

# CAMPERS' PERSPECTIVES ABOUT BOATING IN THE SARANAC LAKES WILD FOREST, NEW YORK

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**Abstract.**—This study examines the beliefs and attitudes of campers in the Saranac Lakes Wild Forest in New York's Adirondack Park with respect to participation in nonmotorized boating, motorized boating, and personal watercraft use. Initially, qualitative interviews with land managers provided insight into campers' beliefs and attitudes about boating; these insights were used to develop a questionnaire for campers. In 2007, a mail survey of 1,000 registered campers was conducted with the assistance of the New York State Department of Environmental Conservation. Descriptive statistics were calculated to quantify camper demographics, trip characteristics, recreational experience, and beliefs and attitudes towards the three types of boating. A confirmatory factor analysis was used to validate the belief and attitude factors. Correlations between factors were calculated to analyze relationships between recreational experience and participation in each type of boating. Results indicate positive attitudes towards nonmotorized boating, neutral attitudes towards motorized boating, and negative attitudes towards personal watercraft use.

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## 1.0 INTRODUCTION

The Saranac Lakes Wild Forest (SLWF) of New York's Adirondack Park comprises 79,000 acres of forest and water resources and contains 142 water bodies used for motorized and nonmotorized boating, swimming, and

fishing (New York State Department of Environmental Conservation [DEC] 2008). Interspersed with these state-owned lands and water bodies are private lands owned by local residents, business owners, and organizations. Thousands of campers come to the area annually to enjoy the recreational benefits these forest and water resources provide. Boating-related conflicts perceived by both managers and campers over the past several years make it necessary to better understand beliefs and attitudes towards boat use in the area. The objective of this study is to identify the perceptions of campers towards participation in three types of boating in the SLWF area.

The focus of this study is on the beliefs and attitudes of campers concerning participation in nonmotorized boating (e.g., kayaking and canoeing), motorized boating (i.e., with a gas-powered engine), and the use of personal watercraft (e.g., jet skis). Ajzen's (1991) *The Theory of Planned Behavior* provides the theoretical framework for the beliefs and attitudes included in this study. While beliefs are defined as an individual's conceptions about a specific behavior (Ajzen 1991), attitudes are defined as an individual's positive or negative evaluations of performing the behavior (Ajzen and Fishbein 1980). According to the Theory of Planned Behavior, beliefs influence attitudes towards the behavior, attitudes towards the behavior influence an individual's intention to carry out that behavior, and intention directly influences actually carrying out the behavior (Ajzen 1991).

A mixed methods approach (comprising land manager interviews and a mail survey of campers) was used for this study. Mixed methods research combines the theoretical and/or technical components of quantitative and qualitative research in one study (Rocco et al. 2003, Mertens 2005). According to Creswell and Plano Clark (2006), a mixed-methods study can provide a better understanding of research problems than either

the qualitative or quantitative approaches alone. While mixed-methods research requires a knowledge of both qualitative and quantitative methods and can be more expensive and time-consuming than single-method studies (Johnson and Onwuegbuzie 2004), Shah and Corley (2006) assert that the benefits of obtaining a more in-depth understanding outweigh the costs of time and effort. This study utilized a sequential, mixed-methods design, with a dominant quantitative phase. An initial phase of qualitative data collection (i.e., public and private land manager interviews) was followed by quantitative data collection (i.e., mail surveys of campers). The qualitative phase (which provided a basic understanding of beliefs and attitudes towards participation in boating) was used to formulate survey questions used in the quantitative phase of the study. This approach was considered necessary due to the sensitive nature of the ongoing debate about motorized boat use versus nonmotorized boat use in the area.

## 2.0 METHODS

Interviews with 20 land managers were conducted by phone or in-person in 2005. Nine state agency personnel, four commercial recreation property managers, and seven directors of nongovernmental organizations involved with land management were interviewed. Interviewees were asked to identify three important issues related to water-based recreation in the Saranac Lakes Wild Forest, and their beliefs and attitudes related to these issues. Interviews were recorded (with interviewee permission), transcribed, and analyzed. The issues most commonly mentioned were related to boat use in the area; thus, the

subsequent surveys focused on boating. Interviewees' beliefs and attitudes related to boating were used to write the statements included on the mail survey questionnaires.

In 2007, a mail survey was sent to 1,000 individuals who had registered to camp at the state campgrounds in the SLWF in 2006. The survey included questions about demographics, recreational experience, and trip characteristics for the 2006 calendar year. Respondents were also asked to indicate the degree to which they agreed or disagreed with statements about each of the three types of boating (Table 1) using a 5-point scale (-2 = strong disagreement, -1 = disagreement, 0 = neutral, 1 = agreement, and 2 = strong agreement). Because of space limitations on the questionnaires, statements related to motorboats referred only to boats with gas-powered engines, not electric motors.

Contact information for 1,000 campers was collected with the assistance of the New York State DEC. Specifically, a proportional sample of campers using one of the three state-managed campgrounds in the SLWF (Fish Creek, Rollins Pond, and Saranac Lake Islands State Campgrounds) in 2006 was randomly selected as follows: 564 campers were selected from Fish Creek, 366 from Rollins Pond, and 70 from Saranac Lake Islands.

The survey protocol based on Dillman (2000) consisted of four mailings, each 2 weeks apart. The first and third mailings contained the questionnaire, a postage-paid return envelope, and a cover letter; the second and fourth mailings were reminder postcards.

**Table 1.—Concepts and the corresponding statements used on the questionnaires**

Concept	Statement included on questionnaire
Behavioral beliefs	<ul style="list-style-type: none"> <li>• I believe that [type of boating] is harmless to the high quality and cleanliness of the SLWF's natural resources (e.g., lakes, ponds, and forests).</li> <li>• I believe that [type of boating] helps maintain a natural setting in the SLWF that is free of conflicts between [type of boater] and other water body users.</li> <li>• I believe that that [type of boating] preserves the peaceful, quiet natural setting of the SLWF.</li> </ul>
Attitude towards behavior	<ul style="list-style-type: none"> <li>• I have a positive attitude towards [type of boating] in the SLWF.</li> <li>• I think [type of boating], in general, is well suited to the natural setting of the SLWF area</li> <li>• I think [type of boating] is a good recreational activity to have in the SLWF.</li> </ul>

The DEC conducted the mailings of the camper survey with detailed instructions from and close monitoring by the researchers out of respect for privacy issues.

Nonresponse bias was examined by surveying 60 nonrespondents. Two independent-sample t-tests and z-tests ( $p < 0.05$ ) were used to identify significant differences between respondent and nonrespondent groups concerning demographic characteristics and attitudes towards the use of nonmotorized boats, motorized boats, and personal watercraft.

Data from completed questionnaires were entered into SPSS (Chicago, IL) to generate descriptive statistics for demographics, trip characteristics, and recreational experience. Recreational experience in various water-based recreational activities was based on the following scale: 0 = no participation in 2006; 1 = participated 1 or 2 times in 2006; 2 = 3 to 5 times; 3 = 6 to 10 times; 4 = 11 to 20 times; and 5 = more than 20 times. Responses to the questions concerning attitudes and beliefs were grouped into factors based on an exploratory and confirmatory factor analysis. Suitable fit in the confirmatory factor analysis was identified by a comparable fit index of 0.9 or greater, and a root mean square error of approximation of 0.05 or less (Hair et al. 1998). Three belief and three attitude questions for each type of boating were averaged together to obtain a value for each of the following six factors: beliefs towards (1) nonmotorized boating, (2) motorized boating, and (3) personal watercraft use, and attitudes towards (4) nonmotorized boating, (5) motorized boating, and (6) personal watercraft use. Factor means were calculated and the reliability of each factor was checked using Cronbach's alpha; an alpha of 0.70 or greater was considered suitable for further analysis (Hair et al. 1998). Correlations between beliefs and attitudes for each type of boating, and between recreational experience and attitudes towards each type of boating, were also calculated.

## 3.0 RESULTS

### 3.1 Response Rate

The response rate for campers was 46 percent (442 completed questionnaires out of the qualified

sample of 950 campers). The response rate for each campground was 43 percent for Fish Creek, 43 percent for Rollins Pond, and 60 percent for Saranac Lake Islands. Eighteen nonresponding campers completed and returned the short, one-page nonresponse questionnaire. Results from two independent-sample t-tests and z-tests indicate no significant differences ( $p < 0.05$ ) between respondents and nonrespondents for the following: the number of trips and camping trips made to the Saranac Lakes area in 2006; proportion of campers who had visited prior to 2006; proportions of campers who used motorboats, nonmotorized boats, and personal watercraft; and attitudes towards the use of nonmotorized boats, motorized boats, and personal watercraft.

### 3.2 Campground Use

From April through October 2006, 8,683 individuals registered for campsites in the Fish Creek, Rollins Pond, and Saranac Lake Islands State Campgrounds. The three campgrounds combined received an estimated 34,700 campers during this time (based on a group size of 4.0 people per site; this figure does not include those who camped on multiple sites in groups of 10 or more). Of the 1,000 campers included in the original survey sample, 56 percent had registered at Fish Creek State Campground, 37 percent at Rollins Pond, and 7 percent at Saranac Lake Islands. Of the total population of registered campers, 4,505 had registered to camp at Fish Creek, 2,916 at Rollins Pond, and 1,262 at Saranac Lake Islands. The average number of campers per campsite was 4.1 people for Fish Creek, 3.7 at Rollins Pond, and 4.3 at Saranac Lake Islands (these averages do not include those who camped on multiple sites in groups of 10 or more). These means were used to calculate the following estimates for total number of campers in 2006: 18,500 for Fish Creek, 10,800 for Rollins Pond, and 5,400 for Saranac Lake Islands.

### 3.3 Demographics

The average age of responding campers was 51 years with a range of 23 to 84 years. Sixty-three percent were males; 96 percent were Caucasian, 3 percent were of Native American descent, and less

than 1 percent each were African American or Asian. Respondents had an average of 15.7 years of education (i.e., 12 years of high school plus 3.7 years of college or vocational training). Respondents camped in groups of approximately five people (group size included the respondent). Most groups consisted of family (42 percent), friends (6 percent), or both (48 percent); 9 percent camped in groups of 10 or more. Of the 8683 registered campers in 2006, the majority were from New York State (5721 people or 67 percent). In addition, many campers also came from surrounding or nearby states (4 percent from New Jersey; 2 percent each from Massachusetts, Connecticut, and Vermont; 1 percent each from Ohio and New Hampshire) and Canadian provinces (11 percent from Quebec and 3 percent from Ontario). Demographic characteristics for campers using each state campground are shown in Table 2.

### 3.4 Trip Characteristics

Of the responding campers, 88 percent had visited the Saranac Lakes Wild Forest for recreational purposes before 2006. The average camper made 2.5 trips to the SLWF in 2006, an average of 1.8 of which were camping trips. The average trip was 4 days. Trip characteristics for campers using each state campground are shown in Table 2.

### 3.5 Participation in Recreational Activities

Campers participated in diverse recreational activities during their stays in the SLWF in 2006. They participated most often in nonmotorized boating, swimming, hiking, fishing, and camping (Table 3). Moderate percentages of respondents participated in motorboating (39 percent), while small percentages participated in personal watercraft use (8 percent) or hunting (6 percent).

Differences in the mean level of participation in activities in the SLWF in 2006 were also noted between campgrounds. For example, the mean level of motorboat use was higher for Fish Creek State Campground respondents than for either Rollins Pond or Saranac Lake Islands respondents. The mean level of nonmotorized boat use was higher for Fish Creek and Rollins Pond campers than for Saranac Lake Islands campers. The mean levels of participation in swimming, fishing, and personal watercraft use were similar for the three campgrounds.

### 3.6 Beliefs and Attitudes

The factor mean of belief towards nonmotorized boating was high and positive (factor mean = 1.31

**Table 2.—Demographic and trip characteristics of campers registered in the three state campgrounds in 2006**

Characteristic	Percentage of respondents by campground		
	Fish Creek <sup>a</sup>	Rollins Pond <sup>b</sup>	Saranac Lake Islands <sup>c</sup>
Gender	65% males 35% females	57% males 43% females	79% males 21% females
Age (average years)	51.6 years	50.2	46.9
Race	95% Caucasian 4% Native American <1% Black <1% Asian <1% Hispanic	97% Caucasian 2% Native American <1% Black <1% Asian	100% Caucasian
Education (average years)	15.4 years	15.9	17.2
Average number of Saranac Lakes trips	3.0 trips	2.0	1.4
Average number of Saranac Lakes camping trips	2.1 trips	1.6	1.3
Average days per trip	4.4 days	4.3	4.0
Average number in group	5 people	4	5

<sup>a</sup> n = 236

<sup>b</sup> n = 159

<sup>c</sup> n = 42

**Table 3.—Percent of responding campers (n = 416) by level of participation within SLWF in 2006 for each type of activity**

Type of recreational activity	n	Percent participation in 2006					
		Never	1 to 2 times	3 to 5 times	6 to 10 times	11 to 20 times	Over 20 times
Motorized boating (excluding personal watercraft)	416	61%	15%	10%	5%	4%	5%
Personal watercraft use	408	92	3	2	1	1	1
Nonmotorized boating (kayaking and canoeing)	434	14	20	30	18	10	8
Kayaking	411	42	24	16	10	4	4
Canoeing	422	26	30	23	13	4	4
Fishing	411	40	23	16	12	4	5
Hunting	384	94	2	1	1	1	1
Swimming	423	11	32	22	17	8	10
Hiking	422	12	40	30	10	5	3
Camping	437	2%	52%	22%	12%	5%	7%

on a scale of -2 [strong disagreement with belief statements] to 0 [neutral] to 2 [strong agreement with belief statements]). This number indicates that, in general, the average responding camper believed that nonmotorized boating does not negatively impact local natural resources or cause social conflicts. The factor mean for attitude towards nonmotorized boating (1.65) was also highly positive, indicating that the average responding camper had a positive attitude towards nonmotorized boating.

The beliefs and attitudes of campers towards motorized boat use varied. The average responding camper believed that motorized boating had a moderate, negative impact on the natural and social setting of the SLWF (factor mean = -0.95). However, the factor mean for attitude toward motorized boating was nearly neutral (-0.14).

The average belief of responding campers towards personal watercraft use was strongly negative (factor mean = -1.31). This value indicates that, in general, the average responding camper believed that personal watercraft use does negatively impact local natural resources and cause social conflicts. The factor mean for attitude towards personal watercraft use was moderately negative (-1.02), indicating that the average responding camper had a moderately negative attitude towards personal watercraft use.

### 3.7 Relationships between Beliefs and Attitudes

Positive, significant relationships were found between beliefs and attitudes for participation in each of the three types of boating ( $p < 0.01$ ). For participation in nonmotorized boating, a correlation ( $r$ ) of 0.501 was identified, while correlations of 0.741 and 0.736 were identified for motorized boating and personal watercraft use, respectively.

### 3.8 Relationships between Attitudes and Recreational Experience

The relationships between the level of recreation participation of respondents and their attitudes towards each of the three types of boating were examined using correlations. Significant, positive relationships ( $p < 0.05$ ) were found between the following: attitudes towards nonmotorized boating and participation in nonmotorized boating ( $r = 0.197$ ); attitudes towards motorized boating and participation in motorized boating ( $r = 0.586$ ); attitudes towards personal watercraft use and participation in personal watercraft use ( $r = 0.411$ ); attitudes towards motorized boating and participation in fishing ( $r = 0.277$ ); and attitudes towards personal watercraft use and participation in fishing ( $r = 0.122$ ). Significant, negative relationships were identified between: participation in nonmotorized

boating and attitudes towards personal watercraft use ( $r = -0.104$ ); participation in motorized boating and attitudes towards nonmotorized boating ( $r = -0.296$ ); participation in personal watercraft use and attitudes towards nonmotorized boating ( $r = -0.164$ ); and participation in fishing and attitudes towards nonmotorized boat use ( $r = -0.141$ ).

#### 4.0 DISCUSSION AND CONCLUSION

Boating is an important traditional activity in the Saranac Lakes Wild Forest. Accordingly, survey responses indicate generally strong beliefs about and/or attitudes toward the three types of boating. Participation in nonmotorized boat use was perceived very positively, while motorboating had a strongly negative belief but neutral attitude; personal watercraft use was associated with strongly negative beliefs and attitudes. The negative belief and neutral attitude towards motorized boating is understandable in the context of the SLWF, where motorboating is a long-standing tradition in the area. Because of the importance of this activity to campers, there is a positive attitude towards motorboating overall, even though the average respondent believed that the activity had some negative environmental and social impacts. There were positive, significant relationships between beliefs and attitudes towards each type of boating, indicating that beliefs likely do influence attitudes as indicated by the Theory of Planned Behavior (Ajzen 1991).

When relationships between recreational participation and attitudes were analyzed, significant correlations were found between participation in boating activity and attitudes toward the three types of boating. Respondents who frequently participated in a type of boating had more positive attitudes towards that activity. Conversely, the more frequently respondents participated in nonmotorized boating, the less positive were their attitudes towards motorized boating and personal watercraft use. Similarly, the more frequently respondents participated in motorized boating or personal watercraft use, the less positive were their attitudes towards nonmotorized boating. These findings can be explained in light of a current conflict

in the area: some nonmotorized boaters have sought to further restrict motorized boat use and some motorized boaters have been irritated by this suggested change in the regulations.

Overall, understanding the perceptions of stakeholder groups can be essential to residents and land managers as they seek to enhance the local quality of life and create opportunities for recreation. This study indicates that the campers who provided information are concerned about conserving the quality of the natural resources in the SLWF. Furthermore, understanding the attitudes and beliefs related to each type of boating can help land managers identify issues of consensus and/or conflict between different user groups (e.g., nonmotorized boat users and motorized boat users). Developing consensus is an essential goal as land managers seek strategies to provide positive recreational experiences for users of the SLWF.

#### 5.0 ACKNOWLEDGMENTS

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