscape *meaning* into our management equation. We need to inform our planning about how different persons from diverse cultures, historically and contextually, identify with the natural environment. The goal is to improve the various public land management agency's ability to hear and communicate with a diverse constituency. We need to provide a more specific and concrete language by which the public may make known its management preferences. Moreover, we need to engage in conversation and dialogue with a diverse cross-section of our recreating public so as to form a more accurate and responsive characterization about the public perception of, and relationship to the surrounding forest. We need to more aggressively identify the various types of benefits that people attribute to their relationship with the forest -- be they hard-to-define values or not. Ultimately,

we need to develop our understanding and ability to articulate the meaning of the deeper psychological values -- those that are the bedrock for our core beliefs -- in an effort to be responsive to the current trend of people situating themselves within natural environments to regain a sense of balance and meaning in their lives.

Perhaps there is a larger question that begs to be asked -- is it appropriate that the US Forest Service, or any other federal land management agency for that matter, be managing for spiritual values? In effect, the Forest Service has (perhaps by default) already been managing for these types of values since passage of the National Forest Management Act, which mandated that all "relevant values" -- not just commodity values -- be incorporated into forest planning and management. Perhaps at the outset there was incoherence among various Forest Service officials and management employees about what actually fell under the category of 'relevant values'. But in time, as more and more people became clear about their own need to visit national forests for the express purpose of personal rejuvenation and spiritual renewal, and were able to articulate the importance of such experiences to others, it became clear that many folks valued going to the woods for things other than fishing or hunting. By the same token, the top-down bureaucratic management style of most federal agencies during the 70's and early 80's began shifting, moving towards a more responsive and public-friendly management style during the late 80's and early 90's. In effect, this only served to elicit a more honest appraisal of the various needs and values of an increasingly diverse constituency.

To be certain the Visual Management System (VMS) was one of the Forest Service's first attempts to manage for values that were non-commodity based, and a great deal of care and effort went into developing a systematic way of evaluating and ranking the aesthetic appeal of various landscapes on our national forests. Similarly, the Forest Service learned a great deal about what was visually acceptable to the general public and what wasn't? Yet management systems such as VMS and others still cannot accommodate or manage for landscape qualities and meanings that truly inspire the human spirit, bringing the beholder into dialog with the deeper self. This is primarily because VMS and other management systems manage for the visual cues that a landscape conveys, but do not account for the myriad of other sensorial cues, and cultural traditions that betoken a landscape with meaning. These types of management systems say nothing about the ways in which various cultures interact with, and hence, identify with the forests; about the various myths and lore that various peoples uphold and enact within our national forests. Ultimately, the myths, local traditions, and lore all reflect a people's deepest held values about the land.

If the Forest Service, as a "public" land managing agency, is to be charged with managing the public domain for the good of all, then in effect, it must manage for these hard-to-define values, spiritual values notwithstanding. Perhaps what makes some people uncomfortable is the fact that

federal agencies like the Forest Service are now in the business of managing for things such as spiritual values, yet the First Amendment makes a clear distinction between the church and state. Yet perhaps it is that many people tend to confuse 'spiritual' with 'religion', and get mired down in the quandary of constitutional rights and maintaining one's freedom of religion. Let us not confuse spiritual with religious. Religion, per se, is more about a particular system of faith and worship whereby one shares in their beliefs about the existence of a power beyond themselves with others; and spiritual is more about that which inspires deep emotions and fills one with a sense of hope, a sense of mystery about the unknown and ultimately unknowable, a sense of historical continuity with oneself and one's surroundings (Abram, 1996; Eliade, 1957). Are the two synonymous? We think not. One tends to be formalized and a ritualized set of practices and beliefs, where the other is not nearly so calculable and confining. Are they related? We think yes; and oftentimes they are close-cousins. But perhaps the larger question to be wrestling with is why shouldn't the Forest Service be managing for spiritual values in such challenging and troubling modern times? Or for any other hard-to-define values for that matter?

#### Ways to Study and Investigate Spiritual Values

In furthering the discourse of how to go about managing for hard-to-define values such as spiritual values, we must first acknowledge that, in general, these values are poorly understood, elusive, ethereal and remain somewhat intangible. Yet, suffice it to say, that most people who are in the business of natural resources management and land stewardship have an incredibly strong and intuitive feeling for the magnitude and importance of managing for such values. In fact, many people regard these values as contributing to the deeper psychological essence of human life itself. These types of values are what motivate us to go on when all else fails, when the chaos of modern life seems nearly overwhelming. Ultimately, they are what inspire us as a people, and hence, encourage new life, and new ways of making sense of our ever-changing world. It would be hard to disagree that when one experiences a deep sense of place, or is moved to new spiritual heights after a particular person-nature interaction, this is for most people a life shaping event. But even if only briefly understanding the incomprehensible, one's life is made immensely richer and immeasurably more satisfying. Yet what are we to make of these ethereal phenomenological events that, by nature, defy study and definition to some degree? What should natural resource planners and managers make of such events when they experience them first-hand and try to bring this felt-knowledge into their workaday responsibilities? What, and how, should we as social scientists and researchers attempt to study these hard-to-define values and the uniquely phenomenological events and spiritually beneficial experiences that give rise to them? How to bring to light the ineffable quality of such deeply psychological and personal experiences? These are questions that have no clear-cut answers. But in an attempt to further the discourse on spiritual values and forest management and planning -- one that many would agree is

critically important to pursue -- we offer the following thoughts.

First, as with all values, one must recognize that spiritual values are culturally bound and somewhat place-specific. What might bring meaning to a group or individual in one place, one landscape, one forest, might not translate to another setting. In other words, one must acknowledge the fact that there is no boiler-plate management prescriptive that can be applied across a broad region that enables us to accommodate each and every person's vision of the landscape that embodies spiritual values, or the ideal place-setting that inspires deep personal contemplation about one's life and one's relationship to a larger reality. We suspect that there are, however, certain similarities that exist between and among different peoples from diverse cultures about what brings *meaning* to the landscape; between the first-time visitor and the local inhabitants. But to assume that a "one-size fits all" forest management plan could ever be designed so as to accommodate the needs of all its constituents, is simply a myth. And for those who choose to believe and support this myth, we suggest that they simply have not acknowledged that today's society (any society for that matter) is made up of a collection of uniquely complex individuals. And likewise, there will be a range of landscapes that give rise to spiritual values and meaning in the landscape.

At best, we can try to determine the range of environmental factors that seem to spiritually inspire and imbue a landscape with meaning among a range of culturally diverse people. We can cast a big net, and hope that we are catering to the needs of a diverse constituency, and perhaps this is done best on a down-sized, more localized scale. But the best we can do is to develop our forest management plans and policies so that they are responsive to change. If one thing is for certain, it is that people's views, and hence values, change slowly with time, and vary from region to region, watershed to watershed, forest to forest. In effect, perhaps the issue we are raising here has more to do with scale than anything else. That is, instead of designing forest management plans to be applied across a relatively broad geographic region, we need to further our work in designing management plans that are more area and site specific, and that integrate the physical, biological, and cultural/social attributes that give an area a sense of place. In short, incorporating the human dimension into the planning equation. But the question still remains, just how? How do we first investigate and study these hard-to-define values so as to make sense of them and increase our ability to sensitively manage for them.

In terms of methodological considerations, we suggest a line of inquiry that integrates both quantitative and qualitative measures. In other words, stepping beyond the purely deterministic perspective and developing a research strategy that attempts to capture and articulate the more affective, emotional appeal and determinants of the landscape that imbue it with meaning. What is it about various land-use patterns of the past that help to shape and create that visceral and felt reaction to a particular place for

the present-day inhabitant or visitor? Yet the inherent nature of the types of values that we are talking about, spiritual values notwithstanding, is that they are hard-to-define. And hence, defy certain rudimentary assumptions that undergird the very essence of the scientific method in its narrowest sense. That is, part of the reason that spiritual values are hard to define is that they are rooted in the implicit dimension of 'experience' -- they are momentary and passing, yet leave a lasting impression, yet they cannot be adequately conceptualized in terms of logical, deterministic concepts (Schroeder, 1996). We are talking about experiences where one is touched or moved by something that can be felt but cannot be seen or grasped in tangible, concrete terms. Take the word 'spirit', which means air, wind, breath -- all of which cannot be seen. Yet who could argue that when once set in motion, all could be felt? Moreover, when it comes to that which inspires, and has the power to move people emotionally and spiritually, it is this ineffable quality that gives them their essence and strength in terms of how powerfully they affect people's core beliefs and understanding of themselves in relationship to something far beyond the self. A problem arises when we as researchers attempt to formulate these values in terms of the conventional scientific method, seeking for causal links between an endless myriad of factors that make-up the phenomenological experience of a sense of place. Simply put, these types of deeply affective, psychological experiences defy predictive and causal analysis simply because they embody raw emotion -- which oftentimes runs contrary to logic. What we are talking about here is an aspect of the human experience, and because these deeper values are rooted in an experiential dimension for which there is no clearly delineated, objective structure that captures the multi-sensorial, multidimensional qualities of the experience itself. These deeper values originate in a pre-conceptual, non-verbal domain of human experience, and are inextricably linked to the emotional make-up of the individual. And moreover, there may be no fixed set of conceptual dimensions, categories, or logical relationships that could adequately capture or completely define or describe them. Thus, the deterministic scientific process, which requires clear, precise definitions, rigid methodological parameters, and logically rigorous analysis, may in fact run counter to the very qualities that enable these values to function as they do in the human experience.

Whatever research route that is to be taken, we recommend that it be both descriptive and interpretive, rather than just theoretical and tending toward the predictive. We need to develop a "language" where we can dialog with the more affective appeal of various landscapes. Yet what is the language that probes deeper than words? Perhaps this is why when most people think of these deeply psychological values -- or more accurately the experiences that gave rise to such values -- they tend to make sense of the experience in terms of metaphor. The experience was like "thus-and-such", never being able to fully capture the magnitude and power of the experience in a direct and straightforward fashion. Metaphor is our best attempt to speak naturally of the impact such an experience has on the human spirit, the

deeper layers of our psychology (Abram, 1996; Porteous, 1990; Schroeder, 1996). For when we speak in metaphor we are able to maintain that illusory quality of the inspirational experience itself. And when we metaphorically describe how the landscape contains *meaning* -- both for the beholder and the beholden, we are moving much closer to developing our understanding of the realm of spiritual values.

And yet, if we are to develop any type of sensitivity towards the *meaning* that people derive from, and attach to, particular landscapes, one must be committed to working within the realm of qualitative research. Having that said, one must also accept that there are certain limitations to qualitative research. For example, in order to develop a more detailed and in-depth view and understanding of any given phenomenon -- spiritually beneficial person-nature experiences notwithstanding -- one must work with smaller sub-sections of the larger recreating population. How can one hope to develop a deeper understanding of the different values people ascribe to and derive from the natural landscape if relying on mass random sampling, and categorical surveys as our primary data collection tools. At best they provide us with a plethora of data, yet tend to leave us no closer to understanding the complexity of how different peoples, from diverse backgrounds make sense and meaning out of the land around them. What is needed is purposive sampling -- hand-choosing a rich mix of diverse constituencies to talk to about their person-nature experiences. The trade-off of course, is that this type of smaller, purposive sampling tends to limit the generalizability of one's findings. Yet it is our position, that in order for us to obtain a deeper understanding of how a landscape elicits a deeply personal, emotional/spiritual response from the local inhabitant to the one-time visitor, this cannot be accomplished through research methods that are somewhat 'hands-off'. Simply put, we must employ various qualitative methods in our ongoing inquiry. These methods might include in-depth interviews, participant observations, self-report surveys, interpretive art, and historical analysis (Creswell, 1994; Miles & Huberman, 1994). An historical analysis, not only of those who are visiting and living in close proximity to our national forests, but a historically analysis of how the land usage patterns and landscape has changed and evolved over time. In effect, through research that tends toward a cultural archeological study we need to unveil the lived-history of cultures past so as to understand the transmutation of what has occurred upon that particular landscape over time.

Yet the larger call is to conduct this type of research within a larger world that contains obvious uncertainties. We can no more hope to successfully manage our public domain 'for the benefit and good of all', than to think we could ever capture in their entirety the full impact and power of these deeper psychological values, such as spiritual values. But try we must. We must be willing to. We recognize that our forest planning is never done; and we must be diligent in our research efforts to solicit input from an increasingly diverse and multicultural citizenry. To be certain, there are

ways in which people from various cultures and traditions construct their shared identities, and hence, meaning from the landscape. The challenge is for us as social scientists, researchers, and forest planners and managers to get on with the task of looking for areas of overlap between our various recreating public(s) and the ways in which they value the land. Ultimately, we must be willing to ask some fairly nebulous questions, such as "What does this place mean to you?" or "How has this landscape brought meaning to your life?" And then we must be willing to do the hard interpretive work of reconstructing a collective characterization of these individual accounts, and making sense out of the range of people's values towards the land.

#### Current Forest Service Planning Efforts: Scenery Management System

To that end, the Forest Service has developed a Scenery Management System at the core of which is a requirement for "constituent analysis." The thrust of this analysis is to involve sociologists, cultural anthropologists, social psychologists, landscape architects, public information officers and other professionals in the assessment of the ways in which people come to value our national forests. The significance of this is typically expressed through the attitudes, values, and preferences of individuals, and how these are reflected in people's behavior -- both as visitors to the Forest and as participants in other social activities and processes which may influence demands for scenic management and the ability to design and implement scenery management practices.

The constituency of scenery management includes the individual visitor, the local constituency of people living within the forest area, and the broader constituency of people living a far distance away from the forest who may visit or have a knowledge and interest in management of forest resources. The content of constituent information will include analysis of how constituents use an area, and what visitors and others feel, value, desire, prefer and expect to encounter in terms of landscape character and scenic integrity. The form of the constituent information will look to verbal expressions of the significance or importance of scenic and other qualities of the forest or special places within the forest. These may include sensory responses such as sight, sound, or smell; value statements as to the worth or aesthetics within the forest; expectation s of constituents when entering the forest, and so on. The actions and behaviors of people within the forest will also be important to evaluate.

This information may be gathered at a variety of scales, from the specific localized project area up to the region-wide forest planning level. Constituent analysis is a form of public involvement in forest planning. As with any form of public involvement, multiple methods of data collection and analysis will be most effective. These may involve studying user behavior, talking directly with users, conducting surveys or public involvement workshops, utilizing personal observations, and studying other information. (For further information, readers may want to consult the "Landscape Aesthetics: A Handbook for Scenery Management." -- USDA, 1995).

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## **BUILDING CARDBOARD BOATS, TEAMWORK, AND A SENSE OF COMMUNITY: AN INNOVATIVE OUTDOOR PROGRAM**

Anita H. Magafas

Associate Professor, Western Illinois University,  
Department of Recreation, Park and Tourism  
Administration, 400 Currens Hall, Macomb, IL 61455

Katharine A. Pawelko

Associate Professor, Western Illinois University,  
Department of Recreation, Park and Tourism  
Administration, 400 Currens Hall, Macomb, IL 61455

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**Abstract:** This paper presents an innovative outdoor recreation programming idea well suited for youth-at-risk populations as well as members of the general community. Participants are exposed to the concepts and challenges inherent with skill learning in the areas of task teamwork, compromise, social involvement, communication, and problem-solving. Additional program benefits include the inculcation of a sense of place and pride in a community and its members, and the opportunity to view youth in positive roles as contributors to socially valued leisure events.

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### **Introduction**

#### *Setting and Population:*

Cardboard boat festivals serve as entertaining outdoor initiatives with a wide base of appeal in community based program settings. While popular among people of all ages either as participants or spectators, cardboard boat races are especially attractive to and effective programs for the youth-at-risk population, including youth in residential (treatment) settings.

#### *Program Description:*

The challenge facing the group(s) of youth is to design and build a person powered, corrugated cardboard boat capable of racing over the span of a 200 yard course, three times. Youth begin by designing miniature models in order to perfect their boat design. Utilizing large, flat pieces of cardboard purchased from a package manufacturing company (or appliance boxes), youth draw, cut, caulk, paint, tape, and waterseal their boats, which are capable of carrying from two to six people, depending on their design and size.

#### *Program Overview:*

This is a program where the preparation for the event is as important as the event itself. Designing a cardboard boat which floats and holds people requires teamwork, compromise, and lots of problem-solving. On the day of the event, teamwork is required to propel the boat (chiefly by the use of canoe paddles) through a timed course.

Qualifying boats from the first heat must participate in a semi-final and then, if all necessary factors prevail, a finals heat. Strict rules govern the building of the boats as well as the boat race itself. The youth compete against participants from the local community and nearby communities and the event is usually held on a local lake, pond, or river. The rules which govern the boat regatta or race address issues of safety and risk management. Cardboard Boat Regattas in Illinois are often sponsored by Park and Recreation Departments in conjunction with the TIPS Foundation, Inc. Awards for the following are given at the completion of the race: (a) most creative design; (b) most attractive; (c) most spirited and best organized team; and (d) the "Titanic Award" for the most spectacular sinking.

#### **Program Goals:**

1. To work with others on a task which requires cooperation, learning to compromise, acknowledgement of the strengths of others, and trusting others, in order to complete the task by a projected deadline.
2. To experience the success of participating in a mainstream, community event and having the opportunity to experience a sense of pride in accomplishing the challenge of completing a boat which is eligible to compete in the event.
3. To reflect on the whole experience by debriefing the process, outcomes, and what it means to be part of a team focused on a task.
4. To improve social and communication skills with peers and community people by participating in an integrated special event.

#### *Program Staffing:*

Two Certified Therapeutic Recreation Specialist (CTRS) leaders are assigned per group of youth. Cottage staff or camp counselors can also serve as adult leaders and role models working with each group. Groups of four to six youths are ideal. A video on constructing a cardboard boat is available from the TIPS Foundation, Inc. from Terry Mathias, R.R. 4, Box 242, Carbondale, IL 62901.

#### *Unique Program Features:*

This activity offers similar outcomes and the experiential learning associated with adventure challenge activities. The group dynamics and problem-solving opportunities provided by constructing a cardboard boat and propelling it in a race, clearly defines the tasks to be accomplished. The outcome often reflects just how successful youth were in teamwork with the added bonus of having fun while participating in the boat regatta regardless of whether the group wins or not. Additionally, this activity helps youth to develop a sense of place attachment (Tuan 1974, 1977; Relph 1976; Steele 1981; Williams and Roggenbuck 1989; Williams, Patterson, Roggenbuck and Watson 1992; Ballinger and Manning 1997; Mowen, Graefe, and Virden 1997) in a community and social role valorization through the development of positive images of youth participating in a socially valued leisure endeavor. Social role valorization theory (Wolfensberger 1972, 1983) advocates

for each individual's right and responsibility to assume a valued social role in society and asserts that it is society's obligation to allow individuals to pursue that role without constraint (Bullock and Mahon 1997).

*Program Replication:*

The TIPS Foundation, Inc. has detailed materials available for replication of the event. (Contact: Terry Mathias, R.R. 4, Box 242, Carbondale, IL 62901).

*Program Evaluation:*

Informal: Group debriefing session(s).

Formal: Pre- and Post-Tests on group cohesiveness.

*Program Information Contacts:*

Dr. Anita H. Magafas, Associate Professor, Western Illinois University, Dept. of RPTA, 1 University Circle, 400 Currens Hall, Macomb, IL 61455; Phone: (309) 298-1967; FAX: (309) 298-2967;  
E-mail: Anita\_Magafas@ccmail.wiu.edu;

Dr. Katharine A. Pawelko, Associate Professor, Western Illinois University, Dept. of RPTA, 1 University Circle, 400 Currens Hall, Macomb, IL 61455; Phone: (309) 298-1967; FAX: (309) 298-2967;  
E-mail: Katharine\_Pawelko@ccmail.wiu.edu

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## TRAILING INDIANA: INDIANA STATE AND LOCAL GOVERNMENT TRAILS PLANNING

Eric A. Myers

Director, Planning and Development  
Indiana Department of Natural Resources  
40-2 West Washington Street, Room 256W  
Indianapolis, IN 46204

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**Abstract:** Passage of the Symms National Recreational Trails Act of 1991 included several items that could prove to be a boon to funding trails in the United States. Among those items was the National Recreational Trails Trust Fund (NRTTF), also known as the Symms Fund. Although the NRTTF held the promise of funds for trails, it had even more important results: in order to be eligible for the funds, each state must have a Trails Advisory Board and each state must have a state trails plan. Indiana was included among the states that have trails provided by many different agencies, but did not have a clear plan for meeting the needs of all trail users. The NRTTF requirement has pushed states to identify those trail issues and look at ways to address those issues.

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### Introduction

Indiana Trails 2000: A Guide by Trail Users for Trail Providers is the culmination of an intensive three year public input process. Citizens from all over the state, representing both trail users and trail providers, worked diligently to prepare this document. These individuals have given over a thousand hours of effort in the production of this plan. The final result is a document which provides a series of suggested actions to help address some of the crucial issues identified by the Trails 2000 Planning Group. Among others, issues such as...

- Trail networks are needed for multiple uses and to promote alternative transportation.
- There is not enough public land available for trail use.
- There is a need for trail design, construction, and maintenance standards.
- Long term trail management planning is needed.

The Trails 2000 Planning Group and its associated committee, the Trails Advisory Board, strongly believe that for these issues to be successfully addressed--cooperation must be encouraged between a variety of organizations. Towards that end, this document's recommended actions are a guide designed to be used by state agencies, local agencies, and non-government groups.

### Trails Advisory Board

The Indiana Trails Advisory Board to the Department of Natural Resources was established in 1994. Its main function is to make recommendations to the Director on

trail related issues. The board is a group of fourteen citizen volunteers representing many trail interests:

- all terrain vehicle riders
- bicyclists
- environmental groups
- equestrians
- four-wheel drive vehicle drivers
- local park and recreation agencies
- off-road motorcyclists
- pedestrians (hikers, walkers, runners)
- snowmobilers
- soil and water conservation districts
- sportswomen and men
- trail support groups
- users with disabilities
- water trail users

The Trails Advisory Board's Mission Statement, as defined by the board in 1995, follows:

The Trails Advisory Board serves to envision, plan, and implement matters related to the development and proper use of multi-purpose trails in Indiana. The Board is a diverse group of experienced trail users and advocates who serve as ambassadors to outdoor enthusiasts, governmental agencies, and other individuals interested in increasing the number and quality of trails in the state. The Board also serves to promote the principles of environmental stewardship and responsible trail use and to foster the economic, social, and health benefits of a statewide trail system.

### Trail Supply

Many public agencies at the federal, state, and local levels are empowered to provide trails in Indiana. A survey of all local park and recreational agencies, federal properties, and the Department of Natural Resources' properties was done in February of 1993 to determine the supply of publicly owned and managed off-road trails in Indiana. Although there are private trails available in Indiana, they are beyond the scope of the survey and this state trails plan. The survey is not completely accurate, as some trails have been developed since February of 1993. Further, no information is given for agencies which did not respond to the survey.

The Indiana Department of Natural Resources, the National Park Service, the United States Department of Agriculture (USDA) Forest Service, and fifty-six city and county park and recreation agencies identified 466 trails in the state of Indiana. Of those trails, 392 are open to hiking, 23 are open for all bicycles, 11 are open for mountain bicycles, 80 are open to equestrian use, and 5 are open to snowmobiling. No public trails are open to off-highway vehicles, all terrain vehicles, or off-road motorcycles. The number of miles of trails in the state are 1,490 total, 950 for hiking, 83 for all bicycles, 19 miles for mountain bicycling, 401 for equestrian, and 214 for snowmobiling. Of all of the trails reported in the survey, 99 miles are reported to be

accessible to the disabled. There are no trails in Indiana provided by local, state, or federal agencies for all terrain vehicles, motorcycles, or off-road highway vehicles.

The response to the survey from the Indiana Department of Natural Resources properties identified 320 trails on fifty-eight properties. The total length of these trails is 1,079 miles. Forty-one DNR properties combined to offer 264 trails for hiking, totaling 608 miles. Included is the 58-mile Knobstone Trail in Clark, Scott, and Washington counties. Five properties each have one bicycle trail, totaling 26.5 miles. Eighteen DNR properties have equestrian trails. There are 70 equestrian trails accounting for 277 miles. The DNR, in cooperation with the Indiana Snowmobile Association and local snowmobile clubs, offers five public snowmobile trails in northern Indiana. The combined mileage of the trails is 214. Four of the five trails are on private lands leased by the State for the months of December through March. The fifth trail is on DNR property (Salamonie Reservoir).

The USDA Forest Service provides 13 marked trails totaling 133.7 miles. All of the trails are open to hiking and six are open to equestrian use. The mileage for equestrian use is 98.9 miles. It should be noted that the Hoosier National Forest has been redefining its trail development and management activities. The number of trails and miles will likely be altered significantly in the future as the Forest Service implements its trail plan. Additional trails being considered include 190 additional miles of equestrian/hiking trails, 70 miles of mountain bike/hiking trails, and 90 miles for hiking/biking/equestrian use.

The National Park Service has provided trails at two of its facilities in Indiana. There are eleven trails at the Dunes National Lakeshore in Porter County, totaling 29.1 miles. All of the trails are open for hiking, and one 5.8 mile trail is open to equestrians. Three are also three hiking trails at Lincoln Boyhood National Memorial in Spencer County. These trails total 3.5 miles in length.

#### Trail Demand

As part of the State Comprehensive Outdoor Recreation Plans (SCORP) in 1979 and 1994, surveys were taken on the percentage of Indiana citizens who participate in trail activities. Comparing the 1979 and 1994 SCORPs shows a general increase in all trails related activities surveyed. The 1979 survey included hiking as the only pedestrian activity, and 34.9% of the respondents reported that they do hike. The 1994 survey had several pedestrian activities: walking for pleasure (58.2%), jogging and running (14.5%), and hiking (28.9%). The percentage who bicycle increased from 32.2 in 1979 to 34.2 in 1994. Off-road vehicle use included snowmobiling in the 1979 survey, and 11 percent of the respondents participated. The 1994 survey separated the two uses: 8.8 percent rode ORV's and 3.4 percent snowmobiled. The percentage who participated in horseback riding increased from 8.0 to 13.0, and canoeing and kayaking participation increased from 8.0 percent to 9.1 percent. Four trails related activities included in the

1994 survey, but not the 1979 survey, are in-line skating/roller-skating/skateboarding (7.2 percent), bird watching (14.3 percent of respondents), nature photography (12.9 percent), and cross country skiing (2.5 percent).

A 1994 Statewide Trails survey conducted in Indiana included a question on why people use trails. When respondents were asked about their reasons for using trails, their most important reason was for pleasure or recreation - 68% chose this reason as the most important. Three in ten chose health or social reasons as their second most important, while 37% chose scenery as their third choice. Over half of the respondents of that same survey had used a recreational trail in the previous 12 months. Lack of time was the most popular reason to not use trails, with over two-thirds choosing this response. The next important reasons were that the trails were too far away and that the respondent did not know where trails are located (each selected by 27% of the respondents).

Eleven county and twenty-five city park and recreation agencies provide public trails in twenty-five Indiana counties. There are 109 trails listed by these agencies totaling 221 miles. Thirty-one of the local agencies provide 93 trails and 168 miles for hiking. Fifteen city and county agencies provide 27 trails and 68 miles for bicycles. Two county park and recreation agencies have developed three horse trails totaling 12 miles.

#### Recommendations

*There is not enough public land available for trail use.*

In Indiana, three percent of the entire state is in public ownership. This severely limits the ability to expand trail opportunities. Acquisition of more land must be actively pursued to meet the growing demand for trail based recreation, including sufficient buffer zones and development of support facilities. Acquisition of land for linking greenway corridors to create a larger system should be pursued. Acquisition of land for opportunities of trail activities not currently available should be pursued.

Acquisition opportunities for public lands may include the following types: river corridors, abandoned railroads, active railroads, highway rights-of-way, existing trails, developed land, reclaimed mining sites, and military lands. Where acquisition is not possible, other options for establishing trail opportunities include lease agreements, easements, and joint agreements with utility companies.

*There is a need for trail design, construction, and maintenance standards.*

Trail design, construction, and maintenance standards should be created cooperatively between the lead planning agency and the community. Public needs and concerns and environmental constraints must be addressed in developing these standards.

Standards should provide for the protection and enhancement of natural and cultural resources. Existing state, local and federal regulations must be included in

standards for trail development. Trail standards should address preservation of sensitive natural areas, carrying capacity and trail use, facility design, accessibility, and risk management. Regular monitoring after trail development assures that trails continue to meet use demands, safety standards, and environmental standards.

*More information is needed on trail systems.*

Education is the key to self regulated trail use. Information should be made available to all trail users and potential users on the importance of responsible use. Information on the causes of user group conflicts, trails as an alternative means of transportation, trail safety, and trail benefits should be included in trail public education programs.

Comprehensive and easily obtainable trail information is an important part of any trail system. Information can be presented through brochures, videos, posters, outdoor signs, and live programs. Minimum information should include trail regulations, trail uses, safety precautions, maps of local area trails and access points, and trail layout maps. Additional information may include references to outdoor ethics, accessibility, natural resources, and local history and culture. Information must conform to American Disabilities Act (ADA) standards.

*Trail networks are needed for multiple uses and to promote alternative transportation.*

Trails need to be provided for a variety of uses, both motorized and non-motorized, both land and water. More opportunities are needed for bicycling (road and mountain), hiking and walking, horseback riding, in-line skating, and snowmobiling. Public trail opportunities are needed for all-terrain vehicles, off-road motorcycling, off-highway vehicles, and new uses which may arise in the future.

Multiple use trails can be designed to accommodate many different user groups on the same trail. They can be developed in a variety of ways such as designing for different uses on the same treadway, establishing separate-use treadways within a trail corridor, or instituting time zones allowing for specific uses during certain times of the day.

In addition to recreation, trails need to be established as alternative transportation routes; trails that connect housing, schools, businesses, retail centers, recreation areas, and other popular areas. Benefits of using these trails instead of driving are lower air pollution levels, reduced gasoline costs, and improved fitness.

*Long term trail management planning is needed.*

Trail planning does not end after the trail has been created. Trail management and monitoring is an ongoing process needing planning. Long term management plans can be used to: address liability concerns; suggest actions when trail conditions and/or usage does not meet predetermined standards; ensure that proper maintenance will be conducted throughout the life of the trail; and define roles volunteers can play in trail management.

**Summary**

Indiana Trails 2000 provides recommendations for state government agencies, local government agencies, and non-government groups. The recommendations come from the people who use the trails and their opinions regarding their needs.

The intent for this plan is to serve as a guide to any agency or group interested in maintaining or developing a public trail or trail system in Indiana during the five-year period from 1995 through 1999. These trail providers include, but are not limited to, city and county park and recreation departments, transportation departments, various divisions within the Indiana Department of Natural Resources and the department as a whole, and not-for-profit organizations supporting specific use trails or trails in general.

There exists a vision that includes trails for everyone and trails within easy reach of all Indiana citizens. We have a choice to view this vision as just a mirage, or we can strive to make the vision a reality. The key to success is the willingness of citizen groups and government agencies at all levels to forge new partnerships and work together on the goals set forth in this plan.

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## TRAILING INDIANA: MUD, MANURE AND MONEY; A DUAL AGENCY EFFORT IN DEALING WITH STATEWIDE TRAIL ISSUES

Les Wadzinski

Recreation Program Manager  
USDA Forest Service, Hoosier National Forest  
811 Constitution Avenue  
Bedford, IN 47421

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**Abstract:** As a state with less than 3% of the land base in public ownership, the demand for outdoor recreation opportunities in Indiana is extremely intense. Trail users made up of horse riders, mountain bikers, hikers, and off-highway vehicle users compete for scarce resources, thus presenting formidable challenges to the agencies charged with providing such opportunities. Separate, but coordinated trail planning efforts by the US Forest Service and Indiana Department of Natural Resources helped to meet these challenges.

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### Introduction

Indiana is a busy place with lots of people, and is certainly famous for many things. And the state does have its share of scenic wonders and offers the usual outdoor recreation opportunities. Unfortunately, this fine state ranks near the bottom in the category of acres of public land. For example, all of Indiana's public land (790,646 acres) amounts to no more than about a third of a single national park such as Yellowstone. Needless to say, the imbalance of a lot of people wanting to use a little land creates management challenges. This paper will focus on management problems regarding trails and the coordinated efforts of the US Forest Service and Indiana Department of Natural Resources (IDNR) to deal with those problems on a statewide basis. This portion of this paper will look at some of the issues encountered by the public and the staff of the Hoosier National Forest.

### The Problems

- **Scattered ownership:** The Hoosier National Forest is a relatively small forest with approximately 200,000 acres of land, 13,000 of which are designated as Indiana's only wilderness. Unlike its western counterparts, Indiana's meager public land creates a checkerboard ownership pattern that is not conducive to the linear needs of trails. An additional issue is that of the conflicts arising from the many neighbors existing due to a large "boundary edge".
- **Trail density:** Previously uncontrolled trail use created a labyrinth of user made trails resulting in over 600 miles of trail on this small forest. The trail density in the Deam Wilderness rivaled that of New York's Central Park.
- **Environmental damage:** This same uncontrolled use resulted in severe soil erosion as user made trails appeared on steep slopes and fragile soils.

- **User conflicts:** Off highway vehicle (OHV) use was banned from the Hoosier National Forest in a 1987 decision. Horses quickly took their place, along with the recent newcomer, mountain bikes. Hikers felt squeezed out as they hiked in horse manure, mountain bikers were lost in the mud, and OHV enthusiasts continued to feel discriminated against.
- **Declining budgets:** As all agencies felt the pinch, so did the Hoosier National Forest with few dollars available for badly needed trail maintenance. There was certainly not enough to maintain the 600 miles of trail that appeared on the Forest.
- **Agency confusion:** The public was constantly confused as they wandered from the changing rules from one agency jurisdiction to another.

### What to Do?

At first no action was taken as managers tried to get a grip on the problem...or hoped it would go away. As might be expected the problem persisted, so a direct approach was tried. This involved the 13,000 acre Deam Wilderness where the Forest Service announced that trails would be cut back to 60 miles, down from 109. The public outcry was significant, and the policy was rescinded.

The Forest then embarked on two concurrent planning efforts, one for the Deam Wilderness, and one for the rest of the Forest. A process known as the Limits of Acceptable Change (LAC) was used as another way of analyzing carrying capacity. This process looks at social and resource conditions resulting from recreation use, then determines what conditions are acceptable. Standards are developed to measure the conditions and changes, and management actions determined to achieve the desired condition. The process was modified for the Forest-wide trail effort, as LAC did not lend itself well to linear planning situations.

The LAC process provided the basis for an extensive public involvement effort lasting almost two years. The Forest's primary guiding document, the Land and Resource Management Plan, was amended to reflect the resulting new trail guidance. A Trail Implementation Schedule followed that refined the new guidelines and established a priority for upcoming trail projects.

### The Changes

Armed with information from the public involvement process, the Forest implemented several changes, many of which represented somewhat drastic changes from historical management practices. Approximately 200 miles of trail were designated as official trails, and all others declared off limits to bikers and horses. For the first time bike and horse riders were restricted to designated trails only. The prohibition on OHV use remained. Density limits were established for the various management areas on the Forest. Also, future trail projects were identified to stop the endless requests for more trails by special interest groups. This big picture approach allowed the trail system to be analyzed in a forest-wide context, thus eliminating difficult piecemeal decisions. Due to the lack of available land and declining budgets, most trails were designated as multiple use trails that would be shared by horses, bikes, and hikers.

For non-wilderness trails, trail standards were clarified and allowed the use of wider tread to facilitate maintenance by mechanized equipment. Finally, to accommodate adjacent landowners that wished to access a legal trail, a procedure was developed where they could obtain a special use permit to construct their own connector trail.

These changes were supported by several efforts. As money became available, trails were systematically upgraded to improve drainage and harden the trail surface. Each trail was mapped using Global Positioning System (GPS), and will soon become a layer on the Forest's Geographic Information System (GIS). Recreation Opportunity Guides were developed to serve as an informational handout and simple map for each trail. Major trailheads were improved with the installation of directional signs, bulletin boards, and improvement of parking surfaces. The trails themselves were all marked with cheap and easy to install plastic dots, hopefully to be replaced at some future date with better markers. A trail group that successfully secured a National Forest Foundation grant is currently providing a much improved marking system on a major trail. Finally, a partnership with a local backpacking store resulted in a high quality trail map produced by a national trail map company.

One additional change recently implemented after the public involvement process is that of the recreation fee demonstration program. The Hoosier National Forest is participating in this pilot program, and has temporary authority to charge a fee for trail use. Most of the funds collected are to be returned to the Forest for trail maintenance. Under this program, the high impact users, horse and bike riders, pay a \$3 daily or \$25 annual fee to ride Hoosier National Forest trails. Users can purchase trail tags from local stores that sell them on a consignment basis.

#### **Agency Coordination**

All the above efforts occurred concurrently with a trails planning effort by the IDNR known as Trails 2000. As much as possible, the two agencies attempted to coordinate these efforts and be consistent. For example, IDNR

participated in the LAC process, and Forest Service staff contributed during the Trails 200 process. Trail standards were compared, and kept as consistent as possible. The Forest Service drew upon IDNR expertise for the fee program since they already had been charging trail fees for several years. IDNR was also very helpful in sharing user survey results and Statewide Comprehensive Outdoor Recreation Plan (SCORP) data. The two agencies have also coordinated on overlapping trail projects such as planning for the cross-state Knobstone Trail and the cross-country American Discovery Trail.

#### **So How's it Working?**

As with all things in the world there is no perfect answer. Some of these actions have shown positive results while others have not. The new trail maps, GPS effort, trailhead work, trail marking, and so on have all have been very beneficial to the user. More trails are now properly located to minimize environmental damage, and are properly drained and hardened to withstand the high impact use. Some users don't like the wider trails, graveled tread, or the multiple use concepts, while others are content. Needless to say some folks are not happy with the fee program, and initial sales are slower than anticipated. On the other hand, patrols by Forest Service trail staff is showing a very high level of compliance and the program certainly has the potential to greatly enhance the trail system in the face of declining budgets. The fee program also has the added benefit of provided badly needed use data.

#### **Conclusion**

Overall the effort has been successful. The Forest has a much better handle on the trail program, environmental concerns have decreased, the system is much more user friendly, and positive coordination with IDNR remains. However, much work remains to be completed. There still exists a large backlog of heavy trail maintenance, and each user group continues to request more trails. This effort has been ongoing for over five years, and perhaps the time is drawing near when the system needs another close look by the public and agency managers. This is particularly true in light of the new data emerging from the fee program as well as the changing demands of the users.

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