ABSTRACT

Massarelli, Erin Adelle. A Comparison of Chattooga River Rafters and Kayakers and Their Effects on Each Other's Experience. (Under the direction of Dr. Roger L. Moore)

The purpose of this study was to compare rafters and kayakers on the Chattooga River and their effects on each other's experience. Data was collected via a mail survey of individuals who used the Chattooga River and its corridor in 2002, including commercially guided boaters, self-guided boaters, and annual pass holders to fee-based parking areas. Based on their primary activity for their most recent visit, rafters and kayakers were isolated from the remainder of the sample for analysis. Participants' general characteristics and their Chattooga River trip histories were gleaned from the survey responses. Motivations for visiting were measured by asking participants to rate the importance of different motives provided in the survey. Rafter and kayaker effects on each other's experiences were assessed by asking participants to rate their increased or decreased enjoyment due to encounters with each other. Results revealed that the rafters and kayakers were distinctly different groups based on general characteristics, most recent trip characteristics, and trip history. Overall, the rafters appeared to be families on vacation trips down the river, whereas the kayakers were generally small groups of friends participating in a frequently engaged in activity. Differences between the rafters and kayakers were also revealed in the importance that they placed on the motivation statements. Finally, when assessing the effects that they had on each other's experiences, the majority of encounters produced neutral effects. However, there was evidence of asymmetrical conflict felt by kayakers towards rafters. These findings

suggest that differences in activity style, mode of experience, resource specificity, and perceived status could have affected the amount of conflict experienced by the kayakers. One way to reduce the occurrence of conflict among river users on the Chattooga River may be to familiarize members of each group with each other. One way to familiarize river users with one another is though education efforts that emphasize group similarities and promote tolerance for their differences.

A COMPARISON OF CHATTOOGA RIVER RAFTERS AND KAYAKERS AND THEIR EFFECTS ON EACH OTHER'S EXPERIENCE

by
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Erin Massarelli was born and raised in Titusville, Florida. After graduating from Rollins College in Winter Park, Florida, Erin traveled around a bit, settling in California and eventually North Carolina. After working for the Mono Lake Committee and then AmeriCorps, Erin decided to further her education at North Carolina State University. With the completion of her Master's degree, Erin looks forward to all her new possibilities.

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I. INTRODUCTION

Outdoor recreation has some of the highest participation rates among leisure activities in the United States. Even in the 1990s when individual's schedules became more complex and their free time diminished on average, outdoor recreation participation continued to increase (Cordell, Betz, Bowker, English, Mou, Bergstrom, Teasley, Tarrant, & Loomis, 1999). In 1994-95 it was estimated that 94.5% of all Americans 16 years of age or older participated in some form of outdoor recreation annually (Cordell et al., 1999). These activities included everything from informal backyard or neighborhood games to mountaineering on the world's tallest peaks.

According to Cordell et al. (1999), "some activities have decreased in popularity, but new ones have come forward to continue the overall upward trend" in outdoor recreation participation (p. 15). One of the fastest growing human-powered activities is whitewater boating The National Survey on Recreation and the Environment found that 29% of the Unites States population 16 years of age or older participated in boating/floating recreation activities in 1994-95 (Cordell et al., 1999). This means that approximately 58 million people participated in these types of activities, with 2.6 million people participating in kayaking and 15.2 million people participating in rafting (Cordell et al., 1999).

The popularity of whitewater recreation, including rafting and kayaking, shows no signs of slowing down. The National Survey on Recreation and the Environment found that participation in kayaking between 1994-2001 was the fastest growing of 49 common outdoor recreation activities, with an increase of 186% (Cordell et al., 2003). This dramatic rise in popularity may be attributed to various factors. For one, whitewater boating fulfills many

different needs for recreationists including the need for excitement, community, socialization, and risk. In addition, advancements in recreation technology have improved the quality of boats, paddles, flotation devices, and other equipment, which make these activities more accessible to the public. According to Cordell et al. (1999), the popularity of raft/float trips is expected to increase by 30% from 1995 to 2050.

Within the Unites States there are many different places in which to participate in whitewater recreation activities. In January of 1997 the American Whitewater Association's inventory listed 2,297 whitewater river segments totaling almost 31,000 miles (Cordell et al. 1999). Most of these segments, especially the more difficult ones (class 4 and 5), are concentrated in the western part of the United States with relatively few occurring in the south and east. One of these southern locations is the Chattooga Wild and Scenic River, which is considered by many to be one of the most spectacular whitewater rivers in the United States. Over its 57-mile course in North Carolina, South Carolina, and Georgia, this river segment drops one half-mile, creating many different recreation opportunities ranging from class 4 and 5 rapids to shelf-like drops. In addition, the river is located in a protected natural corridor, which provides additional opportunities for recreation while conserving the natural character of the river.

As with any recreation resource, Chattooga River managers are challenged to provide a variety of opportunities for recreation experiences. This challenge may become more difficult as the popularity of whitewater boating continues to increase. Growing numbers of whitewater recreationists, combined with the diversity of recreational activities that can take place within the river's corridor, create a situation in which crowding, conflict,

environmental impacts, and displacement can occur. One of the problems that is often faced by managers and experienced by recreationists is conflict among different user groups. 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). For those individuals, it may prevent them from achieving their recreation goals, contribute to feelings of dissatisfaction, and ultimately lead to displacement. Because of this, recreation conflict has received much attention from managers, planners, and researchers.

Since the 1960s a growing body of research has increased our knowledge and understanding of recreational conflict by defining its various aspects and examining the different factors that influence it. The researchers to lay the first theoretical foundation were Jacob and Schreyer (1980), who defined conflict as "goal interference attributed to another's behavior" (p. 369). According to their goal interference theory, the factors that can influence conflict include activity style, resource specificity, mode of experience, and lifestyle tolerance. Since the 1980s, additional research has tested aspects of the goal interference theory and other factors to increase our knowledge of recreation conflict. These studies have examined many areas such as asymmetrical conflict, conflict between mechanized and non-mechanized activities, and conflict attributed to social values. Although there has been considerable progress, many unanswered questions remain. One such question is how two forms of non-mechanized recreation affect each other. Much of the existing conflict research has focused on the effects of mechanized on non-mechanized activities and visa versa, for example snowmobiling and cross-country skiing or fishing and water skiing. In addition, the activities that are being compared are usually inherently different in terms of equipment,

motivations, and activity. Therefore, this study intends to add to the existing information by focusing on the effects that rafting and kayaking, two forms of non-mechanized whitewater recreation, have on each other.

Research Question

The purpose of this study was to compare rafters and kayakers on the Chattooga Wild and Scenic River and examine the effects that they have on each other's experience.

II. LITERATURE REVIEW

This chapter provides a review of the literature related to this study and is divided into five sections. The first section provides a brief history of the existing recreational conflict research. The second section presents some of the common ways of conceptualizing and defining recreation conflict. The third section describes some of the different aspects of recreation conflict including interpersonal conflict, social values conflict, out-group conflict, in-group conflict, traditional and non-traditional use conflict, and asymmetrical conflict. The final section describes boating characteristics and boating conflict.

Research History and Definitions of Recreation Conflict

According to Vaske, Donnelly, Wittmann, and Laidlaw (1995), conflict has been a major theme in the outdoor recreation literature for the past three decades. "Conflict research began to appear in the mid 1960s when alarming statistics showed dramatic increases in the number of people using outdoor recreation resources" (Williams, 1993, p. 28). Much of the interest in the research at this time emerged in response to concerns associated with the rising levels of use in natural resource settings (Owens, 1985). The focus of the early research was on difficulties between different recreation user groups competing for the same space. Some of the major findings that emerged from this research were the one-way nature of conflict and conflict between motorized and nonmotorized activities (Williams, 1993).

In the mid-1970s the focus of recreation conflict research shifted to the development of theoretical perspectives (Williams, 1993). According to Williams (1993), "the density-dependent notions of conflict began to give way to more subjective views that emphasize

understanding the underlying meaning of conflict" (p. 29). However, it was not until the 1980s that Jacob and Schreyer proposed the goal interference concept of conflict. From this perspective, recreation conflict no longer focused on groups competing for the same resource (e.g., competition and crowding), which had been the conceptual and research focus up to this point (Owens, 1985).

Through time the ways of conceptualizing recreation conflict continued to evolve. Later in the 1980's, Owens expanded the definition of conflict in his detailed review of the existing literature. In it he suggested two revisions to the goal interference definition. The first was that conflict did not arise out of goal interference, but rather a person's inability to adapt to interference from others. Thus, conflict was limited to situations where "rules" for the location, which might serve to promote resolution, were either lacking or had failed (Williams, 1993). The second revision was to take the elements of time into consideration. According to Owens (1985), conflict was not an isolated event, but rather a cumulative process of social interactions.

Even though there has been much research on recreation conflict since the 1960s, there has been little agreement on how to define the concept (Carothors, Vaske, & Donnelly, 2001). Over time it has been described in different ways including the extent to which visitors find encounters with others to be desirable or undesirable (Watson, Niccolucci, and Williams, 1994), a simple competition over resources (Devall & Harry, 1981), competition for scare resources (Saremba & Gill, 1991), and/or incompatibilities among different user groups in achieving their desired goals (Bury, Holland, & McEwen, 1983; Owens, 1985). The most common conventionalization focuses on goal interference or the extent to which

encounters with others interfered with someone's enjoyment (Watson, Williams, Daigle, 1991; Jacob & Schreyer, 1980).

Conceptualizations of Recreation Conflict

Interpersonal Conflict

According to Blahna, Smith, and Anderson (1995), most research in this area focuses on measuring the potential for interpersonal conflict between participants in different activity groups. In this line of research, interpersonal conflict represents a reaction to a group's behavior as opposed to fundamental differences in types of recreation use (Vaske et al., 1995). There are three general aspects of interpersonal conflict: goal interference, safety concerns, and inappropriate behavior (Vaske et al., 1995).

Goal Interference.

The first researchers to lay the theoretical foundation for the concept of goal interference were Jacob and Schreyer (1980), who defined conflict as "goal interference attributed to another's behavior" (p. 369). In this theory, the behavior of one group of recreationists is incompatible with the social, psychological, or physical goals of the other group (Gramann & Burdge, 1981). In order for this type of conflict to occur there has to be opportunities for inter-group encounters (Ivy, Stewart, & Lue, 1992). For example, a person attempting to photograph wildlife is most likely to experience conflict if the animal is scared away by the arrival of other visitors (Vaske et al., 1995).

Goal interference conflict can also arise out of indirect effects such as sights and sounds (Gibbons & Ruddell, 1995), the presence of litter, or evidence of poor sanitation practices (Ivy et al., 1992). For example, people traveling on foot or by canoe may experience conflict when the noise from motorized vehicles or boats disrupts the peace and quiet of their experience (Vaske et al., 1995). Gibbons & Ruddell (1995) also found this type of conflict between backcountry skiers and helicopters skiers due to both the sight and sound of helicopters. In either of these cases the goal interference was attributed to another party as a result of either personal encounters or the secondary effects of another party's behavior (Ivy et al., 1992).

Within the goal interference definition, Jacob & Schreyer (1980) proposed four major factors that influence the extent of outdoor recreation conflict. These factors are activity style, resource specificity, mode of experience, and tolerance for lifestyle diversity, as summarized in the following paragraphs.

The first factor, activity style, refers to the personal meaning assigned to an activity (Jacob & Schreyer, 1980). According to Vaske et al. (1995), it is the importance that a recreationist places on an activity and not the activity itself that contribute to feelings of conflict (Vaske et al., 1995). Williams, Dossa, and Fulton (1994) found that participants with an intense or "experienced" activity style rather than those who are less intensely involved are most likely to experience conflict with other recreationists. According to Vaske, Carothers, Donnelly, & Baird (2000), the more intense an individual's activity style, the greater the likelihood that contact with less intense participants will result in conflict.

The second factor, resource specificity, is the significance that an individual attaches to using a specific recreation resource for a given activity (Jacob & Schreyer, 1980). One way to measure resource specificity is through frequency of visitation because it provides one indicator of the importance visitors place on an area (Watson et al., 1994). According to Vaske et al. (1995), first-time visitors to an area have no experience on which to judge acceptable behavior. "As visitation to a site increases, individuals have more information on which to base their evaluations, and therefore may apply more specific and critical norms of behavior. This suggests that as frequency of visitation increases, the odds of observing and judging specific behaviors as inappropriate increases. Thus, the potential for interpersonal conflict increases with increased visitation" (Vaske et al., 1995, p. 208). Also, according to Williams (1993), "conflict is more likely when a person views a place's qualities as unequalled compared to others, when a user with a possessive attitude encounters others who are perceived as disrupting the traditional users of a site, or when the actions of others are perceived as devaluing the special meaning of a place" (p. 31).

The third factor, mode of experience, is "the varying expectations of how the natural environment will be perceived" (Jacob & Schreyer, 1980, p. 370). Jacob & Schreyer (1980) described mode of experience as a continuum ranging from unfocused to focused. "As the mode of experiencing the environment becomes more focused, an individual produces more rigid definitions of what constitutes acceptable stimuli and is increasingly intolerant of external stimulation" (Jacob & Schreyer, 1980, p. 375). According to Williams et al. (1994), when a person in the focused mode interacts with a person in the unfocused mode, conflict is likely to occur for the person with specific expectations.

The final factor, tolerance for lifestyle diversity, is a person's likelihood to accept or reject others with lifestyles that are different from their own (Jacob & Schreyer, 1980). According to Ivy et al. (1992), tolerance is typically associated with beliefs about a particular group rather than reactions to actual behaviors. Differences in lifestyles are often communicated through visual cues such as equipment used by recreationists, style, appearance, or activities (Vaske et al., 2000; Williams, 1993). Conflict can arise because people may be unwilling to share resources with members of other lifestyle groups due to differences in education, types of jobs, and income (Williams et al., 1994). Those who demonstrate low tolerance for persons with differing lifestyles will be more likely to experience conflict (Vaske et al., 2000).

Safety Concerns.

Safety concerns, including reckless behavior, is the second type of interpersonal conflict according to Vaske et al. (1995). This type of recreation conflict can occur within any type of recreation activity and at any location. Common complaints include reckless or irresponsible behavior by others, poor user preparation or judgment, unsafe conditions related to the site, and collisions or near misses among different users and/or their recreation equipment (Moore, 1994). The following are activity specific examples citing safety concerns.

The first example includes safety concerns on trails. According to Moore (1994), unsafe situations or conditions caused by other trail users can keep visitors from achieving their desired trail experiences. Moore et al. (1998) found that in-line skaters posed the most

serious problems and reduced the enjoyment of the greatest number of participants along a greenway trail in Ohio. Some of the safety concerns included unsafe behavior due to speed, lack of skill, passing too close, or passing without warning (Moore et al., 1998).

Many traditional trail users also believe there is an increased safety hazard when mountain bikers share the trail with them (Hoger & Chavez, 1998). These concerns can be categorized into three groups: mountain bikers who ride too fast, mountain bikers who are not prepared to stop on blind corners, and mountain bikers who surprise equestrians and others on crowded trails (Hoger & Chavez, 1998). Watson et al. (1991), found similar behaviors listed by hikers about mountain bikers and other bicyclists that lead to feelings of conflict, including that they travel too fast and are were not courteous to hikers.

The second example includes safety concerns related to jet skies. "Although (they are) designed to be safe and reasonably quiet, irresponsible operators, typically young men (according to water enforcement authorities), engage in a variety of unsafe behaviors. Typical reckless behaviors include playing tag or 'chicken' with other crafts; wake jumping; wave hopping; trying to splash other boats, docks, or shore recreators; failing to wear a personal flotation device; and operating around swimmers" (Holland, Pybas, & Sanders, 1992, p. 53). All of these behaviors can cause feelings of conflict among other resource users.

A final example includes safety concerns at alpine ski resorts (Blahna et al., 1995). Williams et al. (1994), found that snow skiers perceived their counterparts, snowboarders, as being dangerous, purposely looking for risk and excitement, and often exhibiting "attention grabbing" forms of behavior. Overall, skiers felt that the actions of the snowboarders

conflicted with their need for exciting but relatively tensionless recreation experiences (Williams et al., 1994).

Inappropriate Behavior.

The third type of interpersonal conflict that will be discussed is inappropriate behavior conflict, in which one user group deems another group's behavior as offensive or unacceptable (Watson et al., 1991). In a study at Bird Island Basin, non-activity-based conflicts including litter and drunkenness were rated by visitors as potentially more serious than those linked to specific recreation activities (Ruddell & Gramann, 1994). Additional sources of such conflicts include encounters with "objectionable" traces of human activity, such as human waste (West, 1981; Whittacker & Shelby, 1988); exposure to "intrusive" or "threatening" behavior, such as yelling, loud radio playing or rule breaking (West, 1981; Devall & Harry, 1981); and dissatisfaction arising from encounters with persons using "unacceptable" modes of back-country travel, such as motorboats (Adelman, Heberlein, & Bonnicksen, 1982; Lucas, 1964; Ivy et al., 1992). A study by Watson et al. (1991), found that inappropriate behavior included making too much noise, taking the good campsites, getting in the way at portage, or disturbing the fishing, all of which are seen as sources of conflict.

Social Values Conflict

A second category of recreation conflict is social value conflict in which ill feelings are caused by lifestyle differences or by differing opinions of how to use a recreation

resource (Bury et al., 1983; Williams, 1993). To avoid these types of conflict, recreationists usually pursue activities with individuals of "their own kind" (Williams et al., 1994). However, recreational facilities are no longer being used by only one type of group with similar norms, lifestyles, and motivations for visiting. Instead, recreationists with different lifestyles, attitudes about the environment, and differences in motives for coming to the site interact with each other in multi-use recreational areas (Watson et al., 1991; Williams, 1993).

Hoger & Chavez (1998) found that trail conflict among mountain bikers and other users often arises from the perception that mountain biking is inherently wrong. "The average hiker may question why this 'crazy kid' needs to come into the woods in search of his or her adrenaline rush. The hiker may also believe that such high-tech bikes have no place in the 'natural' world where simplicity and tradition are held in reverence" (Hoger & Chavez, 1998, p. 44). It is when visitors with differing views on how a recreation resource should be used interact with each other that conflict can occur (Adelman et al., 1982; Jackson & Wong, 1982; Jacob & Schreyer, 1980; Knopp & Tyger, 1973).

Vaske et al. (1995) found evidence of social values conflict through their comparison of hunters and non-hunters at Mt. Evans in Colorado. In spite of the fact that nearly all the individuals that classified themselves as non-hunters did not physically observe any hunting-associated events (e.g., seeing hunters or seeing an animal being shot), many experienced conflict simply knowing that hunters were in the area (Carothers et al., 2001). Blahna et al. (1995) found similar results when hikers encountered llama-packing trips on trails. Even though hiker encounters with llama packing trips were rare, individuals philosophically

disagreed about the appropriateness of using the animals in the backcountry (Blahna et al., 1995).

Intra-Group and Inter-Group Conflict

According to Vaske et al. (2000), sources of unacceptable behavior or conflict can be put into two categories: those resulting from interactions with other individuals involved in the same activity (intra-group or in-group) and those resulting from interactions with other individuals involved in a different activity (inter-group or out-group). The research that has focused on the presence of out-group conflict (Adelman et al., 1982; Devall & Harry, 1981; Watson et al., 1991, 1994; Williams et al., 1994) has found that as one group defines another as an "outgroup", the potential for dispute rises (Ramthun, 1995). Jacob and Schreyer (1980) suggested that when groups identify another group as different from their own, they tend to give unfavorable evaluations of each other.

Past research has also explored recreation conflict as a result of in-group interactions (Vaske et al., 2000). For example, Ruddell & Gramann (1994) found tensions between highly specialized, skill-development-oriented windsurfers and less specialized, affiliation-orientated windsurfers at Padre Island National Seashore. However, the literature has generally found that recreationists are more tolerant of individuals engaged in the same activity as themselves than they are with those engaged in a different activity (Moore et al., 1998; Jackson & Wong, 1982; Gibbons & Ruddell, 1995; Knopp & Tyger, 1973; Lucas, 1964). According to Tajfel (1990), studies show that by simply belonging to a group (e.g.,

rafter), people tend to ascribe more favorable attitudes toward members of that group than they do to other groups.

Conflict Between Traditional and Non-Traditional Activities

Another theme within the conflict literature is to analyze the conflict between traditional and nontraditional activities occurring in the same recreational space. According to Vaske et al. (2000), individuals engaged in traditional activities may place greater significance on the resource than those participating in nontraditional activities. Previous research has shown that traditional users such as hikers or snow skiers frequently question the social acceptability of non-traditional activities such as mountain biking or snowboarding (Blahna, 1995; Watson et al., 1991; White & Schreyer, 1981).

This type of conflict has been found between skiers and snowboarders in which skiers, the tradition activity, experience feelings of conflict toward snowboarders and/or snowmobilers, the non-traditional activity (Vaske et al., 2000; Williams et al., 1994). According to Williams et al. (1994), the basic experience of downhill skiing in North America has remained relatively unchanged and, because of this, ski areas have been relatively free of user dispute. However, after introduction of snowboarding in the late 1970s, a tension between users has been introduced to the slopes. Originally thought to be a fad that would disappear, snowboarding has taken off and with its rise in popularity so have increased incidents of conflict due to differences in costume, language, and on-slope behavior (Williams et al., 1994).

Advances in Recreation Technology.

One important source of conflict between traditional and nontraditional activities is due to differences in recreation technology (Williams, 1993). According to Devall & Harry (1981), each year equipment manufacturers market new or partially new equipment to be used in outdoor settings and these new devices often give rise to tensions between users. For example in recent years technological advances in mountain biking have increased the ability of bikers to travel farther into remote areas (Chavez, Winter, & Baas, 1993). This is because improved technology has made wilderness travel such as mountain biking more convenient, comfortable, and less strenuous (Williams, 1993). This new ability of mountain bikes to travel further has also increased the likelihood of disputes between bikers and other trail users (Hoger & Chavez, 1998).

Influence of Mechanization.

New technology has also introduced mechanization into formerly non-mechanized recreation activities. This is significant since one of the most intense forms of conflict often involves participants in non-mechanized pursuits encountering recreationists engaged in mechanized activities (Bury et al., 1976; Dunn, 1970; Williams, 1993). For example, this introduction of mechanization has created conflict between cross country skiers and snowmobilers in which recreationists who do not use mechanization experience conflict with those who do (Knopp & Tyger, 1973; Jackson & Wong, 1982). The factors responsible include noise, size, speed of the recreational vehicles, and their ability to dominate a recreation site by forcing users of other technologies to adjust their behavior (Devall &

Harry, 1981). All of these factors compromise solitude and tranquility, which are often viewed by non-mechanized recreationists as necessary for the enjoyment of their experience (Butler, 1974).

Other examples of recreation conflict between mechanized and non-mechanized participants have been found between water skiers and fishermen (Gramann & Burdge, 1981), helicopter skiers and traditional snow skiers (Gibbons & Ruddell, 1995), paddling canoeists and motor craft users (Adelman et al., 1982; Ivy et al., 1992; Lucas, 1964), in-line skaters and other greenway users (Moore et al., 1998), and mountain bikers and other trail users (Chavez & Hoger, 1998). According to Chavez & Hoger (1998) these encounters set the "low-impact" passive user and the "high-impact" aggressive user in opposition.

Asymmetrical Conflict

Asymmetric conflict is a tendency for one group to be more prone to conflict than the other group (Blahna et al., 1995). In these situations, one group consistently reports that it has experienced conflict with a competing group whereas the other group often experiences little or no conflict (Watson et al., 1991). For example, Driver & Bassett (1975) found asymmetrical conflict between trout fishermen and canoeists, where trout fisherman disliked contact with canoeists, and the reverse was not experienced. Asymmetric conflict can be found within traditional activities such as between hikers and recreation stock users. It can also be found between traditional and non-traditional activities such as skiers and snowboarders. Finally, asymmetrical conflict can occur between non-mechanized and

mechanized recreationists, such as hikers and mountain bike riders. In all of these cases one group consistently reports feelings of conflict towards the other, but the reverse is not true.

Watson et al. (1994), found evidence of asymmetrical conflict between hikers and recreation stock users, in which more hikers disliked encounters with stock users than stock users with hikers. Generally they found that hikers did not mind meeting other hikers, but did mind meeting stock uses, and stock users did not mind meeting other stock users or hikers (Watson et al., 1994). Other studies of backcountry conflict have consistently documented asymmetrical dislike between hikers and horseback riders as well (Watson et al., 1994).

According to Williams (1993), one consistent finding within the recreational conflict literature is the one-way nature of conflict between cross-country skiers and snowmobilers (Williams, 1993). Jackson & Wong (1982), found that the conflict between skiers and snowmobilers was essentially asymmetrical in that skiers perceived snowmobilers as interfering with their activity, whereas snowmobilers enjoyed or were indifferent to meeting skiers. This may be because snowmobilers are machine-oriented and adventurous, looking for socialization and escape, whereas skiers are often looking for solitude, tranquility, physical exercise, and opportunities to experience the natural environment (Jackson & Wong, 1982).

Similar findings have also been found for the presence of asymmetrical feelings between motorcraft users and paddling canoeists, where canoeists experienced conflict and motor craft users did not (Adelman et al., 1982; Lime, 1975; Lucas, 1964; Ivy et al., 1992). In this one-way relationship, the non-mechanized users typically have a negative attitude toward mechanized users and dislike meeting them in the same recreational area (Adelman et

al., 1982). Adelman et al. (1982) found that the majority of paddlers enjoyed meeting and/or seeing other paddlers but disliked meeting and/or seeing motorcraft users. Whereas motorcraft users were neutral toward meeting and/or seeing other motorcraft users and enjoyed meeting and/or seeing paddling canoeists (Adelman et al., 1982). Ivy et al. (1992) reported similar findings in a study of Everglade's backcountry users in which canoeists reported higher perceived conflict than did motorboaters. Within this study of Everglade backcountry users, both motorboaters and canoeists experienced conflict due to inter-group encounters, however canoeists experienced a disproportionately larger share.

Whitewater Boating

Fast moving wild and scenic rivers are highly prized for their recreation value in addition to their scenic beauty. In 1997 the American Whitewater Affiliation (AWA) inventory listed 2,297 whitewater river segments totaling almost 31,000 miles within the United States. Most of these segments are located in the West, due to relatively large numbers of designated rivers in the Rockies, Cascades, and Sierras, whereas in the East most of the opportunities are located in close proximity to the Appalachian Mountains (Cordell et al., 1999).

The most common activities that take place on these rivers include rafting, kayaking, canoeing, fishing, and tubing, and many of these activities are growing rapidly in participation. For example, participation in canoeing and kayaking has grown from an estimated 2.6 million in 1960 to approximately 15 million in 1982-83. The estimated number of participants in 1994-95 was 17.5 million. Of these participants, 91 percent went canoeing,

20 percent went kayaking, and 11 percent went both canoeing and kayaking. The estimated percentage of canoeists and kayakers who used their boats in whitewater in 1994-95 was 21.1 percent (Cordell et al., 1999). According to Cordell et al. (1999) whitewater recreation has a devoted following and supports a large outfitter and guide industry including shuttle services, raft rentals, and river guides.

Past research has found that the demographic characteristics of whitewater boaters are relatively consistent over different types of river settings. According to Cernicek (1998), "the demographic characteristics of whitewater boaters have been relatively consistent throughout past research over many different types of river settings" (p. 32). For example, the mean age of whitewater boaters was between 30 and 41 years, the majority were males, and those that were female were more likely to be on commercial trips. In addition, Cernicek (1998) found that the level of experience varied across rivers with between 38% and 70% being on trips for the first time. Those that did have previous experience tended to have been on other rivers with an average of 3 to 6 trips over a 4 to 10 year period.

The increase in popularity of whitewater boating can be attributed to many reasons, including advances in equipment technology such as boats, paddles, flotation inserts, spray aprons, and other items (Cordell et al., 1999). "From the aluminum and wooden boats in the 1960s and before, the new equipment has evolved rapidly toward more durable plastic boats that can withstand impacts from obstacles and torque from rapids" (Cordell et al., 1999, p. 238). In addition, whitewater boating has attracted individuals because it accommodates a variety of skills and needs. These include accomplishments for both the individual and the group, physical and mental challenges, building teamwork and friendship, opportunities for

solitude, and that whitewater boating requires technique as well as strength (Cordell et al., 1999).

According to Cordell et al. (1999), the future of whitewater boating will be pressured by the combination of declining access and resources while experiencing an increase in demand by recreationists. This will affect changes in fees, rules, and regulations. All of which are less tangible than fences or dams, but often just as significant. Finally, the future will contain challenges by different user groups competing for access and user rights. "Besides various forms of human-powered whitewater boating, the wildest rivers are increasingly attracting new user groups, and the most obvious are jet boaters and jet skis" (Cordell et al., 1999, 248). This increasing number of participants on a declining resource will increase the likelihood of conflict experienced by one group or another.

Boating Conflict

Just like numerous other recreational activities, boating activities such as rafting and kayaking have experienced different forms of conflict from multiple sources. Some of these sources include river recreation project development, conflicts between the river users and the riparian landowners, and problems related to management and administration of river recreation. River recreationists often have a fundamental difference of opinion about resource development than proponents of real estate development, hydroelectric projects, and certain agricultural operations. For example, there are often significant conflicts between river users and adjacent property owners who are concerned about trespassing, litter, property damage, vandalism, noise, fire, poaching, use of firearms, and general disrespect for the

landowner may occur. Finally, a serious problem facing river recreationists and management is overuse, which can lead to an unpleasant user experiences as well as degradation of the natural resource. (Countess, Criley, & Allison, 1977)

Asymmetrical feelings of conflict are also evident among river recreationists. In a paper by Adelman et al. (1982), evidence of asymmetrical conflict between motor craft users and paddling canoeists in the Boundary Waters Canoe Area (BWCA) was found. In their study, 71% of paddlers disliked meeting and/or seeing motor craft uses in the BWCA, while only 8 percent of the motor craft users disliked meeting and/or seeing paddlers (Adelman et al., 1982). This is consistent with earlier results from Lucas (1964) in which the same trend was found. This relationship was attributed to differences in norms about appropriate behavior in recreation settings, in which paddlers attached a high importance to wilderness travel and viewed motorcraft users as not sharing that value and acting inappropriately in the BWCA (Adelman et al., 1982; Lucas, 1964).

A final trend in river recreation literature has been conflict between mechanized and non-mechanized recreationists. This may stem from differences in backgrounds and attitudes of users, economic impacts, safety including noise levels or injuries, enforcement problems, and ecological effects on wildlife, plants, and water quality (Knopp & Tyger, 1973). This type of conflict has been documented between canoeists and motorboaters in the BWCA, in which these two groups defined their wilderness experiences differently in terms of geographical area, level of development, and appropriate kinds of use for the resource (Lucas, 1964; Shelby, 1980). Difficulties can arise when motorized and nonmotorized recreationists have differing views of how the resource is to be used (Shelby, 1980).

A similar study by Shelby (1980) compared oar powered and motor powered river trips in the Grand Canyon. The results mirrored the findings of asymmetrical conflict between mechanized and non-mechanized recreationists in the Boundary Waters Canoe Area studies. In this study, oar-powered passengers preferred to meet other oar-powered travelers, while most motor travelers did not care which type of groups they encountered. Often oar-powered passengers found the motors and accompanying noises less appropriate in the canyon, preferred to have less contact with other groups, and were more concerned about crowding and human impacts as compared to passengers on motorized trips (Shelby, 1980).

Commercial and Noncommercial Whitewater Boaters

Schreyer & Roggenbuck (1978) studied the differences between commercial and noncommercial whitewater boaters in Dinosaur National Monument during the summer of 1975. They felt that different individuals might participate in the same activity for different reasons or experiences including stress relief, excitement, solitude, achievement, and/or to learn about nature. Through their study they found that private, commercial, and "education boaters" (those participating in an Outward Bound trip) all participating in the same recreation activity differed significantly in their rated importance for different recreation experience expectations.

A study by Nielsen and Shelby (1977) examined the differences between commercial and private boaters regarding the "motor-oar" issue within the Grand Canyon. Their study also found differences between private and commercial boaters. For example, they found that private users were slightly younger, predominately male, reported slightly lower

incomes, and were less likely to live in cities. They also found that private boaters were more likely to belong to outdoor clubs, to have visited the Grand Canyon before, and participated more frequently in other outdoor activities such as camping or backpacking. Finally, private boaters were more likely to object to motor noise, perceive more crowding, oppose more conveniences, and perceive the canyon as affected by use. However, the biggest difference they found between private and commercial boaters was their outdoor experience level. Private boaters had more experience running other rivers and commercial users were more likely to report that their current trip was their first wilderness type experience (Nielsen & Shelby. 1977).

Townsend & Tarbet (1982) examined differences between private and commercial boaters on the Chattooga River. They found that private boaters were more sensitive to problems on the Chattooga River, especially problems relating to resource purity and recreation conflict. They were more aware of environmental damage and they were more likely to see crowding as a problem than were commercial boaters. Also, private boaters were more likely to perceive user conflicts, view crowding as a problem, and to see more people than expected. The authors attributed these differences to the fact that commercial users were primarily first-time visitors with few expectations of their river experience. "On their first trip down a whitewater river, with few preconceived notions of what to expect from their 'wilderness experience,' most commercial users concentrate on paddling and sharing the experience with their rafting companions" (Townsend & Tarbet, 1982, p. 222). They compare this to private users, who have a greater familiarity with the resource due to their

longer-term river use, which may have made them more sensitive to changes within the resource (Townsend & Tarbet, 1982).

Summary

Since the mid 1960s there has been considerable research building on the conflict ideas contributed by early researchers such as Jacob and Schreyer (1980). Their concept of goal interference conflict has been joined by numerous other concepts of conflict used to describe the negative feeling experienced by some recreationists. Much has been learned about the conflict between different trail users; skiers, snowboarders, and snowmobilers; and various water recreationists including water skiers, anglers, and motorboaters. One particular dynamic of conflict that has been studied is the idea of asymmetrical conflict in which negative feelings are experienced by one recreation group but not the other. Most of the studies in this area have focused on conflict between non-mechanized and mechanized recreationists such as cross-country skiers and snowmobilers, with a lesser focus on the asymmetric conflict between various non-mechanized recreationist groups.

It is hoped that this study will contribute to the existing literature on recreation experience and the effects that different recreation groups sharing the same resource have on each other. Specifically, this study focuses on the negative effects or conflict that can be experienced by one non-mechanized recreation group towards another.

III. METHODOLOGY

This chapter describes the methodology employed in this study, and the research procedures used, including a description of the study area, sample, data collection methods, instrumentation, and analyses. More information is available in Moore and Siderelis (2003).

Study Area

This study took place on the Wild and Scenic segment of the Chattooga River. This river segment begins at the base of the Whiteside Mountain in southwestern North Carolina and flows approximately 57 miles to Lake Tugaloo in Georgia and South Carolina. According to the United States Forest Service, from its origin in the Appalachian Mountains it flows southward for about 10 miles in North Carolina, and then continues for over forty miles creating the state boundary between Georgia and South Carolina. Along its trip it drops almost one half-mile in elevation making it one of the most spectacular free-flowing rivers in the southeast (Boyd, 2001).

In May of 1974, Congress designated this 57 mile segment of the Chattooga as a Wild and Scenic River, which made it the first river in the Southeast to be given this designation (Moore & Siderelis, 2003). Of its 57 miles, 40 miles are classified as wild, 2 miles are classified as scenic, and 15 miles are classified as recreational (Boyd, 2001). These designations are reserved for rivers that contain outstanding scenery in addition to recreational, wildlife, geological, and cultural values. The Chattooga River flows through the Sumter, Chattahoochee, and Natahala National Forests, which contributes to its primitive character and undeveloped shorelines (Boyd, 2001; Moore & Siderelis, 2003).

In addition to its scenic beauty, the Chattooga offers many recreation opportunities including canoeing, whitewater rafting, kayaking, and fishing. The corridor surrounding the river is also a popular location for hiking, backpacking, horseback riding, and other forms of outdoor recreation. The Chattooga is divided into four boating "sections" that vary in difficulty. Section I is slow and gentle, section II includes shelf-like rapids and one Class 3 rapid, section III contains rapids up to Class 5, and the final section, IV, is the most technical and dangerous with numerous Class 3, 4, and 5 rapids. Section IV ends at Lake Tugaloo, which also marks the end of the wild and scenic segment (Moore & Siderelis, 2003).

Sample and Data Collection

This study was part of a larger study sponsored by American Rivers and the National Parks Service. The sample consisted of individuals who used the Chattooga River and its corridor in 2002, and consisted of commercially guided boaters, self-guided boaters, and annual pass holders for fee based Forest Service access points identified through three different mailing lists. The first sample of users was obtained from two of the three river outfitters who provided the names and addresses of their commercial boating customers from 2002. A systematic sample proportional to each outfitter's share of overall guided boating was pulled from these lists. The second sample of users was generated from on-site permits from 2002, which are required of all private "self guided" boaters. The third sample of users included all of the 2002 annual pass holders. This group was included in the sample as a representation of other river activities that occur beyond boating such as hiking, bird watching, fishing, and camping. The annual passes were passes to the U.S. Forest Service

parking areas where fees are charged. The annual pass holders were asked to answer the questionnaire not only in terms of their use of the river itself, but also their use of the river corridor, defined as the area within a quarter mile on either side of the river. If the annual pass holder had not visited the study area within the last 12 months, they were instructed to write, "have not visited" on the survey and return it so that they could be removed from the sample.

After the lists were compiled from each of the subsamples (guided boaters, private boaters, and annual pass holders) questionnaires were administered through the mail. Up to three mailings were sent to each member of the sample in order to maximize the response rate. Overall, the response rate was 43% and is detailed in Table 1.

Table 1. Sample Sizes and Response Rates

	Guided Boaters	Self-guided Boaters	Annual Pass Holders	Total
Questionnaires Mailed	982	942	180	2,104
Returned Undeliverable	34	80	10	124
Returned "did not visit" in 2002	11	1	32	44
Effective Sample Size	937	861	138	1,936
Response Rate	38.4%	51.1%	29.7%	43.4%

Survey Instrument

The survey instrument was developed by faculty from North Carolina State University, in collaboration with American Rivers, the National Park Service, the United States Forest Service, and river outfitters. The questionnaire consisted of twelve pages containing six sections of closed and open-ended questions. The questionnaire collected information pertaining to characteristics of the respondent's most recent trip to the Chattooga River, their river activities, their opinions about the Chattooga River resource and its management, their experiences, and their expenditures. Additional information on the methods, questionnaire, etc. is available in Moore and Siderelis (2003).

Study

The primary focus of this study was to compare rafters and kayakers and to examine the effects that they had on each other's experiences. Therefore, the principal independent variable in this study was boater type (i.e., rafters and kayakers). In order to operationalize this variable respondents were asked two questions. The first asked them to list all of the river activities they engaged in during their most recent Chattooga River visit from a list of activities provided. These activities included canoeing, kayaking, tubing, rafting, hiking, and camping. The second question asked the respondent to list their *primary* activity from the above list for their most recent visit. Those that responded that their primary activity was rafting or kayaking were isolated from the remainder of the sample for further analyses.

Recreation conflict was the principal dependent variable. In order to operationalize conflict between these two groups, a series of three questions were asked of the respondents

in section three of the questionnaire. The first question, "Approximately how may people did you see *kayaking* the Chattooga River during your most recent visit?" Respondents answered the question by filling in a number. The second question asked, "How did your encounters with people *kayaking* affect your enjoyment at the river that day?" The respondents answered by circling a number on a 7-point scale ranging from –3 indicating "greatly reduced enjoyment", 0 indicating "no effect on enjoyment", and +3 indicating "greatly increased enjoyment". The final question in the series asked, "if applicable, briefly describe *how* people *kayaking* reduced or increased your enjoyment that day." Respondents answered the final question in an open-ended format. This series of three questions was then repeated for rafters on the Chattooga River as well.

Analyses

The data obtained from the surveys was entered, checked for errors, and analyzed using the STATA statistical package. Descriptive statistics were used to summarize the findings regarding the characteristics of the survey respondents, and their river use, attitudes, experiences, and preferences. The responses to the open-ended questions were recorded verbatim, content analyzed by three raters, and tabulated.

IV. RESULTS

This chapter describes the results of the study analyses. It is organized into four sections starting with descriptive information followed by the statistical comparisons. The first section provides a summary of nine variables used to compare the rafters and kayakers on the Chattooga River. The second section describes in more detail the characteristics of the rafting and kayaking users of the Chattooga River. The third section concerns the characteristics of rafters' and kayakers' most recent visit to the Chattooga River. The forth section compares the motivations of rafters and kayakers. The final section discusses how they affected one another's recreation experiences during their most recent trip.

Summary

This section provides a comparison of Chattooga River rafters and kayakers by examining nine variables related to the boaters themselves and their most recent trip to the river. The results indicate that the two groups are quite different, with all nine variables being significantly different at the 0.01 level or greater. The comparisons are presented in Table 2, which provides a summary of some of the key differences between rafters and kayakers and their significance levels.

The first variable to show significant differences between rafters and kayakers at the 0.001 level was gender. For both rafters (57.4%) and kayakers (87.8%) the majority were male, however, the percentage of kayakers that were male was almost a third higher than for rafters. Age was also significantly different at the 0.001 level. Those individuals rafting

were slightly older on average with a mean age of 42.3 years, as compared to those individuals kayaking with a mean age of 36 years.

Table 2. Differences in User Characteristics Among User Groups

Variable	Rafters	Kayakers	n	Differences Among Groups
Gender (% male)	57.4	87.8	421	x^2= 65.7***
Age (mean)	42.3	36.0	594	*t*= -7.3***
First visit (% yes)	49.3	7.1	607	x^2=124.4***
One way miles traveled to the Chattooga River (mean)	334.6	155.1	578	*t*= -8.1***
Was your visit part of an overnight trip away from home? (% yes)	76.1	41.0	605	x^2= 77.1***
Number of people in travel party (mean)	5.0	3.9	606	*t*= -3.4***
Year of first visit (mean)	1993	1991	403	*t*= -2.7**
Number of trips taken in the past 12 months (mean)	2.3	14.6	585	*t*= 8.2***
Number of trips expected to take in the next 12 months (mean)	2.4	20.3	546	*t*= *-4.2***

** Significant at the .01 level
*** Significant at the .001 level

In addition to their gender and age, rafters and kayakers significantly differed with regard to characteristics of their most recent Chattooga trip. For example rafters and kayakers were significantly different at the 0.001 level with regard to the number of miles they traveled to reach the Chattooga River, if their visit was part of an overnight stay, and the number of people in their travel party. Overall, rafters were more likely to have traveled longer distances than kayakers to reach the river, 334.6 miles and 155.1 respectively, to have their visit be part of an over night stay, 76.1% and 41.0% respectively, and to have more people in their travel part than kayakers, 5.0 people and 3.9 people respectively. Rafters and

kayakers continued to show differences through their trip history and frequency as well. When asked if their most recent trip was their first trip to the Chattooga River almost half (49.3%) of the rafters said that it was, compared to only 7.1%. This difference was statistically significant at the 0.001 level. There were also differences between the groups with regard to the first year that they visited the river. For rafters the mean year was 1993 and for kayakers the mean year was 1991 (significantly different at the 0.01 level). Final comparisons revealed differences for the number of trips taken within the past twelve months and the number of trips expected for the next twelve months. The mean number of trips for rafters was 2.3 for the past 12 months and 2.4 for the next twelve months, whereas kayakers had a mean of 14.6 trips for the past 12 months and anticipated taking 20.3 trips in the coming twelve months on average.

General Characteristics of Rafters and Kayakers

Information presented in this section, the general characteristics of the study respondents, adds to our knowledge of Chattooga River users and users. Of the 772 respondents, 342 (44.3%) were rafters and 267 (34.6%) were kayakers based on their self-reported primary activity for their most recent visit. The remaining 163 (21%) respondents engaged in another river activity including canoeing, tubing, or hiking. Those 163 respondents were removed from the sample for the remainder of the analyses. The majority of both rafters and kayakers were males. Of the 594 rafters and kayakers 70.9% were male and 29.1% were female. Of the 331 rafters who provided their gender, 190 (57.4%) were male (Figure 1) and of the 263 kayakers, 231 (87.8%) were male (Figure 2).

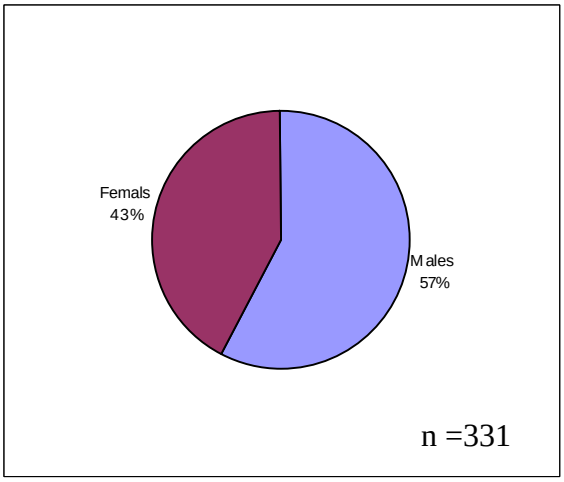

Figure 1. Gender of Rafters

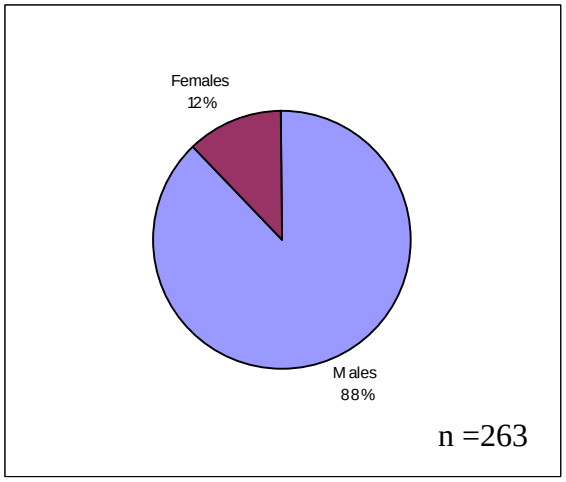

Figure 2. Gender of Kayakers

The age of the study respondents ranged from 14 to 71 years of age, with a mean age of 42.3 years for rafters and 36.0 years for kayakers. Three respondents under the age of 18 were included in this study. The most common age category for rafters (41.2%) was between the ages of 40 and 49, whereas the most common age of the kayakers (32.2%) was between the ages of 30 and 39 (Table 2).

Table 3. Respondent's Age

Age	Rafter n (%)	Kayaker n (%)	Total (%)
Under 20	1 (0.3%)	7 (2.7%)	8 (1.3%)
20-29	43 (13.0)	74 (28.0)	117 (19.7)
30-39	73 (22.1)	85 (32.2)	158 (26.6)
40-49	136 (41.2)	68 (25.8)	204 (34.3)
50-59	59 (17.9)	24 (9.1)	83 (14.0)
60-69	14 (4.2)	6 (2.3)	20 (3.4)
70 and over	4 (1.2)	0 (0.0)	4 (0.7)
Total	330 (99.9%)	264(100.1 %)	594(100.0 %)
Mean (SD)	42 (10.6)	36 (10.6)	40 (11.0)

Respondents were also asked questions regarding their highest level of education, occupation, and annual household income. Most of the respondents were well educated, worked in professional careers, and had fairly high household incomes. In terms of the highest level of education completed, the majority of rafters (54.2%) and kayakers (52.0%) were college graduates (Table 4). The most common occupation level was also the same for the rafters and kayakers with the majority of rafters (53.2%) and the plurality of kayakers (37.2%) reporting their occupation as managerial or a professional specialty (Table 5). Both of these characteristics contributed to the majority of rafters (53.9%) reporting an annual household income of $80,000 dollars a year or greater, with (8.4%) reporting a household income of $200,000 or more. For the plurality of kayakers (20.6%) their annual household income was between $40,000 and $59,999 dollars (Table 6). On average, rafters had considerably higher annual household incomes than did kayakers.

Table 4. Respondent's Highest Level of Education

Education Level	Rafter Frequency	(%)	Kayaker Frequency	(%)	Total	(%)
8th grade or less	0	(0.0%)	0	(0.0%)	0	(0.0 %)
Some high school	0	(0.0)	4	(1.5)	4	(0.7)
High school diploma or GED	14	(4.3)	11	(4.2)	25	(4.3)
Business or trade school	7	(2.1)	14	(5.4)	21	(3.6)
Some college	60	(18.3)	40	(15.4)	100	(17.0)
College graduate	120	(36.6)	81	(31.2)	201	(34.2)
Some graduate school	29	(8.8)	26	(10.0)	55	(9.4)
Master's degree	61	(18.6)	54	(20.8)	115	(19.6)
Doctoral or professional degree	37	(11.3)	30	(11.5)	7	(11.4)
Total	328	(100.0%)	260	(100.0%)	588	(100.2%)

Table 5. Respondent's Occupation

Occupation	Rafter Frequency (%)	Kayaker Frequency (%)	Total (%)
Managerial or professional specialty	175 (53.2%)	96 (37.2%)	271 (46.2%)
Technical, sales or administrative support	31 (9.4)	38 (14.7)	69 (11.8)
Retired	17 (5.2)	15 (5.8)	32 (5.5)
Student	3 (0.9)	7 (2.7)	10 (1.7)
Service occupation	9 (2.7)	9 (3.5)	18 (3.1)
Precision production, craft or repair	0 (0.0)	1 (0.4)	1 (0.2)
Farming, forestry or fishing	8 (2.4)	1 (0.4)	9 (1.5)
Homemaker	13 (4.0)	32 (12.4)	45 (7.7)
Unemployed	16 (4.9)	9 (3.5)	25 (4.3)
Operator, fabricator or laborer	2 (0.6)	1 (0.4)	1 (0.2)
Other	56 (17.0)	49 (19.0)	105 (17.9)
Total	329 (100.3%)	258 (100.0%)	587 (100.1%)

Table 6. Respondent's Annual Household Income

Income	Rafter Frequency (%)		Kayaker Frequency (%)		Total (%)	
Under $20,000	11	(3.4%)	33	(13.0%)	44	(7.7%)
$20,000-$39,999	29	(9.0)	37	(14.6)	66	(11.5)
$40,000-$59,999	55	(17.1)	52	(20.6)	107	(18.6)
$60,000-$79,999	53	(16.5)	46	(18.2)	99	(17.2)
$80,000-$99,999	56	(17.4)	39	(15.4)	95	(16.6)
$100,000-$119,999	37	(11.5)	14	(5.5)	51	(8.9)
$120,000-$139,999	22	(6.9)	10	(4.0)	32	(5.6)
$140,000-$159,999	16	(5.0)	10	(4.0)	26	(4.5)
$160,000-$179,999	7	(2.2)	1	(0.4)	8	(1.4)
$180,000-$199,999	8	(2.5)	1	(0.4)	9	(1.6)
$200,000 or more	27	(8.4)	10	(4.0)	37	(6.4)
Total	321	(99.9%)	253	(100.1%)	574	(100.0%)
Mean (SD)	$104,000 ($54,000)		$78,000 ($48,000)		$92,000 ($52,000)	

Rafter and Kayaker Visits that Day

The following information was derived from questions asking respondents about their most recent trip to the Chattooga River. Overall, rafters traveled further to reach the Chattooga and stayed longer on the river than did kayakers. Due to the number of miles traveled to reach the river and the length of stay on the river, rafters were also more likely to have their visit be part of an overnight stay. Finally, rafters were more likely to be visiting with family, whereas the kayakers were more likely to be visiting with friends.

When asked how many miles they had traveled from their home to where they accessed the river that day, responses ranged from 0 to 2000 miles. On average the rafters traveled about twice as far as the kayakers to reach the Chattooga River. The mean distance traveled by the rafters was 334.6 miles, whereas the mean distance traveled for the kayakers was only 155.1 miles. The majority of rafters (52.8%) indicated that they had traveled 201 miles or more, while the majority of kayakers (62.3%) indicated that they had traveled 100 miles or less to reach the Chattooga River that day (Table 7). The vast majority (97.4%) of both rafters and kayakers traveled by car, truck, van, or motorcycle to reach the Chattooga River.

Table 7. Miles Traveled to Chattooga River

Miles	Rafter Frequency (%)	Kayaker Frequency (%)	Total (%)
10 or Less	15 (4.7%)	12 (4.6%)	27 (4.7%)
11-50	35 (11.0)	45 (17.3)	80 (13.8)
51-100	50 (15.7)	105 (40.4)	155 (26.8)
101-150	30 (9.4)	44 (16.9)	74 (12.8)
151-200	20 (6.3)	13 (5.0)	33 (5.7)
201-300	37 (11.6)	11 (4.2)	48 (8.3)
301-400	33 (10.4)	6 (2.3)	39 (6.7)
401 or More	98 (30.8)	24 (9.2)	122 (21.1)
Total	318 (99.9%)	260 (99.9%)	578 (99.9%)
Mean (SD)	334.6 (322.0)	155.1 (207.5)	253.9 (290.3)

When asked how long they stayed at the Chattooga during their most recent visit, rafters spent more time at the river than did the kayakers. The distance traveled by rafters in addition to the length of their stay at the river also contributed to their trips being part of an overnight stay. The majority of rafters (54.4%) generally spent between 5.5 to 7 hours as compared to the majority of kayakers (55.1%) who generally spent between 2.5 to 5 hours at the river (Table 8). Respondents were also asked if their visit was part of an overnight trip away from home. The majority of rafters (76%) responded that their visit was part of an overnight trip away from home (Figure 3), whereas the majority of kayakers (59%) responded their visit was not part of an overnight trip (Figure 4).

Table 8. Length of River Visit that Day

Time	Rafter Frequency (%)	Kayaker Frequency (%)	Total (%)
1 hour or less	0 (0.0%)	1 (0.4%)	1 (0.2%)
>1 hour through 2 hours	1 (0.3)	4 (1.6)	5 (0.9)
>2 hours through 3 hours	4 (1.3)	22 (8.6)	26 (4.5)
>3 hours through 4 hours	24 (7.5)	55 (21.5)	79 (13.8)
>4 hours through 5 hours	42 (13.2)	64 (25.0)	106 (18.5)
>5 hours through 6 hours	104 (32.7)	56 (21.9)	160 (27.9)
>6 hours through 7 hours	69 (21.7)	18 (7.0)	87 (15.2)
>7 hours through 8 hours	62 (19.5)	19 (7.4)	81 (14.1)
Longer than 8 hours	12 (3.8)	17 (6.6)	29 (5.1)
Total	318 (100.0%)	256 (100.0%)	574 (100.2%)

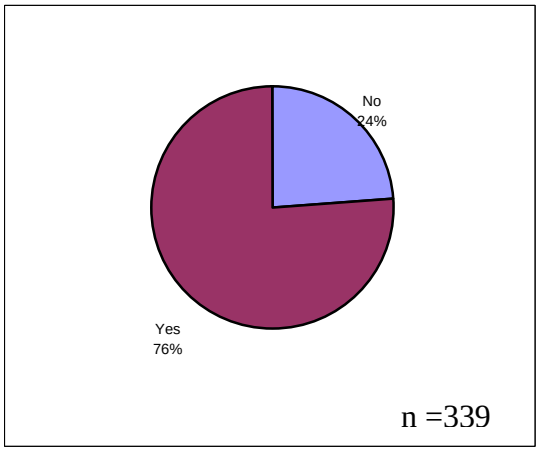

Figure 3. Rafters on an Overnight Trip

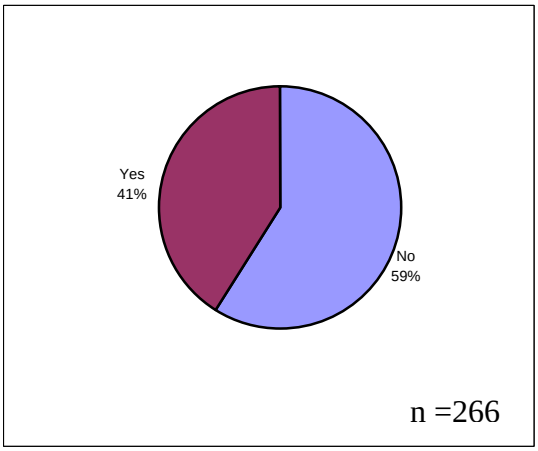

Figure 4. Kayakers on an Overnight Trip

When asked to describe the group that the respondents were with during their most recent visit to the Chattooga River, the majority of rafters (53.8%) responded that they were with family. The majority of kayakers (73.1%) on the other hand responded that they were with friends (Table 9).

Table 9. Type of Group

Group	Rafter Frequency (%)	Kayaker Frequency (%)	Total (%)
Family	179 (53.8%)	27 (10.2%)	206 (34.5%)
Friends	72 (21.6)	193 (73.1)	265 (44.4)
Family & Friends	51 (15.3)	26 (9.8)	77 (12.9)
Organized Group	13 (3.9)	13 (4.9)	26 (4.4)
Other	18 (5.4)	5 (1.9)	23 (3.9)
Total	333 (100.0%)	264 (99.9%)	597 (100.1%)

Rafters and kayakers were asked questions regarding the frequency of their trip behavior. Overall, kayakers were more likely to have visited the river before. They were also more likely than rafters to have taken more than one trip to the river within the past 12 months. When asked how many years it had been since their first visit, kayakers were more likely have a made their first trip a longer time ago.

When asked if their most recent trip was their first visit to the Chattooga River 93% of kayakers responded that it was not their fist trip (Figure 6). As compared to the rafters who were nearly evenly split between those who had (51%) and those who had not (49%) visited before (Figure 5). If the respondent had visited the Chattooga River before, they were then asked to give the month and year of their first visit. This information was used to determine the number of years since the respondent's first visit to the river (Table 10). The

most common response for both the rafters (21.8%) and kayakers (30.2%) was that their first visit was within the past 2 to 5 years. However, (17.7%) of the kayakers had made their first visit to the Chattooga 21 years ago or more.

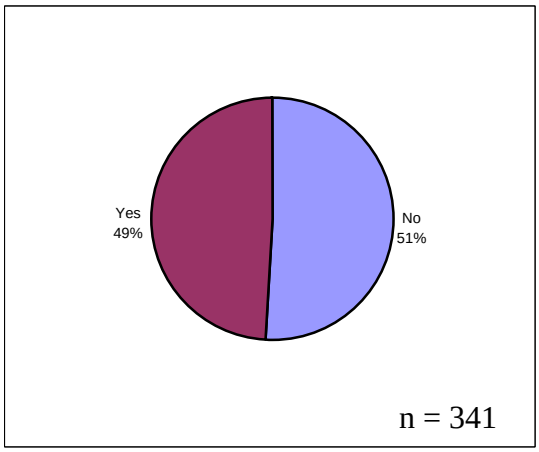

Figure 5. Rafter's First Visit

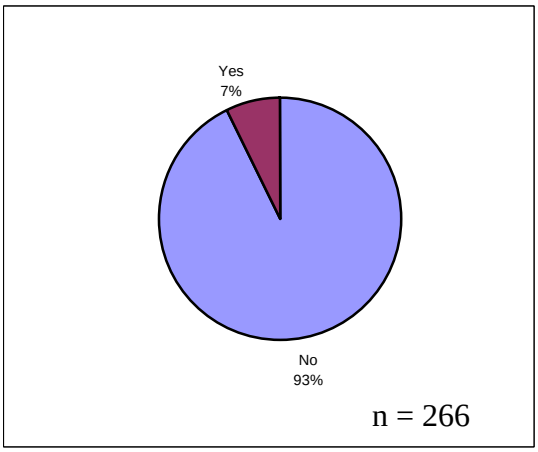

Figure 6. Kayaker's First Visit

Table 10. Number of Years Since Respondent's First Visit to the River

Number of Years	Rafter Frequency (%)	Kayaker Frequency (%)	Total (%)
1st Visit	168 (49.3%)	19 (7.1%)	187 (31.7%)
Within the past year	4 (1.2)	10 (3.9)	14 (2.4)
2-5	73 (21.8)	77 (30.2)	150 (25.4)
6-10	36 (10.7)	50 (19.6)	86 (14.6)
11-15	15 (4.5)	31 (12.2)	46 (7.8)
16-20	20 (6.0)	23 (9.0)	43 (7.3)
21-25	11 (3.3)	18 (7.1)	29 (4.9)
26-30	8 (2.4)	19 (7.5)	27 (4.6)
31 or More	0 (0.0)	8 (3.1)	8 (1.4)
Total	335(100.0%)	255(100.1%)	590(100.1%)
Mean (SD)	1991 (9.4)	1993 (7.8)	1992 (8.9)

When asked about how many trips they had taken to the Chattooga River during the past twelve moths, the vast majority of rafters (80.3%) responded that they had taken only 1 trip, as compared to the majority of kayakers (50.4%) who had taken between 2 and 10 trips within the past twelve months (Table 11).

Table 11. Number of Trips Taken in the Past 12 Months

# of Trips	Rafter Frequency (%)	Kayaker Frequency (%)	Total (%)
0	10 (3.1%)	0 (0.0 %)	10 (1.7 %)
1	261 (80.3)	40 (15.4)	301 (51.5)
2-5	44 (13.5)	74 (28.5)	118 (20.2)
6-10	3 (0.9)	57 (21.9)	60 (10.3)
11-20	3 (0.9)	42 (16.2)	45 (7.7)
21-50	2 (0.6)	38 (14.6)	40 (6.8)
51-100	1 (0.3)	7 (2.7)	8 (1.4)
101 or More	1 (0.3)	2 (0.8)	3 (0.5)
Total	325 (99.9%)	260(100.1%)	585(100.1%)
Mean (SD)	2.3 (9.2)	14.6 (22.9)	7.7 (17.8)

Respondents were also asked what commercial guide services, if any, that they used during their most recent visit (Figures 7 and 8). Overall, rafters were more likely to have used a commercial outfitter, whereas kayakers were more likely to consider themselves to be self-guided. The majority of rafters (97.0%) responded that they had used a guided raft trip provider, whereas (98.8%) of kayakers responded that they had not use any commercial outfitter service. When asked if they were “self-guided” (3%) of the rafters said that they were, as compared to (97.7%) of the kayakers who said that they considered themselves to be self-guided (Figures 9 and 10).

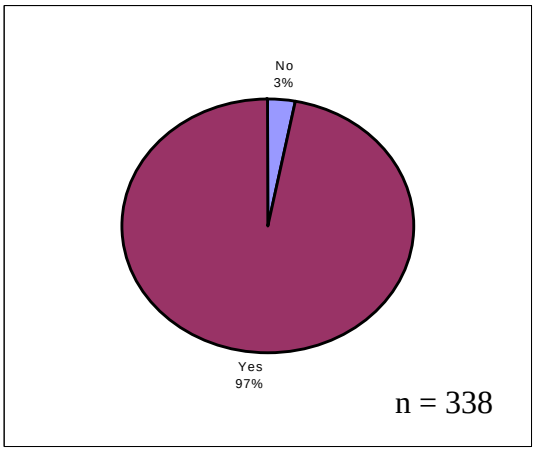

Figure 7. Rafters on a Guided Trip

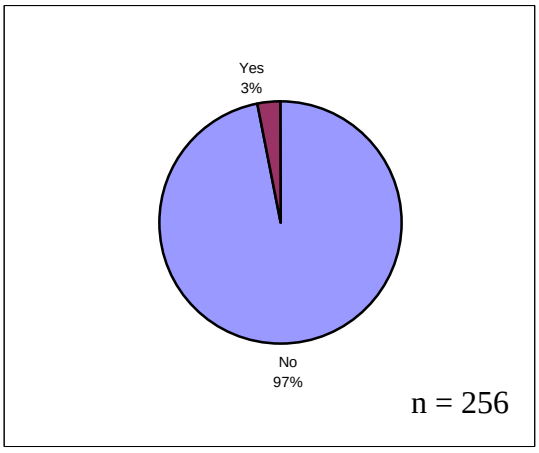

Figure 8. Kayakers on a Guided Trip

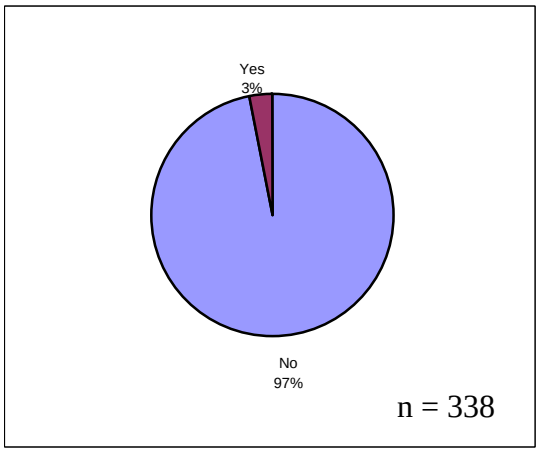

Figure 9. Rafters on a Self-guided Trip

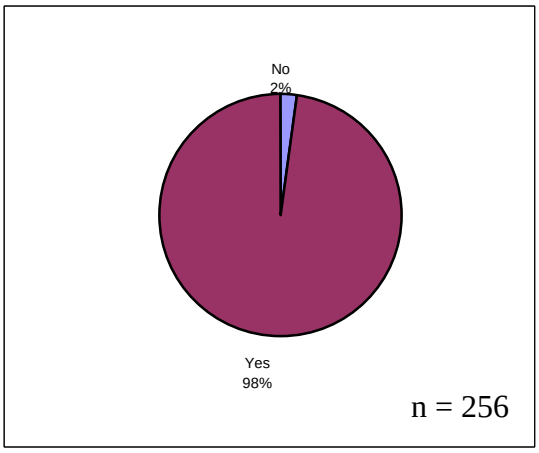

Figure 10. Kayakers on a Self-guided Trip

Importance of Motivations

Respondents were asked what motivated them to visit for their most recent trip by indicating how important each of the experiences listed was to them as a reason to visit. Their responses were measured on a 5-point scale ranging from 1 for “not at all important” to 5 for “extremely important”. The results for this section are summarized in Table 12. Overall, the rafters ranked 5 of the motivations as very important (mean 3.5 – 4.5), 6 motivations as

moderately important (mean 2.5-3.4), 6 motivations as of little importance (mean 1.5-2.4), and 2 motivations as not important at all (mean 1.4 or lower). Kayakers, on the other hand, rated 9 motivations as very important (mean of 3.5 – 4.5), 7 motivations as moderately important (2.5-3.4), and 3 motivations as of little importance (mean of 1.5-2.4). The kayakers did not rank any of the motivations as not being important at all. The top three motives for both rafters and kayakers were the same based on the overall means. They were *to enjoy the view*, *to experience the Chattooga River*, and *to be close to nature*. These motivations all focus on experiencing the area's natural resources and the setting itself. There were only three motives, including *to take risks*, *to show others that I can do it*, and *to be creative*, that did not have significant differences between rafters and kayakers.

Beyond the first three motives, rafters and kayakers differed on the motivations that they felt were important and not important. For example, other important motives for rafters included social aspects such as *to do something with their family* and *to be with members of their group*. The least important motives for rafters included *to use their equipment*, *to show others I can do it*, and *to be away from the family for a while*. Other important motives for kayakers differed from those of rafters including *to get exercise*, *to share knowledge or skills with others*, and *to use their equipment*. All of these motives focus on different aspects of participating in the activity of kayaking. Kayakers also ranked *to be with members of their group* as an important motive, but ranked both *to be away from family for a while* and *to show others I can do it* as the least important motives for their trip. Overall, rafters and kayakers were different in terms of the level of importance of the motives, with 19 of the 22 motivations being statically different at the 0.05 level.

Table 12. Importance of Motives by Activity

	Rafters	Kayakers			
Motive	**Mean**	**Mean**	**n**	***t***	***p***
To enjoy the view along the river	4.5	4.7	601	2.4	0.02
To experience the Chattooga River	4.4	4.6	603	2.9	0.00
To be close to nature	4.1	4.5	596	4.2	0.00
To be with members of my group	3.6	4.0	595	3.3	0.00
To get exercise	3.2	4.1	601	10.4	0.00
To relax physically	3.3	3.6	597	3.3	0.00
To help reduce built-up tension	3.1	3.9	598	7.0	0.00
To do something with my family	4.0	2.5	585	-1.5	0.00
To experience solitude	2.7	3.5	594	7.0	0.00
To learn about the countryside	3.2	2.7	596	-4.4	0.00
To think about my personal values	2.4	3.2	591	0.9	0.00
To bring back pleasant memories of a prior visit	2.5	3.1	592	4.9	0.00
To take risks	2.9	2.8	599	-0.7	0.48
To be on my own	2.0	2.9	596	7.7	0.00
To share my skills and knowledge with others	1.8	3.1	595	12.5	0.00
To use my equipment	1.4	3.5	587	23.0	0.00
To test my endurance	2.2	2.5	598	2.8	0.01
To meet new people	2.0	2.4	593	4.4	0.00
To be creative by doing something such as sketching, painting, taking pictures, etc.	1.8	1.9	593	0.6	0.54
To reach a specific destination	1.7	2.0	597	3.7	0.00
To be away from the family for a while	1.4	2.0	593	6.7	0.00
To show others I can do it	1.6	1.7	596	1.2	0.22

Rafter and Kayaker Effects on One Another's Experience

The effects that rafters and kayakers had on each other's experiences were determined through a series of questions regarding rafter and kayaker encounters with other rafters and kayakers on the Chattooga river. The first question in this section asked respondents how many rafters they had seen during their most recent visit. Responses ranged from 0 to 200 with rafters being more likely to encounter other rafters than kayakers. Rafters encountered a mean of 26.4 rafters, whereas kayakers encountered a mean of 11.7 rafters (Table 13). The majority of rafters (52.5%) reported that they had seen 21 or more people rafting during their most recent visit, whereas the majority of kayakers (57.3%) reported that they had not seen any rafters during their most recent visit.

This question was also repeated for the number of kayakers that rafters and fellow kayakers had encountered during their most recent visit. Responses ranged from 0 to 75 with kayakers being more likely to encounter other kayakers than rafters (Table 14). Kayakers encountered a mean of 9.2 kayakers, whereas rafters encountered a mean of 5.6 kayakers. The majority of rafters (50.3%) and the plurality of kayakers (34.5%) reported seeing between 1 and 5 kayakers during their most recent visit. In addition almost as many kayakers (33.3%) reported seeing between 6 and 10 people kayaking as those that had reported seeing between 1 and 5 people.

Table 13. Number of People Respondent Observed Rafting During their Visit

Number of Rafters	Rafter Frequency (%)	Kayaker Frequency (%)	Total (%)
0	43 (14.3%)	146 (57.3%)	189 (34.0%)
1-5	13 (4.3)	13 (5.1)	26 (4.7)
6-10	21 (7.0)	18 (7.1)	39 (7.0)
11-20	66 (21.9)	30 (11.8)	96 (17.3)
21 or more	158 (52.5)	48 (18.8)	206 (37.1)
Total	301(100.0%)	255(100.1%)	556(100.1%)
Mean (SD)	26.4 (25.5)	11.7 (22.8)	19.7 (25.3)

Table 14. Number of People Respondent Observed Kayaking During their Visit

Number of Kayakers	Rafter Frequency (%)	Kayaker Frequency (%)	Total (%)
0	56 (17.5%)	21 (3.1%)	77 (13.3)
1-5	161 (50.3)	89 (34.5)	250 (43.3)
6-10	74 (23.1)	86 (33.3)	160 (27.7)
11-20	19 (5.9)	45 (17.4)	64 (11.1)
21 or more	10 (3.1)	17 (6.6)	27 (4.7)
Total	320 (99.9%)	258 (99.9%)	578(100.1%)
Mean (SD)	5.6 (7.5)	9.2 (10.6)	7.2 (9.2)

The second set of questions used to assess the effects that rafters and kayakers had on each other's experiences asked respondents how their encounters with people rafting and kayaking affected their enjoyment. Overall, rafters and kayakers either had no effect on the enjoyment of other rafters and kayakers or they reported that they actually increased their enjoyment. Also, both rafters and kayakers were more likely to report reduced enjoyment due to rafters and to report increased enjoyment due to kayakers.

The majority of both rafters and kayakers reported that rafters had no effect on their enjoyment (Tables 15). Similar results were also found for kayakers with the majority of

rafters and a third of kayakers reporting that they had no effect on their enjoyment (Table 16). However, encounters with both rafters and kayakers did receive some "reduced enjoyment" responses, indicating feelings of conflict. The largest negative effect on enjoyment was felt by kayakers towards rafters, in which (22.7%) reported that rafters reduced their enjoyment by responding with a –1, -2, or –3 on the 7-point scale. Over 5% of the kayakers expressed relatively strong feelings of reduced enjoyment due to rafters by selecting the most negative response possible, -3, on the 7-point scale. In addition to kayakers who reported conflict due to rafters, 11.9% of rafters also reported a negative effect from fellow rafters by responding with a –1, -2, or –3 on the 7-point scale (Table 13). Nearly 10% of these responded with the least amount of conflict by responding with a –1, on the 7-point scale. As for the kayakers only (3.3%) of rafters felt that kayakers reduced their enjoyment, while (6.0%) of kayakers reported a negative effect from fellow kayakers by responding with a –1, -2, or –3 on the 7-point scale. Not only was reduced enjoyment reported, but some rafters and kayakers were also found to increase enjoyment for other rafters and kayakers. Kayakers received the greatest overall increased enjoyment (63.7%) from fellow kayakers. Rafters received their greatest increase in enjoyment (29.9%) from fellow rafters.

Table 15. How Respondent's Encounters with People Rafting Affected their Enjoyment

	People *rafting* greatly reduced my enjoyment			**People *rafting* had no effect on my enjoyment**			**People *rafting* greatly increased my enjoyment**			
	-3 (%)	-2 (%)	-1 (%)	0 (%)	1 (%)	2 (%)	3 (%)	Mean	Standard Deviation	n
Rafters	0.3	2.2	9.4	58.3	8.2	10.7	11.0	-0.2	1.1	238
Kayakers	5.5	6.3	10.9	66.8	5.9	1.7	2.9	0.5	1.2	319
Total	2.5	3.9	10.1	61.9	7.2	6.8	7.5	0.5	1.2	557

Table 16. How Respondent's Encounters with People Kayaking Affected their Enjoyment

	People *kayaking* greatly reduced my enjoyment			**People *Kayaking* had no effect on my enjoyment**			**People *kayaking* greatly increased my enjoyment**			
	-3 (%)	-2 (%)	-1 (%)	0 (%)	1 (%)	2 (%)	3 (%)	Mean	Standard Deviation	n
Rafters	0.3	1.0	2.0	65.1	10.7	8.1	12.7	1.4	1.4	264
Kayakers	0.0	1.1	4.9	30.3	16.3	15.2	32.2	0.6	1.1	307
Total	0.2	1.1	3.3	49.0	13.3	11.4	21.7	1.0	1.3	571

The responses from the 7-point scale used to determine the effects of encounters with rafters and kayakers were then collapsed into three categories (conflict, neutral, and enhanced) for further analysis. Responses of –3, -2, or -1 were combined into the "conflict" category, and responses of 1, 2, or 3 were combined to create the category of "enhanced

enjoyment". Responses of 0, indicating "no effect on enjoyment", formed the third category, "neutral". The results based on this new variable are shown in Table 17 for the effects of rafters on enjoyment and Table 18 for the effects of kayakers on enjoyment.

The majority of rafters (58.3%) and kayakers (66.8%) reported that rafters had a neutral effect on their enjoyment. Also, 29.8% of rafters reported that fellow rafters enhanced their enjoyment, while 22.7% of kayakers reported that rafters decreased their enjoyment. The majority of rafters (65.2%) reported that kayakers had a no effect on their enjoyment, while (63.6%) of kayakers reported that kayakers enhanced their enjoyment. The effects of both rafters and kayakers were significantly different (0.05 level) for the rafter and kayakers who encountered them.

Table 17. Effects of Rafters on Enjoyment

Rafter's effect(s)	Kayaker		Rafter		Total	
on enjoyment	n	(%)	n	(%)	n	(%)
Conflict	54	(22.7)	38	(11.9)	92	(16.5)
Neutral	159	(66.8)	186	(58.3)	345	(61.9)
Enhanced	25	(10.5)	95	(29.8)	120	(21.5)
Total	238	(100.0%)	319	(100.0%)	557	(100.0%)

Pearson Chi^2: 34.68 (p = 0.000)

Table 18. Effects of Kayakers on Enjoyment

Kayaker's	Kayaker		Rafter		Total	
effect(s) on enjoyment	n	(%)	n	(%)	n	(%)
Conflict	16	(6.1)	10	(3.3)	26	(4.6)
Neutral	80	(30.3)	200	(65.2)	280	(49.0)
Enhanced	168	(63.7)	97	(31.6)	265	(46.4)
Total	264	(100.1%)	307	(100.1%)	571	(100.0%)

Pearson Chi^2: 68.99 (p = 0.000)

The final question within the conflict section asked river users to describe, in an open-ended response format, *how* their encounters with rafters and kayakers affected their enjoyment that day. These results are summarized in Table 19 for the effects of rafters on enjoyment and Table 20 for the effects of kayakers on enjoyment. The majority of the responses from rafters (66.8%) indicated that the effects of other rafters on their enjoyment were positive. These included that fellow rafters were fun & enjoyable to watch, that they were members of their group, and that it was fun to meet new people. About eighteen percent of rafter responses regarding the effects of other rafters on their enjoyment were negative, including that fellow rafters caused crowding and congestion, caused them to have to wait in line, or just simply reduced the quality of their experience. Almost half, (49.6) of the responses from kayakers, however, regarding the effect of rafters were negative including that rafters caused crowding and congestion in addition to being noisy. Only 21.6% of the open-ended kayaker responses regarding the effects of rafters were positive.

The effects that kayakers had on rafters and fellow kayakers were more positive, overall, than those reported for rafters. The majority of both rafter and kayaker responses for how kayakers affected their enjoyment were positive, at 74.0% and 84.7%, respectively. These responses included that kayakers were fun & enjoyable to watch and that it was a pleasure seeing their skill. Only 3.6% of rafter comments and 7.1% of kayaker comments related to kayakers were negative. The most frequent negative responses were that kayakers caused congestion and “cut in” on rapids.

Table 19. Boater Responses how Rafters Affected their Enjoyment

		Rafter		Kayaker		
		n[1]	**Percent[2] (%)**	**n[1]**	**Percent[2] (%)**	**N**
Positive Comments	Fun, interesting, and enjoyable to Watch	16	18.4	8	8.2	24
	Fun being with others/ Meeting new people	13	15.0	5	5.2	18
	Part of our group	17	19.5	1	1.0	18
	Having Fun	4	4.6	1	1.0	5
	Friendly/Nice	4	4.6	-	-	4
	Guides/rafting outfitter was great	2	2.3	2	2.1	4
	Safety	-	-	2	2.1	2
	Scheduled to meet other groups	1	1.2	1	1.0	2
	Other Positive Comments	1	1.2	1	1.0	2
Neutral Responses	Not too many / Not too crowded	8	9.2	6	6.2	14
	Didn't see / Rarely See	2	2.3	6	6.2	8
	Equal opportunity	-	-	4	4.1	4
	No effect / NA	-	-	2	2.1	2

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

Table 19. (Continued) Boater Responses how Rafters Affected their Enjoyment

		Rafter		Kayaker		
		n[1]	**Percent[2] (%)**	**n[1]**	**Percent[2] (%)**	**N**
Negative Comments	Congestion/Crowding	5	5.7	9	9.3	14
	Loud / Noisy	-	-	9	9.3	9
	Waiting	4	4.6	1	1.0	5
	Too Big	-	-	5	5.2	5
	Vegetation / Riverbank Damage	-	-	3	5.2	3
	Rafter Rude/ Obnoxious	1	1.2	3	3.1	4
	Monopolize the River	-	-	3	3.1	3
	Unsafe	-	-	3	3.1	3
	Worried about getting run over	-	-	3	3.1	3
	Reduced Experience	3	3.4	-	-	3
	They don’t care about the river	-	-	1	1.0	1
	Littering	-	-	1	1.0	1
	Don’t like rafters	-	-	1	1.0	1
	Other negative comments	3	3.4	4	4.1	7
	Other	3	3.4	10	10.3	13
Total		87	100.0%	95	100.0%	182

Table 20. Boater Responses how Kayakers Affected their Enjoyment

		Rafter		Kayaker		
		n[1]	**Percent[2]**	**n[1]**	**Percent[2]**	**N**
Positive Comments	Fun, interesting, and/or enjoyable to Watch	31	22.5	11	7.9	42
	Enjoyed Interaction	8	6.1	32	22.9	40
	Pleasure seeing their skill/ learning opportunity/ advice	17	12.3	19	13.6	36
	Helpful/safety	10	7.2	12	8.6	22
	Good to see others enjoying the river	13	9.4	8	5.7	21
	"I kayak"	4	2.9	16	11.4	20
	Kayakers are Friendly	5	3.6	8	5.7	13
	Kayakers are good/cool/polite	6	4.3	4	2.9	10
	Made me want to learn	2	1.4	-	-	2
	Kayakers are respectful	-	-	1	0.7	1
	Other Positive Responses	6	4.3	6	4.3	12
Neutral Comments	Not a factor	10	7.2	3	2.1	13
	Photographer for outfitter	7	5.1	-	-	7
	Saw none	-	-	2	1.4	2
Negative Comments	General Negative Comments	5	3.6	6	4.3	11
	Caused Congestion	-	-	3	2.1	3
	Cut in at rapid	-	-	1	0.7	1
	Other	14	10.1	8	5.7	22
Total		138	100.0%	140	100.0%	278

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

V. DISCUSSION

The purpose of this study was to compare rafters and kayakers on the Chattooga River and the effects that they have on each other. This chapter discusses the study results, implications for management, and possibilities for further research.

Comparison of Rafters' and Kayakers' Characteristics and Visits

Although both rafters and kayakers use the same Chattooga River resource and participate in self-propelled whitewater based activities. However, they are distinctly different user groups in many respects. The rafters were split almost fifty-fifty between males and females, with the majority (59.1%) ranging in age from 40-59 years of age. They were well-educated, held managerial or professional careers, and had high annual incomes. The rafters also differed from the kayakers in relation to their use history and in the characteristics of their most recent trip. The rafters were almost split in half between those individuals for whom this was their first visit to the Chattooga and those who visited before. However, the vast majority (80.3%) of rafters had only taken one trip to the Chattooga during the past twelve months, which is consistent with the long distances traveled by the rafters to reach the river. Overall, they traveled a great distance to reach the Chattooga with a third traveling 401 one-way miles or more. The distance traveled may have also contributed to their trips typically being part of an overnight stay away from home.

As for the kayakers, they were generally frequent users who visited the river with friends in order to participate in the activity of kayaking, in addition to visiting the river for its own sake. The vast majority (88%) were males and 60.2% were between 20-39 years of

age. Like the rafters, they were also well educated and held managerial or professional careers, but the kayakers had lower annual incomes. The majority had taken between 2 and 10 trips within the past 12 months, but 15% of the kayakers had taken between 21 and 50 trips. The number of trips taken within the past 12 months was consistent with the distance they traveled, which was considerably shorter than that of the rafters. Overall the kayakers traveled between 11 and 100 miles to reach the Chattooga. These distances can be easily traveled within one day, which is also consistent with the finding that few kayakers were on overnight trips. Most of the kayakers made their first visit to the Chattooga between the past 2-10 years earlier. However 12% of the kayakers had made their first visit 11-15 years ago, 10% had their first visit 16-20 years ago, and 8% had their first visit 26-30 years ago, demonstrating, a long and ongoing relationship with the river for most kayakers. Overall, the rafters tended to be families on vacation trips down the river, whereas the kayakers were typically small groups of friends participating in an activity that they engaged in often.

Comparison of Motivations

This study also found that the differences between Chattooga River rafters and kayakers extends beyond their activity choice for their most recent trip. These other differences are exemplified in the way each group ranked the importance of various motivations for their most recent trip. Within the survey, each respondent was asked to rank on a 5-point scale, ranging from a 1 for *not at all important* to a 5 for *extremely important,* how important each of the motivations were to them as a reason for visiting.

Very Important Motivations

It was found that the rafters and kayakers ranked the same motivations as the top three in terms of their importance to their trips. These were *to enjoy the view along the river, to experience the Chattooga River,* and *to be close to nature.* It makes sense that the top motivations chosen were the same for both rafters and kayakers. First of all, regardless of their activity on the river, the real attraction of the Chattooga goes beyond being a whitewater river. In May of 1974 Congress designated the Chattooga River as a National Wild and Scenic River. Under this designation, to ensure that the river remains as undisturbed as possible and provide the highest quality experiences to visitors, the river was established within a protective corridor. Therefore, the river not only offers a location to participate in whitewater recreation, but it also has scenic beauty, a natural setting, and opportunities to enjoy the views along the river. Unlike many other locations throughout the eastern United States where individuals can participate in rafting or kayaking, the Chattooga River and its corridor provide a natural backdrop for these activities that is unmatched by many other rivers, especially in the southeast.

Second, both rafters and kayakers were motivated, in part, to visit the river due to its popularity. Townsend & Tarbet (1980, p. 208) attributed the popularity of the Chattooga to its "closeness to major population centers, publicity resulting from the movie *Deliverance,* and premier whitewater reputation". According to Boyd (2001), the Chattooga remained relatively unknown to outsiders of the area until the movie *Deliverance* was filmed there in the early 1970s. "Shortly after the release of the movie, thousands of ill-prepared boaters flocked to the Chattooga River to experience the '*Deliverance River'*" (Boyd, 2001, p. 9).

The popularity of the river to rafters and kayakers is also influenced by the limited amount of other whitewater recreation opportunities in the southeastern part of the United States, especially for the more difficult classes of IV and V (Cordell et al., 1999). The Chattooga provides one of the few locations for individuals to participate in the activity of whitewater kayaking at this level or to take a family rafting trip in the south.

In addition, both the rafters and kayakers also ranked *to be with members of their group* as a very important motivation. This appears to be consistent with their reasons for visiting including a family vacation or to participate in the activity of kayaking. When asked about the number of people in their travel party, rafters had a mean of 5 people and kayakers had a mean of 3.9 people. In addition, the majority of rafters (53.8%) reported that they had visited the river with their family, while the majority of kayakers (73.1%) responded that they had visited the river with friends. Although some individuals visited the Chattooga by themselves (3.2% of rafters and 1.9% of kayakers) the majority of rafters (61.2%) had between two and four people in their travel party and the majority of kayakers (56%) had 2 to 3 people in their travel party, indicating the importance of being with members of their group.

In addition to the four motivations that both rafters and kayakers felt were very important, they also independently ranked other motivations as very important. These were the other motivation statements with mean scores ranging from 3.5-4.7. For example, the rafters also ranked *to do something with their family* as a very important motivation. Support for the importance of this motivation was provided in the previous paragraph. The majority of rafters traveled to the river with their families and generally had two to four people in their

travel party. This motivation supports the theory that the rafters were family-focused individuals, most likely on a family trip.

The other very important motivations for kayakers included *to get exercise, to help reduce built-up tension, to relax physically,* and *to use their equipment.* Just like the rafters, these motivations are consistent with their overall purpose for visiting the river. The kayakers appear to be activity-focused individuals who visit the river for the activity of kayaking. Some of the benefits of kayaking include exercise and stress relief by releasing built-up tension and relaxing physically. Also, by kayaking frequently, an individual is able to make more use of their investment in equipment. All of these motivations would be important to an activity-focused kayaker.

Also, the kayakers ranked *to experience solitude* as a very important motivation. Part of the stress relief and relaxation of kayaking comes from leaving work, school, or the daily routine behind. A second component of this is being alone or in a small group of friends to experience solitude. Many people feel that life is hectic and filled with too many people. For kayakers, being able to leave that behind and experience solitude appears to be a very important component of visiting the Chattooga River.

Moderately Important Motivations

When evaluating the motivations that were moderately important to rafters and kayakers (those motivations that received a mean score of 2.5 to 3.4), two motivations were found to be the same between the two groups. These motivations were *to learn about the countryside* and *to bring back pleasant memories of a prior visit*. These motivations

continue to support the two purposes for which the two groups appeared to be visiting the river. One motivation of visiting a different location other than one's norm is to learn something new about the location, culture, flora, fauna, or history of the area. This knowledge could be in the form of pop culture trivia such as learning the names of the leading actors in the movie *Deliverance* or being able to identify the local spring wildflowers. Also, taking trips and visiting different locations can remind individuals of pleasant memories from the past. These can be memories of previous visits to the Chattooga River such as when you first kayaked the class IV section or memories of past times with the same people on previous family vacations. Regardless of activity type, both these motivations are moderately important to their most recent trip.

The motivations that the rafters reported to be moderately important included those that revolved around the activity of rafting including *to get exercise, to relax physically, to reduce built up tension*, and *to experience solitude*. Thus far, the hierarchy of the rafters' motivations has focused on experiencing the resource, spending time with their family or group, and taking a trip. The next level has to do more with getting exercise and reducing stress – both of which are made possible with a family rafting trip. Also, the rafters ranked *to experience solitude* as moderately important. Experiencing solitude may not necessarily mean being alone or by oneself, but rather away from the city, work, school, and the daily routine. For the rafters, being out in nature with their family away from their normal daily lives experiencing a different pace of activities seems to be an important reason for visiting. Neither of these motivations appear to be the top priority of the rafters, but rather a pleasant side effect of participating in rafting.

The types of motivations that the kayakers reported to be moderately important were twofold and included personal motivations and activity motivations. For the personal motivation the kayakers ranked both *to do something with their families* and *to be on their own* as moderately important. At first these two motivations appear to contradict each other, but the kayakers may feel that spending time on their own does not necessarily mean spending time away from family members or friends. Rather, spending time on their own may mean being with family or friends away from other people or daily activities. Also, the kayakers ranked *to think about their personal values* as moderately important. Being on the river with friends or family, away from normal distractions, participating in a favorite activity may provide them an opportunity to think about their lives and to assess their personal values.

As for the moderately important activity motivations for the kayakers, they included *to share their knowledge and skills with others* and *to test their endurance*. Both of these factors are part of partaking in activities. For an individual to be able to share their knowledge and experiences with others is a sign of expertise in the field and a means of building friendships. This can also be a great means for individuals to learn new skills or share "tricks of the trade" with others. Also, a way to keep activities interesting and challenging is to set goals and test their physical endurance. This can be a way to gauge improvement in the activity and a motivation within itself for future participation.

Motivations of Little Importance

Within the motivations that were of little importance for rafters and kayakers on average (those with a mean of 1.5 to 2.4), two motivations were found to be common, *to meet new people* and *to reach a specific destination*. It is logical that both the rafters and kayakers rate to meet new people as least important since the vast majority were traveling with an existing travel party. For example, the rafters traveled in family groups and ranked spending time with their families as important; therefore they may have been uninterested in meeting new people. The same situation applies to kayakers, whose main priority appears to be the activity of kayaking and interacting with preexisting friends instead of using the river as a way to meet new people.

As for the second less important motivation of reaching a specific destination, the rafters, being new or unfamiliar to the river as well as on guided rafting trips that followed existing plans, may not have had the familiarity with the resource or the flexibility to reach a specific destination other than that determined by the guide. They were most likely on the river for "the ride" following the outfitter's predetermined itinerary. As for the kayakers, they may have built flexibility into their schedules and not committed themselves to a specific destination in order to assess onsite conditions. Factors such as the drought year water levels or the number of people that were already present on the river may have affected their plans. Also, the kayakers may have been more interested in perfecting their skills and experience rather than reaching a specific destination. Finally, due to their frequency of visitation they may feel that they have many opportunities to kayak in various locations along

the river and therefore reaching a specific destination for their most recent trip was not that important.

The additional motivations of little importance for rafters were *being on their own, sharing knowledge and skills with others, thinking about personal values*, and *testing their endurance*. Their low ratings on these motivations continue to support the purposes for which the rafters appear to be visiting the Chattooga River. The rafters generally appear to be on family vacations, the majority (61.2%) traveling with two to four people, and therefore they would be logically less interested in being on their own. Also, due to their relative inexperience and limited participation in the sport of rafting, they would be unable to share their knowledge and skills with others and perhaps less interested in testing their endurance. Finally, the rafters may be more interested in getting away from their daily lives and enjoying a new place than assessing their personal values.

The additional motivation of little importance for kayakers was *to be away from their family*. Even though they appear to be activity-focused individuals, their Chattooga experience goes beyond just kayaking to also include experiencing nature and being with friends. For the kayakers, it appears that the sport of kayaking has many different facets including a nature component, a social component, as well as an activity component. Therefore, being away from their family would have had little importance.

Not at all Important Motivations

Finally, the rafters listed two motivations as not at all important to their most recent trip. Both of these motivations had a mean value of 1.4 on the 5-point scale. These

motivations were *to use their equipment* and *to be away from their family for a while.* The rafters would have found these motivations to be unimportant since most of them they were on guided rafting trips using rented equipment and wanting to be with their families. The kayakers did not have any motivations that fell into the *not at all important* category.

Discussion of Motivations

The 19 motives that were previously discussed were all statistically different between the rafters and kayakers at the 0.05 level. There were three motivations that were not statistically different, *to take risks, to be creative by doing something such as sketching, painting, taking pictures, etc,* and *to show others that they can do it.* Although similarities and differences can be identified among the importance that each group placed on various motivations, a considerable difference between the groups is the level of importance that they placed on each motive. In 17 of the 19 statistically different cases it was found that the kayakers had the higher mean for each motive.

There are several possible explanations for this pattern. One possibility is that the motives that were listed in the survey did not contain the most important motivations for the rafters or the less important motivations for the kayakers. The survey instrument could have been designed with motivations that just happened to be more appealing to one group as compared to the other. For example most of the motivations could apply to kayaking due to the many different needs that the activity fulfills. On the Chattooga River, kayakers participate in their activity frequently, in small groups of friends, for short periods of time. They use kayaking not only as a way to exercise, but also to relieve stress, learn new skills

and techniques, and as a way to socialize. All of the motivations that were listed can relate in some degree to the characteristics of the Chattooga River kayakers.

In contrast, rafting may inherently meet fewer of these motivations due to the nature of the activity. For example, rafters on the Chattooga River often travel great distances with their families to raft the river. They are less likely to participate frequently, usually take fewer trips per year, but spend longer amounts of time at the river. Rafters commonly use commercial outfitters, experience the river not only with their travel party, but also with others they do not know who are on the same scheduled trip, rent equipment, and appear not to use rafting as an important source of exercise in their lives. These inherent differences between kayakers and rafters could explain the range of means in which the kayaker's motivations varied from 2.0 to 4.7 indicating that all of the statements had some importance, whereas the rafter's motivations varied from a 1.4 to a 4.5, indicating that some of the statements were not at all important. For the rafters, not owning their own equipment, experiencing the river on their own or with their individual travel parties, or being able to highly develop their rafting skills could have lowered the importance of many of the motivations that were listed in the survey.

A related explanation is that even though it appears that the main purpose of the kayakers' trips was to participate in the activity of kayaking, their experience fulfilled more motivations than just those pertaining to the activity itself. They are also using kayaking as an opportunity for social relationships, to experience and learn about the natural environment, to examine their personal values, and to bring back pleasant memories in which their entire experience may have included, to some degree, all of the motivations that were

listed in the survey. This diversity, then could have, contributed to most of the means for the kayakers being greater than the means for rafters. Rafters' motivations for their most recent trip, on the other hand, may have been more specific, having to do primarily with visiting a unique whitewater river and spending time with their families and less to do with the other motivations that were listed. It is possible that they may have other activities in their lives such as hiking, volunteering, or the arts, which fulfill those remaining motivations.

A third possibility for the differences in mean values could be attributed to respondent recall. Since the survey was not administered on site immediately after the completion of the respondents' trips, but rather weeks or, in some cases, months after their most recent trip, the time lapse could have affected the importance that they placed on each of the motives. For example, kayakers typically visit the river more often and have a longer-standing relationship with the resource, which could contribute to their responses. When answering the survey question the motivations that they felt were important for their most recent trip may have been an accumulation of all their previous experiences at the Chattooga, in which, at one time or another, they visited with each of those motivations in mind. This possible blending of their past trips could have contributed to the kayakers ranking all of the motivations as somewhat more important than did rafters. The rafters' recall of motivations may have also been influenced by the time that had lapsed between their trip and the completion of the survey. Since they visit the river infrequently it is more likely that their visit was longer ago and thus they may have only remembered the most important and unimportant motivations for their trip.

Effects on Each Other

Since these two groups are different in many respects, but rely on the same outdoor space for their recreation experiences, they are likely to affect each other in some way. To assess these effects, Chattooga River rafters and kayakers were asked a series of three questions regarding river encounters during their most recent visit. The responses ranged from –3, *greatly reduced my enjoyment,* to 3, *greatly increased my enjoyment.* For the purpose of comparison, the responses were collapsed into three categories. The –3 through –1 responses were combined into a "decreased enjoyment" category, the 0 responses comprised the "neutral" category, and the 1 through 3 responses were combined into the "enhanced enjoyment" category.

No Effect on Enjoyment

The majority of the findings from these questions follow a similar pattern that has been established in previous research in which most outdoor recreation encounters were found to have little or no effect on those involved (Watson et al, 1994; Blahna et al, 1995; Moore et al, 1998). For example, in this study 66.8% of the kayakers reported that rafters did not affect their most recent trip and 65.2% of rafters reported that kayakers did not affect their most recent trip. However, these questions also revealed that, to a lesser degree, rafters and kayakers positively and negatively affected each other's experiences.

Enhanced Enjoyment

It was also found that both rafters and kayakers had positive effects on some others. Specifically, 10.5% of the kayakers responded that rafters enhanced their enjoyment during their most recent trip. Reasons for their increased enjoyment included that the rafters were fun and enjoyable to watch and that the kayakers enjoyed meeting new people. Similarly, 31.6% of rafters responded that kayakers enhanced their enjoyment because they were fun and interesting to watch, that their skill was impressive, that they enjoyed watching others enjoy the river, etc.

Also, both rafters and kayakers reported positive effects on their experiences from fellow rafters and kayakers. It was found that 29.8% of rafters and 63.7% of kayakers reported that these intra-group encounters enhanced their experience to some degree. This finding supports the existing literature, which has generally found that recreationists are more tolerant of individuals engaged in the same activity as themselves (Moore et al, 1998; Jacob & Schreyer, 1980; Adelman et al., 1982; Williams et al., 1994). According to Tajfel (1990), studies show that by simply belonging to a group (e.g., rafter), people tend to ascribe more favorable attitudes toward members of their group than they do to other groups.

Reduced Enjoyment

In addition to these findings, which indicate that most of the river encounters produced neutral or favorable encounters, a sizable minority did not. These responses were gleaned from the same series of three questions regarding river encounters during their most recent trip. These negative encounters were most severely felt by kayakers towards rafters,

in which 22.7% of the kayaker responses indicated some degree of conflict (i.e., reduced enjoyment) due to their encounters with rafters. The open-ended responses of kayakers indicated that rafts reduced their enjoyment by being too big and causing congestion, crowding, and monopolizing the river; that rafters were loud, noisy, rude, obnoxious, and unsafe; and that they caused vegetation and riverbank damage. When reviewing the effects that kayakers had on the rafter's experiences, only 3.3% of rafters indicated that kayakers had a negative impact.

Discussion of Conflict

These findings indicate that asymmetric conflict, in which one group may experience more conflict than the other group, was present. In these situations one group consistently reports that they experienced conflict with a competing group whereas the other group often experiences little or none (Watson et al., 1991). Other studies have found asymmetrical conflict between hikers and mountain bikers (Ramthun, 1995; Watson et al., 1991), hunters and nonhunters (Vaske et al., 1995), walkers, runners, in-line skates, and bicyclists (Moore et al., 1989), and skiers and snowmobilers (Jackson & Wong, 1982).

Asymmetrical conflict can be considered a type of interpersonal conflict, in which conflict represents a reaction to a group's behavior as opposed to fundamental differences in types of recreation use (Vaske et al., 1995). A general type of interpersonal conflict is goal interference, in which the behavior of one group of recreationists is incompatible with the social, psychological, or physical goals of the other group (Gramann & Burdge, 1981). Jacob and Schreyer (1980) identified four major factors that may influence the extent of conflict

when conceptualized as goal interference. These are activity style, resource specificity, mode of experience, and tolerance for lifestyle diversity. Three of these, activity style, resource specificity, and mode of experience, may be particularly relevant to the results of this study.

The first factor that may help to explain the conflict experienced by the kayakers towards the rafters is resource specificity, which is the significance that an individual attaches to using a specific recreation resource for a given activity (Jacob & Schreyer, 1980). One way to measure resource specificity is through frequency of visitation (Watson et al., 1994). According to Vaske et al. (1995), "as visitation to a site increases, individuals have more information on which to base their evaluations, and therefore may apply more specific and critical norms of behavior. This suggests that as frequency of visitation increases, the odds of observing and judging specific behaviors as inappropriate increases"(Vaske et al., 1995, p. 208).

On the Chattooga River kayakers were more likely than the rafters to have visited the river before and to have a long-standing relationship with the resource. The majority of kayakers (50.4%) had taken between 2-10 trips to the river within the past twelve months with a mean of 14.6 trips for the kayakers overall. This is compared to the majority of rafters (80.3%) who had taken only 1 trip during the past twelve months with a mean of 2.3 trips overall. Due to their higher frequency of visitation, kayakers have the opportunity to develop more specific and critical norms of behavior for river use. By establishing more specific norms such as acceptable levels of noise, appropriate behavior, and river etiquette, kayakers are made more sensitive to deviations from their expectations or previous experiences. In

time this could influence the degree of conflict they feel regarding the activity of rafting. Since rafters do not visit the river as often or participate in the activity as frequently they may not have established firm expectations for their experiences, or know the established norms for the river.

Townsend and Tarbet (1980) found similar results in their study of Chattooga River users in which the authors attributed differences in the amount of conflict experienced to the fact that commercial users (i.e., rafters) were primarily first-time visitors with few expectations of their river experience. "On their first trip down a whitewater river, with few preconceived notions of what to expect from their 'wilderness experience,' most commercial users concentrate on paddling and sharing the experience with their rafting companions" (Townsend & Tarbet, 1982, p. 222). They compared this to private users (i.e., kayakers), who had a greater familiarity with the resource due to their longer-term river use and they seemed to be more aware and sensitive to changes within the resource, including user conflict (Townsend & Tarbet, 1982). They also found that private users were more likely to perceive user conflict than commercial users.

A second factor proposed by Jacob & Schreyer (1980) is activity style, which refers to the personal meaning or significance attached to an activity. It has been found that participants with an intense or "experienced" activity style are more likely to experience conflict with other recreationists (Williams et al., 1994; Vaske et al., 2000). According to Williams (1993), more involved or specialized recreationists are believed to apply more specific norms of behavior, whereas a novice has little information on which to base an evaluation of other groups and tends to accept things as they are. This factor, too, could have

contributed to the conflict experienced by kayakers in this study due to their frequency of visitation, investment in equipment, and the significance they attached to using the Chattooga River resource for the activity of kayaking.

The final of Jacob and Schreyer's factors that may relate to the study findings is mode of experience. Jacob and Schreyer (1980) describe this factor as a continuum ranging from unfocused to focused. At one end of the continuum is the unfocused mode that "is an experience of environmental generalities, overall spatial relationships, (and) the lay of the land but not its particulars" (Jacob & Schreyer, 1980, p. 375). At the other end of the continuum is the focused mode in which an individual's experience focuses on the subtle details of their environment. They responded that as the mode for experiencing the environment becomes more focused, an individual produces more rigid definitions of what they consider acceptable and becomes increasing intolerant.

This may help explain why kayakers would experience conflict when they encounter rafters, because when a person in the focused mode interacts with a person in the unfocused mode, conflict is likely to occur for the person with specific expectations (Williams et al., 1994). The kayakers, who represent the more focused group, have a purpose with specific expectations when they travel to the Chattooga to participate in the activity of kayaking. For them running the river is much more involved than just floating down the river in a boat. The nature of kayaking means that they have to negotiate each rapid and choose the best line, this is especially true for a class V river. In addition, for them, the subtle details of the environment including the sound of the river, the rapids, and an unspoiled place are fundamental to their activity. There are many different locations in which they could

participate in kayaking in the Southeastern part of the United States, however they choose the Chattooga River for its subtle differences. Both, due to the skills that are required to run the river and their longer-standing relationship with the resource, they have come to expect a certain atmosphere at the river.

Whereas, for the less focused rafters, their experience is much different. By relying on a river outfitter to take them down the river much of the intensity is taken off their shoulders. Also for them experiencing the specific details of the environment may not be as important to their reason for visiting. As a first time visitor they may be more interested in the thrill or the whitewater, the speed of the rapids, or building social relationships with their group. These differences in mode of experience may contribute to the greater conflict experienced by the kayakers.

In addition to the conflict related to goal interference, concerns for safety and inappropriate behavior are other possible explanations for the varying levels of conflict experienced between kayakers and rafters. According to Moore (1994), common complaints for greenway trail users include reckless or irresponsible behavior by others, poor user preparation or judgment, unsafe conditions related to the site, and collisions or near misses among different users and/or their recreation equipment. Similar complaints were mentioned by kayakers regarding rafters on the river. Their concerns included that the rafts were too big and caused crowding, congestion, and monopolization of the river. Kayakers were also concerned about the rafts being unsafe and that they would get ran over by them. In addition, rafters being loud, noisy, rude, and obnoxious also impacted kayakers. These results are consistent with previous findings by both West (1981) and Devall & Harry (1981) in which

they found that exposure to “intrusive” or “threatening” behavior, such as loud radio playing or rule bending contributed to feelings of conflict.

Perceived status differences also may have contributed to conflict along the Chattooga. According to Watson et al. (1994), hikers are often expected to step off the trail when encountering horseback riders, but despite the logical ecological and safety advantages, some hikers may experience conflict because stepping aside implies to them that horse riders have higher status. A similar dynamic could have contributed to the kayakers’ feelings of conflict due the size and character of the rafting groups. It is possible the kayakers in their smaller, more maneuverable boats had to wait, move out of the way, or compromise their plans for the larger rafts, thus implying to some that the rafters had higher status over the more frequently visiting Chattooga River kayakers.

Not only was the presence of asymmetrical conflict between the rafters and the kayakers evident, but there also appeared to be some intra-group conflict felt by rafters towards fellow rafters (11.9%) and kayakers towards fellow kayakers (6.1%). Generally, the literature has found that recreationists are more tolerant of individuals engaged in the same activity as themselves than they are of those engaged in a different activity (Jackson & Wong, 1982; Gibbons & Ruddell, 1995; Knopp & Tyger, 1973; Lucas, 1964). This is consistent with the fact that most of the kayakers reported that fellow kayakers greatly increased their enjoyment.

One possible cause for this intra-group conflict may relate to differences in skill level within each recreation activity. According to Gibbons & Ruddell (1995), tensions can be found between highly specialized, skilled, development-oriented recreationists and less

specialized, affiliation-oriented recreationists. This is consistent with the findings of Watson et al. (1991) in which participants with an intense or "experienced" activity style rather than those who are less intensely involved were most likely to experience conflict with other recreationists. Differences in intensity among recreationists could be one of the causes of the reduced enjoyment felt by Chattooga River rafters and kayakers towards fellow rafters and kayakers.

Another source of intra-group conflict for rafters could have been the other members of their own rafting party. On the Chattooga, the rafts usually contain numerous individuals from different travel parties. Conflict could have occurred when members of these different parties were obligated to spend a large part of the day together on the river. There were no guarantees that all the participants would share the same personalities and norms. In addition, for rafters, meeting new people was a motivation of little importance (mean 2.0). Therefore, some individuals may have experienced conflict due to spending time with other individuals who were not part of their travel party.

Summary

The findings from this section of the study support previous research in which most river encounters were neutral in which neither the enjoyment of rafters nor kayakers were affected by the presence of other rafters or kayakers. A minority of the encounters actually enhanced fellow rafters' and kayakers' experiences. This was especially true for encounters between rafters and fellow rafters and kayakers and fellow kayakers. Previous research has found that by simply belonging to a group, an individual tends to ascribe more favorable

feelings towards other members of that group. Some of the encounters, however, produced negative experiences. These negative experiences were much more severely felt by kayakers towards rafters, which indicates that asymmetrical conflict was present. Possible causes include differences in activity style, resource specificity, and mode of experience; concerns for safety, inappropriate behavior, and status. Finally, a minority of the interactions produced intra-group conflict between rafters and fellow rafters and kayakers and fellow kayakers. This type of conflict may have been due to differences in skill level and travel party diversity.

Implications for Management

Even though the majority of Chattooga River boaters did not experience conflict, it is still important for managers to know that it exists and that there are ways to minimize the negative effects that it may have on individual's recreation experiences. One possible way to minimize the effects on each other is through education programs that emphasize the similarities between recreation groups. Although rafters and kayakers appear to be distinct groups of users that are different in age, stage of life, and frequency of participation, they still possess similarities. They are all river recreationists venturing to the Chattooga to experience its unique character and natural surroundings with their friends or family. Also, most of the recreationists have similar educational backgrounds, occupations, and principal motivations for visiting. Bradsher (2003) found that conflict on trails results when different trail users are intolerant of perceived lifestyle differences. Therefore, by emphasizing the similarities between user groups and downplaying their differences conflict may be minimized. By

management creating education programs that emphasize the similarities between rafters and kayakers, conflict may be reduced.

Currently, most of the educational programs that are offered aim at reducing conflicts by establishing behavioral norms or a standard etiquette for the trail, ski slope, or river users (Bradsher, 2003). According to Ramthun (1995), a more effective approach to reducing user group conflict is not only by establishing a standard of etiquette, but also incorporating a message of tolerance. By familiarizing rafters and kayakers with the differences and similarities between their activities and how each group uses the river, conflict may be reduced. Through educational efforts emphasizing both tolerance for the differences between their activities and the similarities between groups, people may be encouraged to see different user groups more as fellow travelers in the outdoors (Ramthun, 1995).

There are many different ways of educating river users to become familiar with each other and the resource. According to Schneider (2004), "well-timed messages that are clearly presented in multiple and interesting formats at optimal time from a respected source are the most successful." These include websites and pre-trip information packets that can be reviewed before the individual ever arrives onsite. Once in the vicinity, information kiosks, public service announcements, pamphlets from equipment rental facilities and outfitters, and information in local papers or guide brochures can provide additional information. This can include which recreation activities are also occurring on the river, crowded seasons or times of day, guided raft trip departure times, and water levels. By providing river users with as much information as possible ahead of time, they may be able to establish more realistic expectations for their trips which would make them less likely to experience conflict. Ivy et

al. (1992) found that motorboaters and canoeists with accurate expectations of the number and types of users they may encounter were less likely to experience conflict. By providing individuals with information ahead of time they can prepare themselves better for what to expect on their trip.

A second way to educate different river recreationists about their similarities and differences, in addition to enhancing the natural environment, is by forming volunteer groups or area ambassadors of frequent river users and river outfitters (Schneider, 2004). According to Moore & Siderelis (2003) this can be accomplished directly or through partnerships with nonprofit organizations. River managers and their partners may be able to organize ongoing volunteer efforts for such tasks as peer education, including maintaining websites with raft trip departure times and current water levels, creating kiosks discussing the different activities taking place on the river and in its corridor, and educating visitors along the river about standard river etiquette. Volunteer efforts could also include resource monitoring such as water level fluctuations, stream bank erosion, possible vegetation damage or restoration, and use levels. Finally, volunteer efforts could help with resource management including picking up litter from parking areas and streams banks and possible vegetation restoration in heavy use areas.

Finally, beyond educating river users about their similarities and differences to help reduce conflict, making them aware that certain actions negatively affect other river users could also be employed. Currently, many Chattooga River rafters and kayakers may be unaware that some of their behaviors cause conflict for other recreationists. Some of the most common concerns of kayakers were due to the size of the rafts and their ability to cause

crowding and congestion. Kayakers were also concerned about being run over by the larger rafters. By educating and making not only river users but also the raft outfitters aware of the concerns of kayakers, they may be able to modify future behavior and alleviate some of the conflict for kayakers.

Implications for Future Research

Possibilities for future research include expanding this study from its bivariate approach, only concentrating on the effects that rafters and kayakers had on each other, to a multivariate approach to better understand the effects that other variables have on their relationship. This research could be expanded beyond comparing rafters and kayakers as distinct user groups and instead compare individuals based on their use of commercial guided services, their experience level, and/or their commitment level. Also, past experience, level of intensity, and frequency of participation could be explored to reveal more about the levels of conflict experienced by individuals. Through exploring these and other variables, researchers may be able to better understand those individuals experiencing recreation conflict in a whitewater recreation setting and the dynamics of those conflicts. For example the individuals experiencing conflict may be private boaters, either rafters or kayakers, that are highly experienced in their sport and very committed to it.

Conflict could be further evaluated by comparing the Chattooga River to other whitewater rivers in the southeast or throughout the United States. The variables that were previously mentioned could be compared across different study sites to examine regional differences in user group conflict. This could provide more information on conflict that

would be useful to managers when creating different strategies that they could then tailor to their location.

Beyond conflict, research could further explore the difference in motivations between rafters and kayakers. The results of this study revealed that the kayakers ranked the majority of the motivation statements higher than did the rafters. More research is needed to understand why these differences exist. The motivations of rafters for visiting the site may be better identified and understood through expanding the list of motivations to include a wider range of items that might appeal more to rafters. In addition, expanding the list of motivations may identify motivations that are less important to kayakers.

Finally, it would be interesting to compare the effects that rafters and kayakers have on each other during different seasons or water levels. During the time when this study was taking place in 2002, the area was experiencing a drought and river water levels were lower than normal. This could have affected the rafters' or kayakers' experiences and their overall effects on each other. Due to the lower water level, kayakers may have been more concerned about rafts taking over the river and possibly running them over. Future research could compare and contrast "normal" water level years with below average years in addition to comparing seasons in order to determine if there is a higher rate of conflict during the summer. Future research exploring these and other factors could help enhance understanding of recreation conflict between boaters on the Chattooga and other White Water Rivers.

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