ABSTRACT

BRADSHER, DEBRA JO. The Relationship Between Past Experience and Multiple-use Trail Conflict. (Under the direction of Dr. Roger L. Moore)

The purpose of this study was to test the relationship between past experience in several trail activities and conflict due to encounters with trail users engaged in those activities. This research question involved the following trail activity groups: runners, walkers or hikers, mountain bikers, horseback riders, and users with dogs. Data were collected through on-site interviews with 421 trail users in the Greater Snow King Area of the Bridger-Teton National Forest near Jackson, Wyoming from July 17 to August 11, 2002. Conflict was assessed by asking participants to rate their increased/decreased enjoyment due to encounters with each of the other user groups. Past experience in an activity was determined by whether a participant had ever participated in that activity on any trail. In tests of the relationship between past experience in an activity and conflict due to encounters with participants of that activity, results indicated that two were statistically significant at the .05 level (running and walking dogs). Trail users who had participated in the activity in the past experienced less conflict when encountering that group than did respondents who had never done the activity before. Likewise, those who had participated in an activity in the past were more likely to experience increased enjoyment due to encounters with that group than were trail users who had never done the activity before. This pattern held for running, mountain biking, horseback riding, and dog walking although it was not significant at the .05 level in the cases of mountain biking and horseback riding. The relationship between past experience walking or hiking and conflict due to walkers or hikers could not be tested because

only two respondents indicated that they had never walked or hiked on a trail. Trail users with past experience in an activity may have experienced less conflict when encountering that group because they better understood the requirements of the activity or because they saw the other users as having lifestyles, values, and/or attitudes similar to their own. Findings suggest that efforts to promote tolerance for other user groups may reduce the occurrence of conflict among trail users. Other implications for management and further research are discussed.

THE RELATIONSHIP BETWEEN PAST EXPERIENCE AND MULTIPLE-USE TRAIL CONFLICT

by

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Chair of Advisory Committee

PERSONAL BIOGRAPHY

Debra Jo Bradsher was born in Raleigh, North Carolina. She has always loved exploring the outdoors, from the mountains to the coast, all over the United States, and in parts of Europe. She received her Bachelor of Science degree in Business Administration from the University of North Carolina at Chapel Hill. Debra was a Certified Public Accountant, working in both the public and private sector, for 17 years. She decided to pursue a new career in a field that would allow her to do what she loved: spend time outdoors. Armed with new knowledge and skills, Debra looks forward to the adventures and challenges her new career will bring.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

Americans love to recreate outdoors; in fact, in 1994-95, it was estimated that 94.5% of all Americans 16 years of age or older participated in outdoor recreation annually (Cordell, Betz, Bowker, English, Mou, Bergstrom, Teasley, Tarrant, & Loomis, 1999). Many Americans recreate on trails, enjoying nature while participating in myriad activities including hiking, biking, horseback riding, running, backpacking, bird watching, and wildlife viewing. The USDA Forest Service estimates that the number of trips with hiking as the primary purpose will increase from 557.7 million trips in 1995 to 847.7 million trips by the year 2050 (Cordell, et al.) The increasing demand on recreation areas concerns managers who seek to provide opportunities for satisfying recreation experiences. Growing numbers of recreationists can lead to problems, such as crowding, deteriorating site conditions, and conflict among users. Problems, in turn, can lead to dissatisfied users.

One of the problems that managers face is conflict among recreationists. Users that experience conflict may be unable to achieve their recreation goals and, consequently, may be dissatisfied with their recreation experience. Although past research indicates that the majority of users do not experience recreational conflict, those who do often consider it a serious problem (Moore, Scott, & Graefe, 1998). Managers and planners are concerned about conflict because it prevents users from achieving the desired outcomes of their recreation. Understanding the factors that can cause conflict is vital for managers and planners seeking to reduce or eliminate its occurrence.

A large and growing body of research has advanced our understanding of recreational conflict by defining the concept and examining factors that can lead to conflict among users. Jacob and Schreyer (1980) defined conflict as "goal interference attributed to another's behavior" (p. 369). An individual who is unable to attain their recreation goals, and attributes the source of goal interference to another's behavior, experiences conflict. Factors that can produce conflict include activity style, resource specificity, mode of experience, and lifestyle tolerance, according to Jacob and Schreyer's theory. Over the past twenty years, considerable research has tested these and other factors in order to increase understanding of recreation conflict and the variables related to it. Although considerable progress has been made, much work remains to be done. The role of past experience is one area where little research has been conducted.

Past experience in a recreation activity does appear to have some bearing on whether or not participants experience conflict when encountering other trail users. Past experience fits into the "activity style" factor in Jacob and Schreyer's (1980) conflict model and relates to one's range of experience and skill. Conflict research has predominantly explored differences between participants in an activity group based on their past experience with that same activity. For example, Schreyer and Lime (1984) investigated the variations in motivations and subjective evaluations of novice river users compared to those with more river experience. A few studies have examined whether past experience in other activities affected conflict among user groups. Jackson and Wong (1982) found that cross country skiers and snowmobilers tended to participate in distinctly different recreational activities with

skiers preferring self-propelled activities and snowmobilers preferring machine-oriented activities. Researchers have noted that many trail users participate in multiple activities and do not strongly identify with one particular activity group (Watson, Zaglauer, & Stewart, 1995; Carothers, Vaske, & Donnelly, 2001). Thus, the attitudes of participants toward other activity groups may be influenced by their own past experience in those other activities. Therefore, this study was designed to explore the role of past experience in an activity and how users' experiences were affected by encounters with others engaged in those activities.

Research Question

The purpose of this study was to explore the relationship between past experience in an activity and whether or not trail users experienced conflict due to encounters with others engaged in that activity. This research question involved the following groups: runners, walkers or hikers, mountain bikers, horseback riders, and users with dogs.

LITERATURE REVIEW

This chapter provides a review of the literature pertinent to this study. The review is divided into three sections. The first section defines outdoor recreation conflict and reviews its many nuances. Next, the concept of past experience is described. The last section discusses measures that have been used to operationalize the conflict and past experience constructs.

Defining Conflict in Outdoor Recreation

People recreate to achieve certain outcomes or goals (Jacob & Schreyer, 1980). Gramann and Burdge (1981) define goals as " any preferred social, psychological or physical outcome of a behavior that provides incentive for that behavior" (p. 17). For example, a family hike in the woods may meet the social goal of spending time with family, the psychological goal of reducing stress, and the physical goal of getting some exercise. There are many reasons someone might not be able to meet their recreation goals. One of the reasons is conflict.

Jacob and Schreyer define conflict as "goal interference attributed to another's behavior" (p. 369). If an individual experiences dissatisfaction in attempting to achieve their goals and the source of goal interference is attributed to another's behavior, then conflict results. Conflict is not the same as competition for scarce resources. Nor is conflict an objective state, rather it is an individual's interpretation and evaluation of past and future social contacts. Jacob and Schreyer

4

define social contacts as knowledge of another's behavior, and indicate contact can be direct, as in face-to-face, or indirect, as in seeing litter along a trail.

Jacob and Schreyer (1980, p. 370) hypothesize that there are four major classes of factors which can produce conflict:

Activity Style – the various personal meanings assigned to an activity.

Resource Specificity – the significance attached to using a specific recreation resource for a given recreation experience.

Mode of Experience – the varying expectations of how the natural environment will be perceived.

Lifestyle Tolerance – the tendency to accept or reject lifestyles different from one's own.

The researchers point out that any one of these factors is sufficient to cause conflict, but that conflict is more likely caused by a combination of factors.

Based on Jacob and Schreyer's (1980) theoretical model and subsequent conflict research, Watson, Niccolucci, and Williams (1994) label the major domains likely to influence conflict as: (a) specialization level, (b), definition of place (c) focus of trip/expectations, and (d) lifestyle tolerance. Their research indicates these factors may best predict a *predisposition* toward conflict rather than predicting goal interference itself.

Conflict is frequently asymmetrical, or one-way, as when one type of user feels conflict attributable to a second type of user although the reverse does not hold true (Jacob & Schreyer, 1980). For example, Adelman, Heberlein, and Bonnicksen (1982) found that canoeists dislike encountering motorcraft users, while motorcraft users enjoy meeting canoeists. Other studies have found asymmetrical conflict

between hikers and mountain bikers (Ramthun, 1995; Watson, Williams, & Daigle, 1991), hikers and stock users (Watson, et al., 1994), cross country skiers and snowmobilers (Jackson & Wong, 1982), hunters and nonhunters (Vaske, Donnelly, Wittmann, & Laidlaw, 1995), and walkers, runners, in-line skaters, and bicyclists (Moore, Scott, & Graefe, 1998).

Study findings show that conflict often occurs between motorized or mechanized users and non-motorized or non-mechanized users. Examples include conflicts between paddling canoeists and motorcraft users (Adelman, et al., 1982), cross country skiers and snowmobilers (Jackson & Wong, 1982), and hikers and mountain bikers (Watson, et al., 1991).

Conflict can result when new or nontraditional activities are introduced in recreation areas. Gibbons and Ruddell (1995) examined conflict between helicopter skiers and non-motorized backcountry users, while Vaske, Carothers, Donnelly, and Baird (2000) studied snowboarders and skiers. Conflict between mountain bikers and hikers was studied by Watson, et al. (1991), and Blahna, Smith, and Anderson (1995) researched encounters between llama packers, horseback riders, and hikers.

Conflict can be interpersonal, where interactions among visitors leads to problems, or it can develop from causes related to social values. Vaske, et al. (1995, p. 206) defined social values conflicts as those that "can arise between groups who do not share the same norms and/or values, independent of the physical presence or actual contact between the groups." The researchers explored this distinction in a study of hunters and nonhunters and found conflicts with hunting were mostly due to differences in social values held by the two groups. Blahna, et

6

al. (1995) explored social values conflict by investigating visitors' perceptions of the social acceptability of llama packing, and social values conflict between hikers and mountain bikers was assessed by Carothers, Vaske, and Donnelly (2001).

Jacob and Schreyer (1980) considered tolerance for lifestyle diversity (the tendency to accept or reject lifestyles different from one's own) to be a major factor related to conflict. They said "unwillingness to share resources with members of other lifestyle groups is an important source of conflict in outdoor recreation" (p. 376). "If group differences are evaluated as undesirable or a potential threat to recreation goals, conflict results when members of the two groups confront one another" (p. 377). The concept boils down to evaluating the differences, and seeing others as different. People often label or stereotype others and make value-laden judgements about them regarding their assumed threat to one's goals. The results of the evaluation affect whether someone is tolerant or intolerant of another.

Research into lifestyle tolerance has supported this notion. Adelman, et al. (1982) found asymmetric conflict persisted between canoeists and motorboaters, in part, because motorboaters perceived paddlers as having similar values and attitudes, while paddlers perceived motorboaters as having different values and attitudes. Ramthun (1995) examined conflict between hikers and mountain bikers and found that out-group evaluation (hikers' evaluations of bikers and bikers' evaluations of hikers) had a statistically significant effect on sensitivity to interference. He concluded that the stereotyping process leads individuals to make assumptions about the probable behavior of other groups, and these assumptions affect the individuals' sensitivity to interference from those groups.

Differing norms, motivations, and expectations can also be related to conflict among users. Ruddell and Gramann (1994) found that visitors whose individual norms for radio volume were equal to or less tolerant than the social norm were more likely to experience goal interference due to loud radios. Differing motivations played a role in conflict between cross country skiers and snowmobilers in a study by Jackson and Wong (1982). Skiers preferred solitude, tranquility and an undisturbed natural environment while snowmobilers preferred adventure and social interaction. Fulfillment of expectations influenced conflict for canoeists in a study by Ivy, Stewart, and Lue (1992). Canoeists who expected fewer motorboats than they saw experienced more conflict, likewise those expecting more motorboats reported less conflict. In addition, fulfillment of expectations coupled with tolerance (defined as one's willingness to share resources with other activity groups) explained 40% of the conflict experienced by canoeists.

In an expansion of the original conflict model theorized by Jacob and Schreyer (1980), Ramthun (1995) developed a model to test whether the relationship between factors producing conflict and the occurrence of conflict is mediated by sensitivity to interference. He found that two factors (out-group evaluation and years of participation) predicted respondents' sensitivity to the behavior of the other user group, and sensitivity affected the attribution of conflict due to that user group.

Conflict can occur among different user groups (out-group) and among different users within the same user group (in-group) (Moore, 1994). Vaske, et al. (2000) used Jacob and Schreyer's (1980) four factors hypothesized to relate to

conflict to examine out-group and in-group conflict between skiers and snowboarders. Only activity style (measured by frequency of participation, investment in equipment/clothing, and ability) significantly related to both out-group and in-group conflict for both skiers and snowboarders. The influence of other factors varied according to activity and type of conflict (out-group or in-group). The researchers suggest that Jacob and Schreyer's model may be better suited to addressing conflict between activities rather than within activities.

Most conflict research has classified visitors into either one activity group or another without exploring the option of dual-sport groups. Watson, Zaglauer, and Stewart (1995) pointed out that many visitors do not strongly identify with only one of the study groups, for example, many mountain bikers also hike. Carothers, et al. (2001) concurred that dual-sport participants should be analyzed separately from hikers or mountain bikers. Watson, et al. (1995) found those who only hiked were twice as likely to experience conflict with mountain bikers than those with a strong hiking orientation who also biked. These results supported the researchers' suggestion that the attitudes of visitors toward participants in other activities may be influenced by their own past experience in the other activities.

Past Experience

Past experience in a recreation activity fits into the activity style factor of Jacob and Schreyer's (1980) conflict model as it relates to one's range of experience and skill. Watson, et al. (1994) included past experience as a component of specialization, along with commitment and involvement. Past research has

described this construct as many things including "experience use history" (EUH), recreation specialization, and past experience.

Past experience has been used to understand river users' perceptions of resource disturbances and management actions (Hammitt & McDonald, 1983) and horseback riders' preferences for facilities, programs, and services (Hammitt, Knauf, & Noe, 1989). Schreyer and Lime (1984) investigated the variations in motivations and subjective evaluations of novice river users compared to those with more river experience. Hammitt and Patterson (1991) examined the influence of past experience in backpacking on use of coping behaviors to avoid visitor encounters. McFarlane, Boxall, and Watson (1998) tested the influence of past experience on recreation site choice.

Schreyer, Lime, and Williams (1984) hypothesized that differences in experience use histories (EUH) of river users would account for differences in subjective evaluations of the recreation experience, including perceptions of conflict. EUH refers to the amount and types of participation by an individual in recreation pursuits. This measure may explain differences among recreationists because it represents a frame of reference through which people evaluate participation and suggests differing motives for participation. Results indicated river users classified as "novices" and "beginners" were least likely to perceive conflicts among river users, while "veterans" and "locals" were most likely to perceive conflict.

In a conflict study examining cross country skiers and snowmobilers, Jackson and Wong (1982) found differences between the two groups in terms of their "recreation orientation." Users' recreation orientation was expressed by participation

in other recreational activities. Results showed a distinct polarization whereby skiers preferred self-propelled, low-impact activities and snowmobilers preferred machine-oriented, extractive activities (hunting, fishing). Given that the two groups were seeking quite different kinds of experiences, it is not surprising that there were conflicts between the two groups.

Classification of visitors into groups based on the activity they were involved in when they were interviewed for a study, without regard to their past experience in other recreation activities, may hinder our ability to understand conflict (Watson, et al., 1995). The researchers classified hikers and mountain bikers based on trip-specific and past activity participation in the study area, generating four study groups as opposed to just two (hikers and bikers). Users with "strict hiking orientations" had never biked in the study area and did not bike on this trip, while the opposite was true for users with "strict biking orientations." Those with "strong hiking orientations, but bike" had both hiked and biked, on this trip or other trips, but had hiked more times than they had biked during the last twelve months; again, the opposite was true for those with "strong biking orientations, but hike." Results indicted conflict due to encounters with other groups was twice as high for users with "strict hiking orientations" than for users with "strong hiking orientations, but bikes." The researchers note that assessing this crossover between user groups provides more discriminant variables and may lead to better conflict research.

Measures of Conflict and Past Experience

"There has never been agreement on how recreation conflict should be measured" (Watson, 1995, p. 237). Interpersonal conflict (due to encounters with others) has commonly been measured by a set of forced-choice questions asking respondents to evaluate specific encounters (enjoyed, did not mind, or disliked meeting other types of users) or by assessing general disposition toward other groups based on Likert scale responses (very desirable – undesirable) (Watson, et al., 1994). These researchers tested three different conflict measures: (1) whether a hiker likes or dislikes a specific set of encounters with stock on a wilderness trip, (2) whether, in general, a hiker finds it desirable or undesirable to encounter stock in the wilderness, and (3) whether specific behaviors of stock users have interfered with the hiker's enjoyment of visits to the wilderness. Seventeen items, assessing aspects of all four factors in the conflict model (definition of place, specialization level, focus of trip/expectations, and lifestyle tolerance) were used to predict how visitors would respond on the conflict measures. Results indicated the model for the like/dislike conflict measure had the greatest predictive ability and included variables representing all four factors of Jacob and Schreyer's (1980) conflict model.

Past experience has been assessed using various measures of experience use history, an experience index, and multivariate analyses. Schreyer, et al. (1984) created a nominal scale EUH variable constructed from three ordinal scales measuring: (1) number of times respondent had floated the study river, (2) number of rivers the respondent floated, and (3) number of river trips the respondent made. Hammitt and McDonald (1983) created an ordinal scale, experience index, by

mathematically combining four experience variables (total years floating, frequency of floating per summer, total years of floating the study river, and frequency of floating the study river per summer). Watson and Niccolucci (1992) discussed the shortcomings of these two past experience measures, and suggested alternative analysis techniques (factor analysis and principal-component analysis of various measures) that would allow the objective combination of variables and maintain the multidimensionality of the past experience construct.

Summary

Over the past twenty years, considerable research has tested the four factors in Jacob and Schreyer's (1980) conflict model in order to increase understanding of the concept of recreational conflict and the variables related to it. Research has explored the many nuances of conflict, refined its definition, advanced new terminology, and expanded the early model. Because past experience in an activity appears to be an important part of the activity style factor in Jacob and Schreyer's conflict model, understanding the relationship between past experience and conflict is essential. Research has predominantly explored differences between participants in an activity group based on their past experience with that same activity. Few studies have examined whether past experience in other activities affects conflict among user groups, however. This study attempts to build on the existing literature by testing the relationship between past experience in several activities and conflict due to encounters with users engaged in those activities.

METHODOLOGY

This chapter describes the methodology used in this study. It includes a description of the study area, sample, data collection methods, instrumentation, and analyses.

Study Area

The study area was the Greater Snow King Area trail system in northwest Wyoming. The Greater Snow King Area (GSKA) lies within the Bridger-Teton National Forest, bordered on the north by the town of Jackson, Wyoming and on the east by the Gros Ventre Wilderness. The GSKA includes Snow King (mountain and ski resort), Cache Creek, Game Creek, and Leeks, Adams, Smith, and Wilson Canyons. The Jackson Ranger District of the USDA Forest Service manages this approximately 20,000-acre area which is valued for its high quality outdoor recreation opportunities, and is home to many wildlife species including elk, moose, and deer.

The GSKA trail system is a network of 13 trails along old roadbeds and single-track routes that totals approximately 40 miles. The GSKA's close proximity to the town of Jackson contributes to heavy use of its multiple-use trails. Access to the trail system is provided by four primary trailheads, six secondary trailheads, and three neighborhood access sites. Ten of the thirteen access points are within the town limits, two are to the south, and one to the east. A variety of users frequent the trails, including walkers, hikers, runners, mountain bikers, and horseback riders.

For purposes of this study, the USDA Forest Service staff identified the four most heavily used trailheads among the thirteen access points in the GSKA trail system. The selected trailheads were Snow King, Cache Creek, Game Creek, and Josie's Ridge. Three of these trailheads were within the town limits, and the fourth was approximately seven miles south of Jackson. These four trailheads provided direct access to five of the thirteen trails in the GSKA trail system and accounted for approximately half of the forty miles of trail available. Due to the interconnectedness of the trail system, it is possible that users from other trails were included in the sample, adding to the number of trails and mileage covered.

Sample and Data Collection

The study sample consisted of trail users exiting the GSKA trail system at the four trailheads. Care was taken to sample only those users who had been on the GSKA trails. Users of the paved town trail adjacent to the Josie's Ridge trailhead, and not Josie's Ridge or K-C Trails, were not included in the study. Tourists and others at the Snow King trailhead who rode the chairlift up and down the mountain, but did not use the Snow King trail, were not included in the study.

Sampling occurred five days a week over a four-week period, from July 17 to August 11, 2002. Each sample day was divided into four three-hour sampling periods, beginning at 8:30 am and ending at 8:30 pm (8:30 am – 11:30 am, 11:30 am – 2:30 pm, 2:30 pm – 5:30 pm, 5:30 pm – 8:30 pm). A predetermined systematic sampling schedule was used to ensure that all days of the week, time periods, and trailheads were adequately represented. Thirty-two, three-hour sampling sessions

15

were conducted, with each of the four trailheads sampled during all four time periods on both weekdays and weekends.

All study data were gathered through interviews conducted on-site at the predetermined locations and times by the principal investigator, who was dressed in a Forest Service shirt and shorts. A short script was used to communicate that the Forest Service was conducting a study on the trails in the GSKA, and to gain the user's agreement to participate. All trail users 18 years of age or older exiting GKSA trails at the trailhead were approached and asked to participate. If the interviewer was uncertain of a trail user's age, she asked the user whether he or she was 18 or older. The interviewer sought to speak with all GSKA trail users exiting at the trailheads. However, at the Snow King and Cache Creek trailheads, there were multiple trail access points such that a few trail users could bypass the interviewer's position. The number of users missed was considered insignificant and not a threat to the collection of a representative sample. Each participant completed only one questionnaire, even if the person was encountered on other sample days at one of the designated trailheads.

Trail users who agreed to participate in the study were given a clipboard with an eight-page self-administered questionnaire. Most users completed the questionnaire on site in fifteen to twenty minutes. If a user was not willing to complete the questionnaire at that time, he or she was allowed to take the questionnaire and asked to drop it off at the USDA Forest Service office in Jackson or mail it to the interviewer. Envelopes and postage were not provided as it was expected that most users would complete the survey on site. In order to track

surveys taken home, a record was kept of such users' names and addresses, along with the survey number.

In addition to administering the questionnaire, the interviewer completed an on-site observation instrument for each trail user encountered. The observation instrument allowed the interviewer to gather some information on those who declined to participate and those who took the questionnaire home, as well as those who completed the questionnaire on site. The data collected by observation allowed testing for non-response bias between participants and non-participants in the written questionnaire. No significant differences were found between these two groups in terms of the primary activities of horseback riding, mountain biking, and running. However, fewer walkers/hikers responded to the written questionnaire than expected based on the proportion observed in those activities.

The interviewer encountered 421 trail users during the survey period. Seventy-three trail users declined to participate. Two hundred eighty-four users completed the questionnaire on site. Sixty-four trail users took the questionnaire home; of these 31 were returned and 33 were not. Of the 421 users encountered, 315 completed questionnaires were obtained for a response rate of 75%.

Instrument

The survey instrument was an eight-page self-administered questionnaire containing five sections of close-ended and open-ended questions. It was developed with input from USDA Forest Service staff, and was pretested on trail users in Raleigh, NC prior to the study. The five sections focused on: (1) the

respondent's visit to GSKA that day, (2) the trail user's GSKA experience that day, (3) the respondent's past experience in trail activities, (4) the trail user's opinions regarding GSKA trails and trail maintenance, and (5) the user's demographic characteristics. A copy of the survey instrument is included as Appendix A.

The primary focus of this study was conflict among trail users; thus, conflict was the dependent variable. In Part II of the survey instrument, a series of three questions served to operationalize conflict with each of the following groups: runners, walkers or hikers, mountain bikers, horseback riders, and users with dogs. The first question asked, "Approximately how many people did you see *running* during your trail visit today?" Respondents filled in a number. The second question read, "How did your encounters with people *running* affect your enjoyment today?" Respondents circled a number on a 7-point scale with -3 indicating greatly reduced enjoyment, 0 equaling no effect on enjoyment, and +3 indicating greatly increased enjoyment. The last question asked, "If applicable, briefly describe how people *running* reduced or increased your enjoyment today." Respondents answered in an open-ended format. This series of three questions was repeated for walkers or hikers, mountain bikers, horseback riders, and users with dogs. This conflict measure replicates that used by Moore, Scott, and Graefe (1998).

Past experience in recreational activities was the principle independent variable in this study, and the subject of Part III of the survey instrument. Past experience was operationalized with the question: "Which of the following activities have you *ever engaged in on any trail*." A list of 12 activities plus an "other" category

followed. The list of activities spanned summer, winter, motorized, and non-motorized pursuits. Respondents checked all of the 13 trail activities that applied.

Analyses

Data were entered, checked for errors, and analyzed using the STATA statistical package. Pearson's chi-squared and Fisher's exact test were used to test for relationships between past experience in an activity and whether or not the respondent experienced conflict with that user group on the day of the interview. Responses to open-ended questions and any additional comments were recorded verbatim, content analyzed by two raters, and tabulated.

RESULTS

This chapter describes the results of the study analyses and is organized into five sections. The first section describes the characteristics of the Greater Snow King Area trail users. Information concerning the trail users' visits that day comprises the second section. The third section delves into the users' past experience with trail activities. The amount and sources of conflict felt by trail users is the subject of section four. The last section examines the relationship between past experience and conflict.

User Characteristics

Information about the characteristics of the study respondents adds to our knowledge of trail users in the Greater Snow King Area (GSKA) and similar trail systems. Of the 421 users encountered, 247 (59%) were female (Figure 1). The ages of study respondents ranged from 18 to 71 years of age, with an average of 38.3 years and a median age of 36. Recall that GSKA trail users under the age of 18 were excluded from the study. The majority of respondents (59.2%) were 39 years of age or younger (Figure 2).
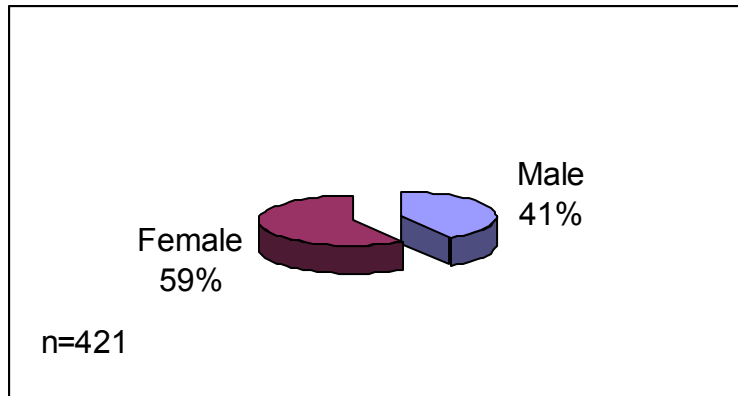
Figure 1. Gender of Respondents

Male
41%

Female
59%

n=421

100 | 30.6% | 28.6%
80
60 | | 17.6% | 15.9%
40
20 | | | | | 6.0%
0 | | | | | | 1.3%

Frequency

18-29 30-39 40-49 50-59 60-69 70-79

Age Range

n = 301
Mean = 38.3
Median = 36
Standard Deviation = 12.9
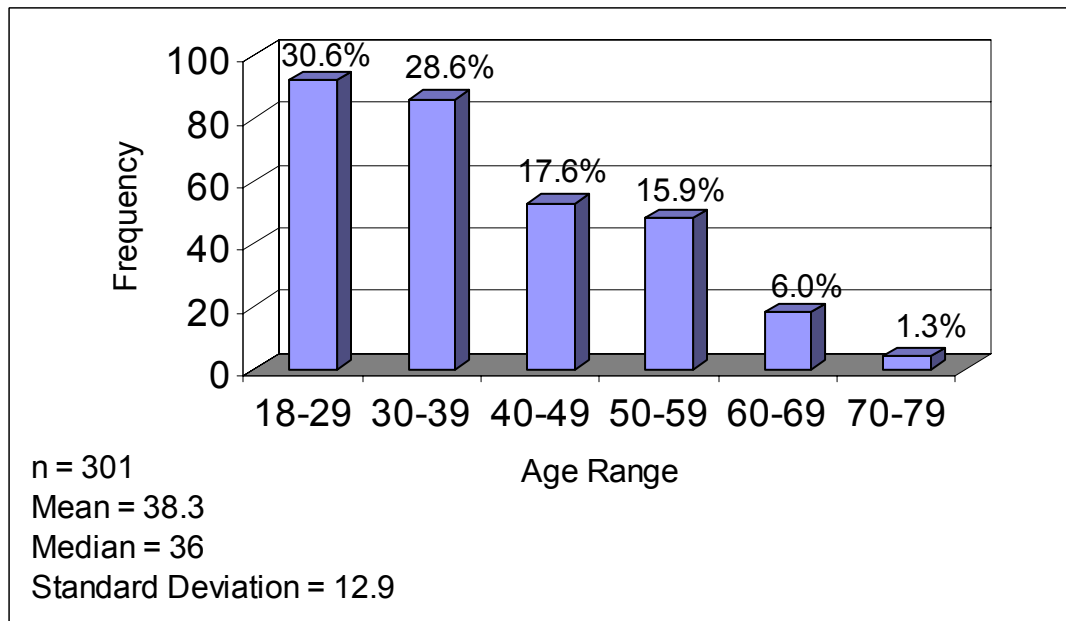
Figure 2. Age of Respondents

The Jackson Hole valley is a well-known Wyoming resort area, in close
proximity to Grand Teton and Yellowstone National Parks. In the summer, the area
is teeming with tourists. Jackson also sees a large influx of part-time residents
vacationing at second homes or working seasonal jobs with local businesses,
national parks, and national forests. Study respondents were asked to describe their

resident status with respect to the Jackson Hole area. The majority (62%) indicated they were full-time residents there, 14% were part-time residents, and 24% were not residents of the area at all (Figure 3). Of the 43 respondents indicating they were part-time residents, 52% lived in the area while working a seasonal job and 19% had a second home there. Full and part-time residents were asked how long they had lived in the Jackson Hole area, and responses ranged from 2 weeks to 55 years (Table 1). The average length of residence was 9.8 years and the median was 7 years.
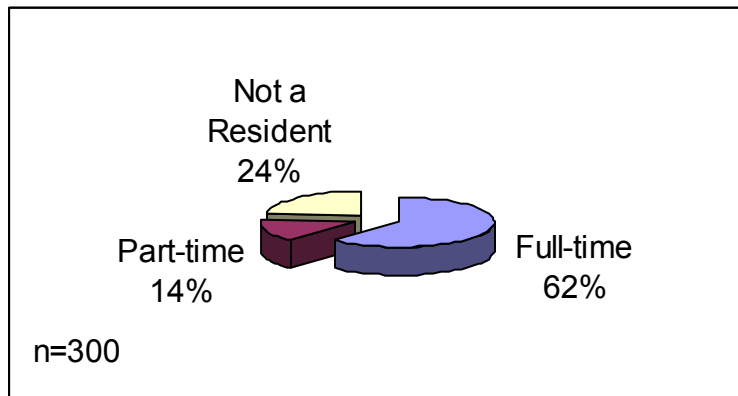
Figure 3. Respondent's Resident Status Regarding the Jackson Hole Area

Table 1. Length of Residency in Jackson Hole Area[1]

Number of years	Frequency	Percent
Less than or equal to 1	29	13.5%
1.1 – 5	60	27.9
5.1 – 10	52	24.2
10.1 – 15	27	12.6
15.1 – 20	20	9.3
20.1 or more	27	12.5
Total	215	100.0%

Mean = 9.8
Median = 7
Standard Deviation = 9.3
[1]Asked of full or part-time residents only

Trail User's Visit That Day

      The following information was derived from questions asking about the trail user's visit to the GSKA trail system on the day that they completed the on-site study questionnaire. When asked how many miles it was from their home to the trailhead used that day, responses ranged from 0 to 6,000 miles with 54.4% indicating they traveled 5 or fewer miles (Table 2). Visitors from England and Switzerland skewed the average distance traveled (240.8 miles), making the median distance of 5 miles a more accurate descriptor of the response distribution.

Table 2. Distance Traveled From Home to Trailhead

One-way distance in miles	Frequency	Percent
Less than or equal to 1	76	24.8%
1.1 - 5	91	29.6
6 - 10	55	17.9
11 - 20	24	7.8
21 - 100	9	2.9
101 - 500	20	6.5
501 - 1000	10	3.3
1001 - 2000	14	4.6
2001 - 3000	4	1.3
3001 or more	4	1.3
Total	307	100.0%

Mean = 240.8
Median = 5
Standard Deviation = 777.0

      Despite the short distance traveled from home to the trailhead for many users, the majority (66%) drove to the trailhead on the day they were interviewed (Figure 4). Over a quarter of the users did travel to the trail under their own power (e.g. walk, run, or bike), however.
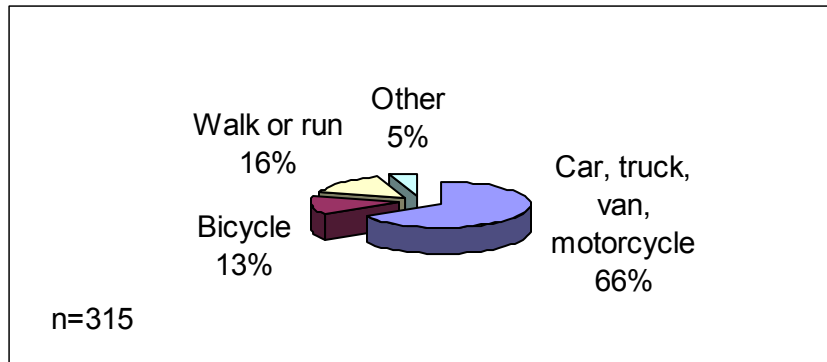
Figure 4. Mode of Travel

Trail users generally spent 90 minutes or less on the GSKA trails, although responses ranged from fifteen minutes to six and one-half hours (Table 3). When asked to describe the group the trail user was with during that particular visit to the GSKA trails, 46% indicated they were alone (Figure 5). Groups of family and/or friends accounted for 51% of the responses. Although many respondents indicated there was only one person in their group that day, 34% of the trail users were in groups of two people. In addition, 42% of the trail users brought dog(s) with them. The vast majority of trail users had visited the GSKA trails before, only 17% of respondents indicated this was their first visit to the trails.

Table 3. Length of Trail Visit That Day

Length of time	Frequency	Percent
Less than or equal to 1 hour	139	44.1%
61 minutes – 2 hours	137	43.5
121 minutes – 3 hours	25	7.9
181 minutes – 4 hours	11	3.5
More than 4 hours	3	1.0
Total	315	100.0%

Mean = 1.5
Median = 1.5
Standard Deviation = 0.9
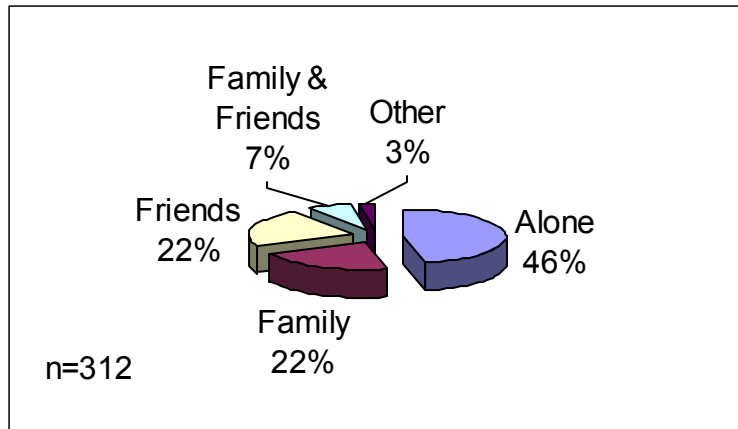
Figure 5. Group Type for That Trail Visit

Trail users were asked what their primary activity was during their trail visit that day. Respondents were instructed to check only one activity from a list of five, or to specify another activity. Hiking was the predominant response, followed by mountain biking and walking (Table 4). Eighteen of the twenty-two "other" responses were combinations of the five listed activities.

Table 4. Primary Activity During That Trail Visit

Response	Frequency	Percent
Hiking	123	39.4%
Mountain Biking	66	21.2
Walking	63	20.2
Running	33	10.6
Horseback Riding	5	1.6
Other	22	7.0
Total	312	100.0%

Trail users rated their trail experience that day on a scale from one to ten, with ten being the best possible trip. Overall, users were quite satisfied. The average response was 8.4, the median was 9, and the standard deviation was 1.7.

User's Past Experience With Trail Activities

In order to gauge respondents' past experience in trail activities, they were asked "Which of the following activities have you *ever engaged in on any trail*." A list of 12 activities plus an "other" category was provided and respondents checked all of the activities that applied. The list of activities spanned summer, winter, motorized, and non-motorized trail pursuits. Only two people (0.6%) indicated they had never walked or hiked on any trail before (Table 5). More than half of the respondents had participated in six of the twelve trail activities, and the motorized pastimes had the smallest numbers of participants for this sample.

Table 5. Number of Respondents Who Had Ever Participated in Various Trail Activities

Activity	Number who had participated	Percent	n
Walking or hiking	310	99.4%	312
Walking dog(s)	223	71.5	312
Running	222	71.2	312
Mountain biking	218	69.9	312
Backpacking (overnight)	209	67.0	312
Cross country skiing	207	66.3	312
Snow shoeing	143	45.8	312
Horseback riding	136	43.6	312
Snowmobiling	91	29.2	312
Using four wheel drive vehicles	66	21.2	312
Using all-terrain vehicles	41	13.1	312
Using motorcycles	30	9.6	312
Others	27	8.7	312

Amount and Sources of Conflict

The amount of conflict, if any, experienced by trail users during their visit to the GSKA that day was assessed by asking a series of three questions regarding users' trail encounters that day with each of the following groups: runners, walkers or hikers, mountain bikers, horseback riders, and users with dogs. As an example, respondents were asked: (1) to enumerate how many runners they had seen during that visit, (2) to rate how their encounters with runners affected their enjoyment that day, and (3) to describe how (if at all) their encounters with runners affected their enjoyment. This series of questions was repeated for walkers or hikers, mountain bikers, horseback riders, and users with dogs.

Responses to how many runners were seen ranged from 0 to 75; the person who answered 75 indicated that he had seen a race. The most frequent response was having seen zero runners that day (Table 6). For walkers or hikers, the most frequent response was that 2 were seen (13.1%); however, 2 people reported seeing 100 walkers or hikers (Table 7). Responses to how many mountain bikers were seen ranged from 0 to 20, with 21.8% of trail users indicated they saw none that day (Table 8). Horseback riders were infrequently seen on the GSKA trails, with most respondents reporting seeing none (Table 9); however, one respondent saw 15 horses. Responses to the number of dogs seen by trail users ranged from 0 to 40 (Table 10), and the most frequent response was having seen 2 dogs that day (15.9%).

Table 6. Number of Runners Seen During That Trail Visit

Response	Frequency	Percent
0	108	34.5%
1 - 5	194	62.0
6 - 10	7	2.2
11 - 20	3	1.0
More than 20	1	0.3
Total	313	100.0%

Mean = 1.9
Median = 1
Standard Deviation = 4.6

Table 7. Number of Walkers or Hikers Seen During That Trail Visit

Response	Frequency	Percent
0	40	12.8%
1 - 5	122	39.1
6 - 10	78	25.0
11 - 20	57	18.3
More than 20	15	4.8
Total	312	100.0%

Mean = 7.8
Median = 5
Standard Deviation = 10.4

Table 8. Number of Mountain Bikers Seen During That Trail Visit

Response	Frequency	Percent
0	68	21.8%
1 - 5	195	62.5
6 - 10	41	13.1
11 - 20	8	2.6
Total	312	100.0%

Mean = 2.9
Median = 2
Standard Deviation = 3.0

Table 9. Number of Horseback Riders Seen During That Trail Visit

Response	Frequency	Percent
0	238	76.8%
1 - 5	47	15.2
6 - 10	24	7.7
11 - 20	1	0.3
Total	310	100.0%

Mean = 1.0
Median = 0
Standard Deviation = 2.4

Table 10. Number of Dogs Seen During That Trail Visit

Response	Frequency	Percent
0	47	15.0%
1 - 5	199	63.4
6 - 10	52	16.6
11 - 20	15	4.8
More than 20	1	0.2
Total	314	100.0%

Mean = 4.1
Median = 3
Standard Deviation = 4.1

Next, respondents indicated the effect, if any, other groups had on their trail experience that day. Only those who had seen people in the "target" activity that day were asked to rate the effect of that activity. First, let us focus on the four trail activities of running, walking or hiking, mountain biking, and horseback riding. The majority of trail users reported that participants in these groups had no effect on their enjoyment (Table 11). However, all four trail activity groups received some "reduced enjoyment" responses, indicating feelings of conflict. The largest negative effect on enjoyment among the four groups was attributed to horseback riders with 18.1% of respondents reporting horseback riders reduced their enjoyment that day. Moreover, respondents expressed relatively strong feelings of reduced enjoyment

due to horseback riders with 4.2% selecting the most negative response possible (-3) on the 7-point scale. On the positive side, all four trail activity groups generated "increased enjoyment" responses as well. Walkers or hikers garnered the largest share of positive responses with 39.8% of respondents expressing increased enjoyment due to walkers or hikers. In summarizing the responses received, all four groups had positive means, indicating that on average trail users did not experience conflict as a result of encountering participants in these trail activity groups that day.

The effect of encounters with dogs on trail user's enjoyment was positive on average with 47.5% of respondents indicating increased enjoyment. While there were those who reported reduced enjoyment due to dogs with 3.8% indicating their displeasure by selecting the most negative response possible, nearly 22% of respondents selected the most positive response possible (+3). Dogs had a positive mean (0.8) indicating that on average trail users did not experience conflict due to encounters with dogs that day.

Table 11. Effects of Particular Other Groups on User's Experience That Day

How enjoyment was affected by:	Reduced Enjoyment -3 (%)	-2 (%)	-1 (%)	No Effect on Enjoyment 0 (%)	1 (%)	2 (%)	Increased Enjoyment 3 (%)	Mean	Std Dev	n
Runners	0.5	0.0	1.0	70.2	10.2	4.4	13.7	0.6	1.1	205
Walkers or Hikers	0.4	0.4	3.3	56.1	12.8	12.2	14.8	0.8	1.2	271
Mountain Bikers	1.2	4.5	9.9	55.6	10.7	6.6	11.5	0.4	1.3	243
Horseback Riders	4.2	5.6	8.3	51.4	9.7	6.9	13.9	0.3	1.5	72
Dogs	3.8	2.3	4.1	42.3	11.7	13.9	21.9	0.8	1.5	265

In preparation for further analysis, responses to the 7-point scale used to rate the effect of encounters with other groups on the trail that day were collapsed into 3 categories. Responses of –1, -2, and –3 were combined into the "reduced enjoyment" category, and responses of 1, 2, and 3 were pooled into the "increased enjoyment" category. Responses of 0 indicating "no effect on enjoyment" comprise the third category. For the purposes of this study, the "reduced enjoyment" group was considered to be the users who had experienced "conflict" due to the other activity. Results of this consolidation of responses are reflected in Table 12. Although encounters with mountain bikers and dogs reduced the enjoyment of larger numbers of trail users (38 and 27, respectively) than the other groups, the largest proportion of trail users (18.1%) reported reduced enjoyment due to encounters with horseback riders. While many trail users reported increased enjoyment due to encounters with participants in each of the groups, walkers or hikers, and dogs positively influenced the largest proportions of trail users.

Table 12. Effects of Particular Other Groups on User's Experience That Day (Collapsed Scale)

How enjoyment was affected by	Reduced Enjoyment		No Effect on Enjoyment		Increased Enjoyment		Total	
	n	(%)	n	(%)	n	(%)	n	(%)
Runners	3	(1.5)	144	(70.2)	58	(28.3)	205	(100)
Walkers or Hikers	11	(4.1)	152	(56.1)	108	(39.8)	271	(100)
Mountain Bikers	38	(15.6)	135	(55.6)	70	(28.8)	243	(100)
Horseback Riders	13	(18.1)	37	(51.4)	22	(30.5)	72	(100)
Dogs	27	(10.2)	112	(42.3)	126	(47.5)	265	(100)

Lastly, trail users described, in an open response format, *how* their

encounters with various other groups affected their enjoyment that day. Tables 13

through 17 summarize the results of the content analyses for the responses

regarding each group. The vast majority of responses (81.2%) indicated increased

enjoyment due to runners, with "seeing other users' enjoyment" being the most

frequent reason given (Table 13). Encounters with walkers or hikers also increased

enjoyment for many trail users, with 86% of responses indicating a positive effect.

The most frequent reasons given were "seeing other users' enjoyment" and

"pleasant and/or friendly encounters" (Table 14).

Table 13. How Runners Affected Others' Enjoyment

Response	Frequency[1]	Percent[2]
Increased Enjoyment		52	81.2%
Seeing other users' enjoyment	24	
Inspiring/motivating	11	
Their health/fitness	6	
Courteous/considerate behavior	3	
Other	8	
Reduced Enjoyment		3	4.7
Other	3	
No Effect on Enjoyment		9	14.1
Total		64	100.0%

[1]Respondents could indicate more than one reason.
[2]Represents the % of all responses.

Table 14. How Walkers or Hikers Affected Others' Enjoyment

Response	Frequency[1]	Percent[2]
Increased Enjoyment		74	86.0%
Seeing other users' enjoyment	30	
Pleasant/friendly encounters	22	
Enjoyed seeing dogs	7	
Enjoyed seeing friends	6	
More comfortable/safer having others		
around	3	
Other	6	
Reduced Enjoyment		8	9.3
Lack of solitude/too many people	5	
Irresponsible dog owner behavior	3	
No Effect on Enjoyment		4	4.7
Total		86	100.0%

[1]Respondents could indicate more than one reason.
[2]Represents the % of all responses.

Although, on average, respondents reported mountain bikers had a positive effect on their enjoyment (Table 11, mean = 0.4), their responses to the open-ended question indicated considerable reduced enjoyment attributable to this user group (Table 15). Nearly one half of the comments (49.5%) indicated mountain bikers reduced enjoyment, with excessive speed being the most frequently cited problem. However, a large portion of the comments (47.4%) reflected increased enjoyment due to mountain bikers, with "seeing other users' enjoyment" the primary response. Interestingly, 11 responses indicated increased enjoyment due to mountain bikers' courteous, considerate, and/or helpful behavior, while 9 responses attributed reduced enjoyment to discourteous and/or inconsiderate behavior.

Table 15. How Mountain Bikers Affected Others' Enjoyment

Response	Frequency[1]	Percent[2]
Increased Enjoyment	45	47.4%
Seeing other users' enjoyment	18	
Courteous/considerate/helpful behavior	11	
Inspiring/motivating	8	
Other	8	
Reduced Enjoyment	47	49.5
Too fast	21	
No warning on approach	10	
Discourteous/inconsiderate		
behavior/attitude	9	
Ignore trail etiquette	4	
Other	3	
No Effect on Enjoyment	3	3.1
Total	95	100.0%

[1]Respondents could indicate more than one reason.
[2]Represents the % of all responses.

In Table 16, the majority of responses (62.3%) indicated reasons horseback riders reduced trail users' enjoyment. "Manure on trails and unpleasant smells" was the most common response of those whose enjoyment was reduced. However, nearly one quarter of the responses (24.5%) were reasons the trail users enjoyed their encounters with horses, with "seeing horses" leading to increased enjoyment.

The majority of responses (64.3%) expressed increased enjoyment due to dogs, with "enjoy seeing/interacting with dogs" the most frequent reason (Table 17). However, 25% of the responses reflected reduced enjoyment, 14 of which cited "annoying dog behavior" as the problem.

Table 16. How Horseback Riders Affected Others' Enjoyment

Response	Frequency[1]	Percent[2]
Increased Enjoyment	13	24.5%
Seeing horses	7	
Seeing other users' enjoyment	4	
Other	2	
Reduced Enjoyment	33	62.3
Manure on trail/smell	17	
Damage trail	3	
Dust	3	
Discourteous/inconsiderate	2	
Other	8	
No Effect on Enjoyment	7	13.2
Total	53	100.0%

[1]Respondents could indicate more than one reason.
[2]Represents the % of all responses.

Table 17. How Dogs Affected Others' Enjoyment

Response	Frequency[1]	Percent[2]
Increased Enjoyment	90	64.3%
Enjoy seeing/interacting with dogs	33	
Love/like dogs	16	
Dogs able to play/interact	12	
Dogs well-behaved/under control	9	
Dogs were pleasant/happy	4	
Other	16	
Reduced Enjoyment	35	25.0
Annoying dog behavior	14	
Irresponsible dog owner(s)	9	
Poop on trail	9	
Other	3	
No Effect on Enjoyment	15	10.7
Total	140	100.0%

[1]Respondents could indicate more than one reason.
[2]Represents the % of all responses.

Relationship Between Past Experience and Conflict

Pearson's chi-squared or Fisher's exact test were used to test for relationships between past experience in an activity and whether or not respondents experienced conflict with that group on the day of the interview. Recall that past experience was determined by asking respondents if they had ever participated in that particular activity on any trail in the past. Conflict was indicated if trail users reported reduced enjoyment of their trail experiences due to encounters with the other group that day (responses of –1, -2, and –3).

There was a significant relationship (Fisher's Exact=0.000) between past experience with running and how encounters with runners affected respondents' enjoyment that day (Table 18). While 36.2% of those who had run on a trail in the past had their enjoyment increased by runners, only 7.6% of those who had never run on a trail had their enjoyment increased.

Table 18. Relationship Between Past Running Experience and Conflict Due to Runners

Runners' effect(s) on enjoyment	Had Run Before		Had Not Run Before		Total	
	n	(%)	n	(%)	n	(%)
Reduced Enjoyment	2	(1.3)	0	(0.0)	2	(1.0)
No Effect on Enjoyment	93	(62.4)	49	(92.5)	142	(70.3)
Increased Enjoyment	54	(36.2)	4	(7.6)	58	(28.7)
Total	149	(99.9)	53	(100.1)	202	(100.0)

Fisher's Exact = 0.000

The relationship between past experience with mountain biking and how encounters with mountain bikers affected respondents' experiences had a pattern

similar to that found for running, but it was not significant at the .05 level (p=0.051).

Only 13.4% of those who had mountain biked on any trail in the past had their

enjoyment reduced by mountain bikers that day compared to 21.7% for those who

had never mountain biked on a trail. Similarly, while 33.1% of those who had

mountain biked on a trail in the past had their enjoyment increased by mountain

bikers that day, only 18.8% of those who had never mountain biked had their

enjoyment increased (Table 19).

Table 19. Relationship Between Past Mountain Biking Experience and Conflict Due to Mountain Bikers

Mountain bikers' effect(s) on enjoyment	Had Mountain Biked Before		Had Not Mountain Biked Before		Total	
	n	(%)	n	(%)	n	(%)
Reduced Enjoyment	23	(13.4)	15	(21.7)	38	(15.8)
No Effect on Enjoyment	92	(53.5)	41	(59.4)	133	(55.2)
Increased Enjoyment	57	(33.1)	13	(18.8)	70	(29.1)
Total	172	(100.0)	69	(99.9)	241	(100.1)

Pearson Chi^2 = 5.97, (p = 0.051)

The relationship between past horseback riding experience and how

encounters with horseback riders affected trail users' enjoyment that day also failed

to be statistically significant at the .05 level (p=0.091). Yet, the relationship exhibited

the same pattern as that for running and mountain biking, with those who had never

ridden indicating feelings of conflict more often than those who had ridden in the

past. While 24.2% of those who had never horseback ridden on a trail before

expressed reduced enjoyment due to horseback riders, only 12.8% of those who

had horseback ridden on a trail in the past had their enjoyment reduced. Likewise,

only 18.2% of those who had never horseback ridden on a trail before indicated

increased enjoyment due to horseback riders, while 41% of those that had

horseback ridden had their enjoyment increased (Table 20).

Table 20. Relationship Between Past Horseback Riding Experience and Conflict Due to Horseback Riders

Horseback riders' effect(s) on enjoyment	Had Horseback Ridden Before		Had Not Horseback Ridden Before		Total	
	n	(%)	n	(%)	n	(%)
Reduced Enjoyment	5	(12.8)	8	(24.2)	13	(18.1)
No Effect on Enjoyment	18	(46.2)	19	(57.6)	37	(51.4)
Increased Enjoyment	16	(41.0)	6	(18.2)	22	(30.6)
Total	39	(100.0)	33	(100.0)	72	(100.1)

Pearson Chi^2 = 4.80, (p = 0.091)

Although dog walking and dogs are not often included in trail conflict studies,

their effect on enjoyment is pertinent to the Jackson, WY area. Dog ownership is

high there, and the national forest is the only public land area nearby where dogs

are allowed to be off-leash. There was a significant relationship (p=0.000) between

past experience walking dogs on trails and how encounters with dogs affected

respondents' experiences that day (Table 21). Only 6.4% of those who had walked

dogs on a trail in the past had their enjoyment reduced by dogs that day compared

to 19.7% for those who had never walked a dog on a trail. Similarly, while 56.2% of

those who had walked dogs on a trail in the past had their enjoyment increased by

dogs, only 25% of those who had never walked dogs had their enjoyment increased.

The differences were significant at the .001 level.

Table 21. Relationship Between Past Dog Walking Experience and Conflict Due to Dogs

Dogs' effect(s) on enjoyment	Had Walked Dogs Before		Had Not Walked Dogs Before		Total	
	n	(%)	n	(%)	n	(%)
Reduced Enjoyment	12	(6.4)	15	(19.7)	27	(10.3)
No Effect on Enjoyment	70	(37.4)	42	(55.3)	112	(42.6)
Increased Enjoyment	105	(56.2)	19	(25.0)	124	(47.2)
Total	187	(100.0)	76	(100.0)	263	(100.1)

Pearson Chi^2 = 24.49, (p = 0.000)

A comparison between past experience in walking or hiking and how encounters with walkers or hikers affected respondents' experiences that day could not be made because only two trail users had never walked or hiked on a trail.

Summary

The majority of the Greater Snow King Area trail users interviewed for this study were females, 39 years of age or younger, who resided in the Jackson Hole area on a full-time basis and had been residents for 10 years or less. Most of the trail users lived within 5 miles of the trailhead they used that day, spent 2 hours or less hiking or mountain biking, and were quite satisfied with their experience. Study respondents were active in a variety of trail activities, with over two thirds reporting past participation in six of the twelve activities listed; noticeably fewer had participated in motorized pastimes.

In assessing the amount of conflict, if any, due to encounters with participants in four specific trail activities, the majority of trail users reported that runners, walkers or hikers, mountain bikers, and horseback riders had no effect on their enjoyment

that day. However, all four trail activity groups did receive some "reduced enjoyment" responses, indicating feelings of conflict. The most common response regarding past encounters with people with dogs was that they increased enjoyment (47.5%), yet 10.2% did have their enjoyment reduced by encounters with dogs. Reasons why each group affected trail users' enjoyment were largely positive for runners, walkers/hikers, and dogs. Comments on mountain bikers were nearly one half positive and one half negative, while reasons why horseback riders affected enjoyment were mostly negative.

While the results of tests for relationships between past experience in an activity and whether or not respondents experienced conflict with that group on the day of the interview were mixed, some patterns did emerge. In general, those who had participated in an activity in the past experienced less conflict when encountering those groups than respondents who had never done the activity before. Similarly, those who had participated in an activity before were more likely to experience increased enjoyment due to encounters with those groups than trail users who had never done the activity before. These differences were significant at the .05 level for running and walking dogs.

CONCLUSIONS

The purpose of this study was to explore possible relationships between past experience in an activity and whether or not trail users experienced conflict due to encounters with that group. This chapter discusses study results, implications for management, and further research.

Discussion of Results

In this study, the amount of conflict, if any, experienced by trail users was assessed using a series of three questions regarding users' trail encounters that day with several other user groups. Only respondents who saw users in the target group were asked to rate the effect of that activity, and conflict was denoted by "decreased enjoyment" responses. On average, respondents reported seeing 1.9 runners, 7.8 walkers or hikers, 2.9 mountain bikers, 1.0 horseback riders, and 4.1 dogs (mean responses) during their trail visit that day. The majority of trail users indicated encounters with runners, walkers or hikers, mountain bikers, and horseback riders had no effect on their trail experience that day, although each group also received reduced enjoyment and increased enjoyment responses. Encounters with dogs increased the enjoyment of 47.5% of respondents. Responses to the open-ended questions regarding how each user group affected respondents' enjoyment were predominantly positive for runners, walkers or hikers, and dogs. Comments about horseback riders were mostly negative, while reasons why mountain bikers affected enjoyment were nearly evenly split.

The findings indicated that while most trail users did not experience conflict due to their encounters with other groups, a sizable minority did in each case. Horseback riders, mountain bikers, and dogs received the largest proportions of reduced enjoyment responses: 18.1% of respondents reported conflict with horseback riders, 15.6% of respondents reported conflict with mountain bikers, and 10.2% of respondents reported conflict with dogs. Reasons given for reduced enjoyment included horse manure on the trail, mountain bikers riding too fast and not warning on approach, and annoying dog behavior.

Past experience in trail activities was determined by having respondents check which of twelve activities they had ever engaged in on any trail. The twelve activities were a mix of summer, winter, motorized, and non-motorized pursuits. The percentage of respondents with past experience in the target activities of this study were: walking or hiking – 99.4%, walking dogs – 71.5%, running – 71.2%, mountain biking – 69.9%, and horseback riding – 43.6%.

In tests of relationships between past experience in an activity and conflict due to encounters with participants in that activity, results indicated that two of the four were statistically significant at the .05 level (running and walking dogs). However, all four relationships exhibited similar patterns. Trail users who had participated in an activity in the past reported less conflict when encountering that group than respondents who had never done the activity before. Likewise, those who had participated in an activity in the past were more likely to experience increased enjoyment due to encounters with that group than trail users who had never done the activity before. This pattern held for running, mountain biking,

horseback riding, and dog walking. The relationship between past experience walking or hiking and conflict due to walkers or hikers could not be tested because only two trail users indicated they had never walked or hiked on a trail.

Tests of the relationship between past experience and conflict showed that trail users who had participated in an activity in the past experienced less conflict when encountering that group than respondents who had never done the activity before. A possible explanation is that those with past experience better understood the unique requirements of the activity. Another possibility is that those with past experience were able to relate better to the other users because they saw them as having similar lifestyles, values, and attitudes.

Trail users who had run in the past may have had less conflict with runners because they understood the requirements or nuances of trail running. They knew how difficult it was to run, especially up a mountainside, and did not mind making room on the trail for runners. Open-ended responses indicated that some trail users were impressed with the runners' quest for good health and fitness, and were inspired and motivated themselves. One respondent commented, "it's good to see people out running to stay in shape and enjoy the surroundings." Maybe runners were viewed as similar to hikers, and since almost everyone had hiked, they were considered part of that "in-group."

Respondents who had walked dogs in the past may have had less conflict with dogs because they liked dogs more than those with no dog experience did. They may simply have enjoyed seeing and interacting with dogs. One respondent remarked, "it increased my enjoyment because I love dogs and petted and said hello

to every one of them!" Perhaps they enjoyed watching the dogs run and play. One lady commented, "I used to walk my dog here 15 years ago and it was her favorite place to be. Hardly a day went by that we weren't up here. It's good to know other dogs have a place to have fun." Maybe because they are or have been pet owners themselves, respondents with past experience walking dogs were more tolerant of sharing the trail with dogs.

Respondents who had mountain biked in the past may have had less conflict with mountain bikers because they could relate to the thrill of riding fast. Maybe they felt that the bikers were enjoying the challenge of conquering a tough climb and the reward of an exhilarating descent. One trail user remarked he was "impressed that anyone would ride up a mountain!" Perhaps they felt that many bikers were out to enjoy nature, and by biking they could travel more miles and see more of it than on foot. Maybe they were more likely to assume that bikers did not intend to quietly sneak up behind them and scare them when passing. They may have assumed that bikers were riding in control, whereas someone with no mountain biking experience on trails might be more likely to see their riding as out of control and perhaps dangerous to other users.

Trail users who had horseback ridden in the past may have had less conflict with horseback riders because they enjoyed seeing what they regarded as majestic animals. One respondent commented, "they represent an element of the lifestyle in Jackson, and the west in general, that demonstrates beauty through rugged freedom." Perhaps they understood how easily some horses can spook and did not

mind yielding the trail or controlling their dog. Those with horse experience may

have been less likely to assume that horses might be dangerous.

An alternative explanation for why those with past experience in an activity

experienced less conflict may be that the respondents were more tolerant of other

trail users because they saw them as having similar lifestyles, values, and attitudes.

Jacob and Schreyer (1980) considered tolerance for lifestyle diversity (the tendency

to accept or reject lifestyles different from one's own) to be a major factor in whether

conflict would exist. "If group differences are evaluated as undesirable or a potential

threat to recreation goals, conflict results when members of the two groups confront

one another" (p. 377).

Past experience in an activity may affect the evaluation process relative to

other users. Watson, Williams, and Daigle (1991) found that mountain bikers tended

to perceive bikers and hikers as more similar than hikers did. Interestingly, the

mountain bikers were more correct in perceiving similarity with hikers on many of the

items tested. Watson, Zaglauer, and Stewart (1995) pointed out that many visitors

do not strongly identify with only one activity group. Many mountain bikers also hike

quite often, and hikers may mountain bike on other occasions. Watson, et al. (1995,

p.104) stated that the "attitudes of visitors toward participants in other activities may

be influenced by their own involvement in these other activities." Carothers, Vaske,

and Donnelly (2001, p. 50) indicated "many recreationists participate in multiple

activities, consequently, their tolerance for others may be altered." Those with past

experience in trail activities may have been able to relate to the other users because

they saw them as having similar lifestyles, values, and attitudes.

45

A larger sample size may have altered the results of this study. Conflict was measured based on trail users' encounters with the other groups that day. For example, only 72 out of 310 (23.2%) respondents saw horses on the day of the interview. A larger sample with more horseback rider encounters may have increased the significance of the relationship between past riding experience and conflict due to horseback riders. In addition, the relationship between past mountain biking experience and conflict due to mountain bikers was on the cusp of significance at the .05 level (p=0.051); a larger sample size may have changed this result.

Implications for Management

When trail users perceive lifestyle differences with other user groups and are intolerant of those differences, conflict results. Increasing awareness of the similarities among trail users may reduce some conflict. Ramthun (1995) stated that efforts to reduce bias and promote tolerance for other user groups are an effective approach to user group conflicts. He recommended educational efforts incorporate a message of tolerance for other user groups, emphasizing the similarities between groups and downplaying their differences. Ramthun concluded that by emphasizing tolerance, trail users might grow to see each other as fellow travelers in the outdoors.

Providing opportunities for user groups to interact may help facilitate mutual understanding. Volunteer trail work days give trail users an opportunity to work together toward a common goal (Moore, 1994). Working side by side, potential

conflict groups may learn they are not so different after all. "User swaps," where trail users try out other trail activities, are an excellent way to improve the understanding of other groups' needs and to discover the similarities among the groups' participants.

There are many ways to inform and educate trail users, including trailhead kiosks, local newspapers, and public service announcements. Hoger and Chavez (1998) suggested the use of local bike shops and tourism agencies to distribute maps and trail regulations to potential users. Trail users with accurate expectations of the number and types of users they may encounter, are less likely to experience conflict (Ivy, Stewart, & Lue, 1992). Therefore, information should include which recreation activities are sharing the trails, which trails are likely to be the most populated and which are less traveled, which trails are single-track routes and which are old roadbeds, and if there are one-way trails, what is the direction of travel.

Improving communication among user groups while they are on the trail may increase everyone's enjoyment, as well. Mountain bikers using bike bells or calling out to announce their presence when approaching from behind may reduce conflict. Users with dogs should know and understand how easily horses can spook and restrain their dogs while horseback riders pass. Trail users' adherence to trail etiquette regarding yielding behavior such as mountain bikers' compliance with the International Mountain Bicycling Association's etiquette protocol may lessen interference. Simply being respectful to all trail users may increase everyone's enjoyment. One horseback rider commented, "two bikers were very courteous. They slowed down and asked if they could pass my horse." Cooperation and

consideration among trail users may go a long way toward reducing conflict and enhancing everyone's trail experience.

Modifying trail users' behavior may also be possible through volunteer trail patrols. Hendricks, Ramthun, and Chavez (2001) conducted a study examining the effects of three message sources and two appeal types on mountain bikers' compliance with trail etiquette. The message sources were a volunteer biker, a volunteer hiker, or a uniformed volunteer who was hiking. The messages communicated to the bikers were either a fear appeal or a moral appeal. Communication of the messages did improve mountain biker behavior in three out of the four behaviors studied. Hendricks, et al. found the volunteer biker was the most effective message source in communicating appropriate trail etiquette, and recommended the use of volunteer patrols or other in-group approaches to encourage appropriate behavior on multiple-use trails.

Zoning incompatible user groups into different locations may be an effective strategy where the conflict is interpersonal in nature (Carothers, et al., 2001). However, the researchers indicated a better alternative to closing trails to specific user groups may be a combination of expanded education programs, the posting of signs, and increased law enforcement. There was no evidence in this study that the trail activities in the Greater Snow King Area were inherently incompatible.

Managers seeking specific ideas and strategies to deal with conflict might consult the following two resources. Chavez (1996) includes a listing of over 50 specific strategies managers of national forests have used to address user conflict, resource damage, safety, and accident issues relating to mountain bikers. Moore

(1994) provides an extensive listing of ways managers can avoid or minimize

conflicts on multiple-use trails, including physical responses (trail design, layout, and

maintenance) and management responses (information and education, user

involvement, and regulations and enforcement). In addition, he presents 12

principles for minimizing conflict which managers can follow to improve sharing and

cooperation among trail users. On a related note, managers should understand the

goals and physical requirements of each activity; it is even better for them to have

actual experience in each activity (Moore, Scott, and Graefe, 1998).

Further Research

Using different measures of past experience in an activity (e.g., recent

experience, commitment level) would likely affect test results of the relationship

between past experience and conflict. The measure of past experience used in this

study was based on whether the respondent had *ever* done the activity on a trail.

Other research has measured past experience based on whether the user had

recently engaged in the activity. Respondents were asked if they had participated in

the activity within the past 12 months (Watson, et al., 1995; Carothers, et al., 2001)

or within the past 2 years (Jackson & Wong, 1982). Would the *amount* of past

participation in an activity matter? Would someone who has biked or ridden only

once respond differently from someone who frequently participates? Would it matter

when the participation occurred? Would someone who participated 12 times within

the past 5 years respond differently from someone who participated 12 times last

month? According to Jacob and Schreyer (1980, pp. 371-372), "the more intense

the activity style, the greater the likelihood a social interaction with less intense participants will result in conflict." An alternative measure of past experience would likely affect test results of the relationship of past experience to conflict.

Different measures of conflict have also been used in past research. Interpersonal conflict (due to encounters with others) has commonly been measured by a set of forced-choice questions asking respondents to evaluate specific encounters (e.g., enjoyed, did not mind, or disliked meeting other types of users) or by assessing general disposition toward other groups based on Likert scale responses (e.g., very desirable – undesirable) (Watson, Niccolucci, & Williams, 1994). As Watson (1995) pointed out, researchers have yet to agree on how conflict should be measured. Further research is needed to develop a better, more widely accepted measure of conflict.

It would be interesting to conduct the same study during the winter to see whether the results hold for winter recreation activities. Does past experience in snowmobiling affect whether or not someone experiences conflict due to encounters with snowmobilers? What about skiing, snowboarding, or snowshoeing? Does the recreation location have any influence on this relationship? Would backcountry users respond differently than suburban greenway users? Further research could explore possible relationships between past experience and conflict among different user groups, in different seasons, and in different places.

Further research could use alternative methods of gathering data. Hendricks, et al. (2001) used unobtrusive observation to collect data on mountain bikers' adherence to trail etiquette guidelines. In-depth interviews with trail users could be

used to probe reasons why they may or may not relate well to other user groups. Data could be collected on the trail or off the trail, using quantitative or qualitative methods.

Watson, et al. (1995) called for further studies of social values conflict in communities in close interaction with national forests to explore other variables. One factor the researchers thought might indicate different values among trail users was resident status. Permanent residents, vacation home owners, seasonal workers, and non-resident visitors might have disparate values and attitudes affecting whether or not they experience conflict. In addition, length of residence might be another factor indicating different values among trail users. People who have lived in that location for many years might have different attitudes toward the natural resources than those who are new arrivals. Further research exploring these and other factors that can produce or predispose someone to conflict will help enhance understanding of the concept.

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APPENDIX

Appendix A: Survey Instrument

2002 TRAIL USER SURVEY

GREATER SNOW KING AREA
BRIDGER-TETON NATIONAL FOREST

Thank you very much for agreeing to participate in this survey about the Greater Snow King Area trail system and the people who use it. The results of this study will help Forest Service trail managers and planners better meet the present and future needs of trail users. The focus of this study is the Greater Snow King Area, which lies within the Bridger-Teton National Forest just south of the town of Jackson. Your participation is voluntary and there are no penalties for not answering some or all of the questions. Since each randomly selected person will represent many other trail users who were not surveyed, however, your cooperation is extremely important. Your responses are completely confidential. Note that some questions refer to the particular trail(s) you used today. Other questions relate to your trail use or opinions in general. Please read the instructions at the beginning of each section.

PART I. In this section we would like to learn more about *YOUR VISIT TO THE GREATER SNOW KING AREA TRAILS* today. Please answer the questions in this section in terms of today's visit only.

1. About how many miles is it from your home to the trailhead you used today?

_____ One-way miles

2. How did you travel from your home to the trailhead you used today? (Please check *one*)

___ Car, truck, van, motorcycle, etc.
___ Bicycle
___ Walk or run
___ Other (Please specify_____)

3. Approximately how long did your trail visit last today? _____ Hours

4. What was your *primary* activity during this trail visit? (Check only *one*)

      ___ Hiking   ___ Running
      ___ Horseback riding   ___ Walking
      ___ Mountain biking   ___ Other (Please specify _____)

5. Which of the following best describes the group you were with during this visit? (Please check only *one*)

      ___ Alone (Go to question # 7)   ___ Family and Friends
      ___ Family   ___ Organized Group (club or other organization)
      ___ Friends   ___ Other (Please specify_____)

6. How many people counting yourself were in your group on the trail today?

      _____ Number of people

7. How many dogs (if any) did you bring with you today?   _____ Number of dogs

8. Was this your first visit to the trails in the Greater Snow King Area?

      ___ No   ___ Yes (If "Yes," go to Part II)

> If "No," about when was your first visit to the trails?
>
>   _____ Month   _____ Year

PART II. In this section we would like to know about your *GREATER SNOW KING AREA TRAIL EXPERIENCE* today. Please answer the questions in this section in terms of today's visit only.

1. Which of the following was the *most* important reason for your trail visit today? (Please check only *one*)

      ___ I went there because I enjoy the place itself
      ___ I went there because it's a good place to do the outdoor activities I enjoy
      ___ I went there because I wanted to spend time with my companions

2. On a scale of 1 to 10 with 10 being the best possible trip, how would you rate your trail experience today?

      _____ Rating from 1 to 10

3. Approximately how many people did you see *running* during your trail visit today?

_____ Number of people *running* (If 0, go to question # 5)

4. How did your encounters with people *running* affect your enjoyment today? (Please circle *one* number)

People *running* greatly reduced my enjoyment	People *running* had no effect on my enjoyment	People *running* greatly increased my enjoyment

-3   -2   -1   0   1   2   3

If applicable, briefly describe how people *running* reduced or increased your enjoyment today.

5. Approximately how many people did you see *walking or hiking* during your trail visit today?

_____ Number of people *walking or hiking* (If 0, go to question #7)

6. How did your encounters with people *walking or hiking* affect your enjoyment today? (Please circle *one* number)

People *walking or hiking* greatly reduced my enjoyment	People *walking or hiking* had no effect on my enjoyment	People *walking or hiking* greatly increased my enjoyment

-3   -2   -1   0   1   2   3

If applicable, briefly describe how people *walking or hiking* reduced or increased your enjoyment today.

7. Approximately how many people did you see *mountain biking* during your trail visit today?

_____ Number of people *mountain biking* (If 0, go to question # 9)

8. How did your encounters with people *mountain biking* affect your enjoyment today? (Please circle *one* number)

People *mountain biking*   People *mountain biking*   People *mountain biking*
greatly reduced   had no effect on   greatly increased
my enjoyment   my enjoyment   my enjoyment

-3   -2   -1   0   1   2   3

If applicable, briefly describe how people *mountain biking* reduced or increased your enjoyment today.

9. Approximately how many people did you see *horseback riding* during your trail visit today?

_____ Number of people *horseback riding* (If 0, go to question # 11)

10. How did your encounters with people *horseback riding* affect your enjoyment today? (Please circle *one* number)

People *horseback riding*   People *horseback riding*   People *horseback riding*
greatly reduced   had no effect on   greatly increased
my enjoyment   my enjoyment   my enjoyment

-3   -2   -1   0   1   2   3

If applicable, briefly describe how people *horseback riding* reduced or increased your enjoyment today.

11. Approximately how many *dogs* did you see during your trail visit today?

_____ Number of *dogs* (If 0, go to Part III)

12. How did your encounters with *dogs* affect your enjoyment today? (Please circle *one* number)

Dogs   *Dogs*   *Dogs*
greatly reduced   had no effect on   greatly increased
my enjoyment   my enjoyment   my enjoyment

-3   -2   -1   0   1   2   3

If applicable, briefly describe how *dogs* reduced or increased your enjoyment today.

PART III. In this section we would like to learn more about *YOUR PAST EXPERIENCE* in specific trail activities.

1. Please estimate how many times *during the past 12 months* you have participated in each of the following activities *on any trail*. (Please write the **NUMBER OF TIMES** in front of each trail activity)

# of Times in Past 12 Months		# of Times in Past 12 Months	
_____	Walking or hiking	_____	Using all-terrain vehicles
_____	Backpacking (overnight)	_____	Using motorcycles
_____	Running	_____	Using four wheel drive vehicles
_____	Walking dog(s)	_____	Cross country skiing
_____	Mountain biking	_____	Snow shoeing
_____	Horseback riding	_____	Snowmobiling
_____	Others? (Please specify_____)		

2. Which of the following activities have you *ever engaged in on any trail*? (Please **CHECK ALL** that apply)

_____	Walking or hiking	_____	Using all-terrain vehicles
_____	Backpacking (overnight)	_____	Using motorcycles
_____	Running	_____	Using four wheel drive vehicles
_____	Walking dog(s)	_____	Cross country skiing
_____	Mountain biking	_____	Snow shoeing
_____	Horseback riding	_____	Snowmobiling
_____	Others? (Please specify_____)		

PART IV. In this section we would like to know your opinions about *GREATER SNOW KING AREA TRAILS* and *TRAIL MANAGEMENT*.

1. About how many times in the past 12 months have you visited the trails in the Greater Snow King Area?

_____ Times

2. What things do you like best about the trails in the Greater Snow King Area?

3. What things do you like least about the trails in the Greater Snow King Area?

4. Overall, how satisfied are you with the trails in the Greater Snow King Area? (Please circle *one* number)

	Very Unsatisfied			Moderately Satisfied			Very Satisfied
	1	2	3	4	5	6	7

5. To what extent do you feel the following are problems on the trails in the Greater Snow King Area? (Circle *one* number for each item)

	No Problem						Big Problem
a. Too many people on the trails	1	2	3	4	5	6	7
b. Dog poop along the trails	1	2	3	4	5	6	7
c. Cyclist riding their bikes too fast	1	2	3	4	5	6	7
d. Too few rangers on the trails	1	2	3	4	5	6	7
e. Lack of restrooms	1	2	3	4	5	6	7
f. People traveling two or more abreast	1	2	3	4	5	6	7
g. Poor trail maintenance	1	2	3	4	5	6	7
h. Not enough information on rules and regulations	1	2	3	4	5	6	7
i. Dogs not under control	1	2	3	4	5	6	7
j. People not yielding to one another	1	2	3	4	5	6	7
k. Horse manure on the trails	1	2	3	4	5	6	7
l. Lack of directional signs	1	2	3	4	5	6	7
m. Users creating new trails	1	2	3	4	5	6	7
n. People not being friendly	1	2	3	4	5	6	7
o. Motorized vehicles and mountain bikes entering the Wilderness area	1	2	3	4	5	6	7
p. Cyclists passing without warning	1	2	3	4	5	6	7
q. Not enough parking at access points	1	2	3	4	5	6	7
r. Litter along the trails	1	2	3	4	5	6	7
s. Winter range closure violations	1	2	3	4	5	6	7
t. Conflicts among trail users	1	2	3	4	5	6	7
u. Lack of trail maps	1	2	3	4	5	6	7

6. The Forest Service and Friends of Pathways have undertaken educational efforts designed to promote responsible use of the trails in the Greater Snow King Area. Which of the following are you familiar with? (Please check *all* that apply)

___ "Share-the-trail" ___ "Leave no trace"
___ "Don't poach the powder"

7. Please circle *one* number to indicate *how often you do* each of the following on the trails in the Greater Snow King Area. (If you do not participate in the trail activity a particular item relates to, circle "*N/A*" for that item)

	Never		Sometimes		Almost Always	Not Applicable
a. Pick up and put *your* trash in a waste container	1	2	3	4	5	N/A
b. Pick up and put *others'* trash in a waste container	1	2	3	4	5	N/A
c. Yield the trail according to "share-the-trail" rules	1	2	3	4	5	N/A
d. Attempt to educate others about proper trail etiquette	1	2	3	4	5	N/A
e. Stay on designated trails	1	2	3	4	5	N/A
f. Avoid disturbing wildlife	1	2	3	4	5	N/A
g. Keep your dog on a leash or under voice command	1	2	3	4	5	N/A
h. Pick up and put your dog's poop in a waste container	1	2	3	4	5	N/A
i. Prevent your dog from chasing wildlife	1	2	3	4	5	N/A
j. Ride your mountain bike fast past other trail users	1	2	3	4	5	N/A
k. Communicate your presence when approaching others from behind	1	2	3	4	5	N/A
l. Remove your horse's manure from the trail	1	2	3	4	5	N/A
m. Avoid wet trails to reduce trail wear	1	2	3	4	5	N/A

8. What actions do you feel the Forest Service should take to improve responsible use of the trails in the Greater Snow King Area?

PART V. In this section we are interested in *VISITOR INFORMATION* that will help us to better understand the characteristics of the trail users of the Greater Snow King Area. All answers are confidential and will be reported only as overall summaries.

1. What is your gender? (Please check *one*)   ___ Female   ___ Male

2. What is your age?   _____ Years

3. Which of the following best describes your resident status? (Please check *one*)

       ___ Full-time resident of the Jackson Hole area
       ___ Part-time resident of the Jackson Hole area

> If "Part-time resident," which of the following best describes you? (Please check *one*)
>
> ___ I have a second home in the Jackson Hole area
> ___ I live here while working a seasonal job
> ___ Other (Please describe_____)

       ___ Not a resident of the Jackson Hole area (Go to question # 5)

4. If you are a full- or part-time resident, about how long have you lived in the Jackson Hole area?

       _____ Years

5. What is the zip code for your primary residence?   _____ Zip Code

Please use this space for any additional comments or suggestions you might have for improving the Greater Snow King Area trail system or its management.

Thank you for your time and your help!

---

1. Sex   ___ Female   ___ Male

2. Activities (Check all that apply)
            ___ Hiking
            ___ Horseback riding
            ___ Mountain biking
            ___ Running
            ___ Walking
            ___ Other (Specify _____)

3. Did user have dog(s)?   ___ No   ___ Yes

> Was dog(s) (Check one) ___ Off leash   ___ On leash
>
> Does the dog(s) appear to be under voice control? Voice control means "consistently comes immediately upon command." (Check one)
>   ___ No
>   ___ Somewhat
>   ___ Yes
>   ___ Can't tell
>
> Is owner carrying mutt mitts? (Check one)   ___ No   ___ Yes   ___ Can't tell

4. Date _____

5. Day-of-week (Circle one)   Mon.   Tue.   Wed.   Thu.   Fri.   Sat.   Sun.

6. Time _____ AM or PM

7. Interview site (Check one)
            ___ Cache Creek Trailhead
            ___ Game Creek Trailhead
            ___ Josie's Ridge Trailhead
            ___ Snow King Trailhead

8. Weather (Circle one)   Sunny   Partly Sunny   Cloudy   Rain   Snow

9. Approximate temperature _____

10. Interviewer name _____

11. Interviewer comments (if any)