

Goal Interference and Social Value Differences: Understanding Wilderness Conflicts and Implications for Managing Social Density

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Abstract—Wilderness conflict research has mostly followed the direction of recreation research in the U.S. An interpersonal recreation conflict model proposed in the late 1970s has guided much of the conflict research in wilderness, with emphasis on determining the amount of interpersonal conflict resulting from goal interference and how much one or more hypothesized contributors actually influence the occurrence of conflict. This approach is heavily rooted in expectancy-valence theory explanations of human recreation behavior and may contribute to an understanding of how social densities influence perceptions of conflict. The contributions of activity style, resource specificity, mode of experience and lifestyle tolerance to understanding interpersonal conflict arising from crowding largely comes in the form of understanding the role of expectations and importance attached to social density preferences. Today, however, wilderness conflict extends beyond recreation within the boundaries of wilderness, beyond interpersonal interaction, and beyond the boundaries of wilderness to competing demands for the wilderness resource. Understanding of the causes for differences in attitudes toward wilderness and the meanings various subpopulations attribute to wilderness resources will be critical to developing solutions for conflict management and managing the social mix among all demands in the future.

In contrast with the days of early explorers, when wilderness travel was often a solitary activity, the wilderness resource is now shared by many interests, representing both recreation and nonrecreation uses. Interaction among the various user groups, often with contrasting views on wilderness values, leads to varied amounts of conflict. Much of the research on conflicts in wilderness has centered on conflicting recreational uses. There are other values of wilderness described in the U.S. Wilderness Act besides recreation, however, and these other values and uses can often conflict with recreational use and with each other. The most basic conflict in wilderness may be between the mandate to provide opportunities for all of these various human activities while maintaining the natural conditions also mandated by law and upon which some human experiences depend.

Conflict research in outdoor recreation in the U.S. has extended from early speculation about causes (Jacob and

Schreyer 1980) to many studies of extent and influences on conflict. Lucas (1964) documented the asymmetrical conflict (one-sided) between canoeists and motor boaters in the Boundary Waters Canoe Area of Minnesota before it was part of the National Wilderness Preservation System. Entry to the system did not preclude this conflict since some established motor boat routes were retained when it was designated wilderness. Research on the conflict between motorized and nonmotorized uses was extended beyond the wilderness boundaries to snowmobilers and cross country skiers by Knopp and Tyger (1973). Perhaps Stankey's (1971) early studies on visitor perceptions of crowding also contributed more to conflict research than usually acknowledged because they illustrated visitors' differential responses to the types of encounters they had in wilderness. While Stankey was focusing on the reaction to the number of people visitors saw in the wilderness, these responses were influenced by whether the people encountered were hiking or riding horses. From that time forward, most crowding research has mistakenly ignored this finding, focusing too much on density of people and not enough on the interaction between number of people, their behaviors, and their orientation toward the place, including method of transport.

Bryan (1977) described the potential for conflict between anglers of various specialization levels, demonstrating that conflict was not just between motorized and nonmotorized groups or differing forms of access in the out-of-doors. Some people sought very pristine places to fish and enjoyed the special skills accumulated while moving from very simple angling techniques to more advanced. When more specialized anglers encounter novices, we would expect conflict to occur. This conflict may arise from interference with fish catching objectives or with enjoyment of a pristine place, but it may also rest with basic differences in how members of the two types of anglers value fish and the environment.

In more recent times, a renewed interest in conflict research has accompanied an apparent growth in conflict issues. Watson and others (1991) published the first study of conflict between National Forest hikers and mountain bike riders, Baird (1994) studied conflict on the ski slopes between skiers and snowboarders, Gibbons and Ruddell (1995) studied conflict between cross country skiers and those skiers dropped off in the backcountry by helicopters, Blahna and others (1995) studied the growing conflict between llamas and horse users in the wilderness and backcountry, and Vaske and others (1995) moved to the general public in a study of conflict between hunters, those who previously hunted, and nonhunters. Watson and others (1993, 1994) refocused conceptual thinking through studies of the conflict

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between hikers and horse users by bringing some organization to the variety of measurement methods being employed. Conflict had been measured in several different ways and substantial progress had occurred over the years in measuring variables that had been hypothesized to influence conflict.

The primary purpose of this paper is to explore the extent that knowledge from recreation conflict research can help us manage recreation use density in wilderness. In this effort, however, we cannot ignore the growth of conflict research in recent years to include conflict between such different orientations to the wilderness as subsistence users and recreation visitors, commercial interests and wilderness protection, and biodiversity protection and human meanings. The focus taken here is broadly on management of social densities in order to understand how conflict research can affect the way we think about proactively managing numbers of people and types of activities in wilderness.

Review of Past Progress

Past research on conflict in wilderness and outdoor recreation has mostly been reactive and focused on groups with obvious differences in orientations toward recreation. Some studies, for instance those investigating growing complaints by canoeists about motorboats, by skiers about snowmobiles, by skiers about heli-skiers, and by hikers about mountain bikers, involved groups with differing levels of motorized or mechanized support for travel. Downhill skiers were threatened with a nontraditional use of the ski slopes when snowboarding began to grow in popularity, as horse users felt invaded by llamas, a nontraditional method of access to wilderness in the U.S. The conflict between hikers and horse users was noted on public land in the U.S. well before our National Wilderness Preservation System was established, but has grown even as the percentage of users visiting on horse back has generally decreased (Lucas 1985). There is also concern about impacts of horses on trails and campsites, much as some hikers are concerned about the impacts of mountain bikes on trails. Safety is often a concern when llamas meet horses and mules on narrow mountain trails, and speeding bicycles have also caused some injuries and frightened people and pack stock. Jacob and Schreyer (1980) proposed that the common element in all of these recreation conflict situations is goal interference; one person or party is not able to realize the positive aspects of a visit to the outdoors because of the behavior of someone else.

This commonality is somewhat constrained by our awareness of conflict between groups who may or may not directly interact in the wilderness. A study of hunters and nonhunters (Vaske and others 1995) has suggested that conflict can be based on differences in values, represented by differences in meanings attached to a resource or differences in attitudes towards management policy to protect these meanings, held by opposing groups, encouraging us to extend our conceptual conflict model to include a more broad range of conflicts. Implications for social density exists within the study of conflict between tourism promotion and wilderness protection, or between placing high value on biodiversity restoration and personal attachment to a place. Social value differences offer us additional understanding of conflicts and the ways we might address them through wilderness policy.

Goal Interference Conflict

Jacob and Schreyer (1980) suggested that conflict is caused by goal interference attributed to the behavior of another person. Arising from the popularity at the time of adapting expectancy-valence theory concepts to outdoor recreation issues, recreation was described as a goal oriented behavior and interference with achieving that goal would cause negative emotional response. The more value visitors place on finding naturalness while on a trip to wilderness, and the higher their expectations are that they will indeed find it at the chosen time and place of a trip, the more likely conflict will be felt if this goal is not realized. It is interpersonal conflict if the visitor can attribute this loss of goal attainment to the behavior of someone else (for example, the person who has damaged the vegetation with livestock, or violates the natural quiet of wilderness with a radio, or crosses the bow of a canoe with a motorized boat), not to the weather, car trouble, or illness. In the traditional school of cognitive psychology followed by many recreation researchers at the time, the assumption that all recreation participation is goal oriented was very natural.

Incompatibility of goals is not a requirement for conflict. While conflict may arise when wilderness travelers seeking solitude encounter those seeking challenge and risk but place no value on solitude, or when those whose relation to wilderness is for subsistence encounter those there for recreation, sometimes conflict exists among those with common goals. A local, subsistence user of the wilderness with a long history of association with a place may be skiing merely for the enjoyment of being alone in the wilderness, or enjoying being the first one to travel over newly fallen snow. Encountering a tourist with the same goal might result in conflict.

Goals can be similar or different between conflict groups, and the conflict may include groups differing in levels of impact, traditional or invading practices, and mechanical or nonmechanical methods of travel. All of these types of recreation conflict have been hypothesized to be at least partially fueled by perceived differences in four ways to describe recreation visitor groups: activity style, resource specificity, mode of experience, and tolerance of lifestyle diversity.

Activity Style—The concepts of activity specialization and the level of importance placed upon participation in the activity have come to represent the intensity with which visitors participate in selected activities. A backcountry skier may be extremely specialized in cross-country skiing and place substantial importance on the activity as a demonstration of a primitive skill or for maintaining cultural identity. A tourist participating in the same activity as another person and in the same place could unknowingly contribute to conflict due to differences in their activity styles. Similarly, in a remote U.S. wilderness, an angler who places high importance on tying flies and luring wild cut-throat trout to a barbless hook will likely experience conflict with spinning or bait anglers sharing the same resource.

Numbers of people present could also interfere with the specialized angler's goal, no matter what level of intensity their activity style, with conflict most likely for those who place the greatest importance on this type of angling and have the greatest expectations for accomplishment. Low

numbers of people will not necessarily create less impact on the less specialized angler, depending upon the expectations and valence attached to social density. Watson and Cronn (1994) have found that less experienced wilderness visitors have less ability to determine trends in resource and social conditions and therefore are less likely to evaluate conditions as unacceptable or declining in quality.

Resource Specificity—Some people are more dependent upon a particular place or resource than others or are attached in different ways. Mountain bikers at the Rattlesnake National Recreation Area in Montana reported less substitutes for the kind of biking they liked to do there than hikers reported (Watson and others 1991). They were more dependent upon the place than hikers. Hunters were believed to visit the Upland Island Wilderness in Texas mostly for the functional values it offered; they believed it was a reservoir of large deer, and therefore they exhibited relatively low place and wilderness attachment scores (Williams and others 1992). An identifiable portion of visitors to the Caney Creek Wilderness in Arkansas came for the symbolic values it represented; “wilderness” demonstrates the social values Americans place on protecting a network of wild areas across the country for this and future generations. Some residents of North Georgia frequently visited the Cohutta Wilderness not at all because it was part of a national wilderness system or for some set of functional reasons, but because it was a place that had always been available to them as a natural place, and they had attached emotional values to it many years ago. The more visits people had taken to the Cohutta Wilderness, the greater the attachment to the place.

People with a strong level of dependence, strength of attachment, or relationship with a place may feel conflict when encountering people who they perceive have weaker or different relationships with that place. Visiting a place with low numbers of people could be a functional purpose for those urban dwellers needing to escape the crowds of the freeway or community. Rural residents may see the lack of people in wilderness as symbolic of the values associated with rural lifestyle. Traditional users may find the presence of other humans threatening to hunt or fishing success. In any case, encountering social densities that extend beyond expectations for those who value the lack of people may change the experience from that of wilderness. Numbers of people can influence achievement of wilderness character for different reasons, potentially as a result of different relations with the place.

Mode of Experience—Originally, Jacob and Schreyer (1980) hypothesized that those more focused on the environment have more rigid definitions of acceptable aspects of their experience there and are less tolerant of the behaviors of others that change these aspects. More recently, this potential contributor to conflict has been expanded to the belief that not only strength of focus on the environment is important, but that other points of focus exist and that different points of focus between groups can contribute to conflict. Mountain bikers at the Rattlesnake National Recreation Area were found to be most focused on the activity itself, while the hikers who were feeling conflict were more focused upon their social group or the environment (Watson and others 1991). The hikers probably accurately perceived

that the bikers, while moving quickly over mountain trails, had little ability or interest in an intense focus on either the natural surroundings or the intense companionship felt by hikers during a walk there.

Tolerance of Lifestyle Diversity—Some earlier work suggested that people of different socio-economic groups could be in conflict partly because of differences in lifestyle preferences (Knopp and Tyger 1973). Later work by Watson and others (1993) acknowledged that these differences in lifestyle preferences could only contribute to conflict if they were perceived by the group feeling conflict. Hikers perceived many more differences in lifestyle factors between them and bikers than really existed (for example, some hikers stereotyped all bikers as university students) or than the bikers perceived, potentially a contributing factor to the asymmetry of this conflict situation. Saarinen (1998) suggests that backcountry and wilderness hikers in Finland distinguish between Finnish and non-Finnish tourists when deciding on how to greet them while hiking. Stereotypes of people who participate in a particular activity or who come from a particular place can contribute to conflict by either directly interfering with experience goals or by conflicting with goals not specifically related to the outdoor recreation experience.

A private rafter might encounter a commercially outfitted group during a trip down the Salmon River in Idaho, and that raft of people should not interfere with goals for the private floater any more than encountering another private party. However, conflict can occur if the private rafter knows or believes that commercial users are the dominant user on that river, nearly half of the commercial users have annual household incomes over \$100,000 (compared to only 12 percent of noncommercial floaters), they are novice river floaters, they have high expectations for nature but attach low value to solitude, they tend to come from distant large urban centers, and they do not have to compete in a lottery system like the private floaters to obtain a permit to float the Salmon River (Hunger and others 1999). Categorization of individuals as members of an “outgroup” is closely related to evaluations of goal interference by many people (Ramthun 1995). Stereotyping seems to lead individuals to make assumptions about the probable behavior of outgroup members, or to simply equate their presence with interference in goal attainment. Commercial floaters could represent any of several aspects of civilization that the private floater worked so hard to escape by taking a wilderness float trip.

Social Value Conflict

While not as well represented in the recreation or wilderness literature, a more broad approach to understanding conflict necessarily entails understanding social value differences. Watson and Landres (1999) have proposed that attitudes toward wilderness are diverse and constantly changing as a result of changes in society and specific things we are doing to protect the wilderness resource. In turn, the ecological and human values (meanings) we derive from this protection and contribute to higher order personal and societal benefits are often in conflict. Sometimes this conflict is between the two types of values and sometimes within one type of value.

It is true that predator control to protect reindeer herding in Finland (Sippola 2000) or livestock grazing allocation in the U.S. may conflict with purposes of biodiversity maintenance, pitting ecological values against human meanings (Watson 2000), but differences can also exist among incompatible human values attached to the wilderness resource. Hunters can attach meanings to the trophy values associated with remote wilderness wildlife populations, or they can value the meat and by-products for their subsistence or ancestral meanings. Nonhunters can value the scenic qualities of seeing large, wild animals. These different values placed upon the wildlife resource are believed to be the primary contributors to the increasingly visible social debate over hunting and trapping in the U.S. (Vaske and others 1995).

Conflicts which do not necessarily involve onsite interaction and which can be ascribed to these value differences may be partly caused by some of the same contributing factors as in the goal interference model (particularly resource specificity and lifestyle tolerance). However, greater emphasis is placed on societal changes and specific sources of influence in understanding this type of conflict. The conflict between hunters and nonhunters (Vaske and others 1995) mostly stems from differences in social values, not interpersonal interaction. One group possesses a set of values (attitudes) that accepts killing of wildlife by humans for sport or consumption, and the other does not. They also differ in the meanings attached to wildlife, with one group placing high value on seeing wildlife and acknowledging their right to exist, while the other group attaches additional meaning to consumptive uses. This approach allows us to look at more broad conflict issues like the conflict between subsistence use and tourism promotion, not just subsistence activities and the tourist. A complex set of values exists across an array of demands on wilderness, and a goal interference approach is insufficient to understanding them or working toward solutions.

Measurement of Conflict

There has been little agreement in the past on the topic of conflict measurement. Jacob and Schreyer (1980) offered a conceptual definition of interpersonal conflict as goal interference attributed to the behavior of another, but they did not suggest a specific way to measure that concept. In some cases, it has been recommended that more than one measure is appropriate in order to understand the effects of efforts to manage the conflict (Watson and others 1993). Watson and others (1993) differentiated between three common interpersonal conflict measures:

1. Predisposition toward conflict. Using a scale to measure position from "extremely undesirable" to "extremely desirable," the strength of a person's feelings toward the possibility of encountering a person or group of another type can be measured. It is considered cumulative in that it does not focus usually on a specific encounter, but it does also not focus very specifically on actual feelings of conflict.

2. Attraction toward outgroups. Using a nominal scale with points of "enjoyed meeting them," "didn't meet any," and "disliked meeting them," the strength of attraction can be measured for encounters with certain types of groups

during a specific trip. The lack of attraction is assumed to represent conflict.

3. Goal interference measure. A measure of conflict more adherent to the Jacob and Schreyer model requires the subject to indicate "yes" or "no" in response to being asked if the behavior of someone else interfered with their enjoyment of their wilderness trip (or trips) to the area of interest. If yes, they are asked to explain what behavior caused the interference and who exhibited that behavior.

In research by Watson and others (1993) it was found that the potential contributors offered by Jacob and Schreyer (1980) and refined by others over the years were more closely associated with predisposition toward conflict and strength of attraction toward outgroups than goal interference. Activity style, resource specificity, mode of experience, and lifestyle tolerance differences may be most closely associated with conflict through influence of expectations and importance attached to wilderness attributes, leading to predispositions toward goal interference, not conflict itself. This association has not been widely acknowledged in the conflict research literature, but may be an extremely important factor in developing approaches to managing conflict.

In an explanation of social value differences, Vaske and others (1995) advocated use of the goal interference measure to more accurately identify the groups in conflict and sources of the conflict. This measure, however, focuses too directly on behaviors in a reactive way. The need is to understand the values that are driving the conflict and contributors to changing these values. A more qualitative method of data collection may be more productive in developing this understanding. Generally, there is a need to advance methodologies that define and measure conflict at the subpopulation level. Minimally, group level measures need to be employed that acknowledges conflict often is influenced by group dynamics and cumulative attitudes and experiences of groups of people. Beyond measures of interpersonal conflict, the amount of conflict and differences in values may be better understood by approaching the conflict from a subpopulation level than an individual level. Evidence of conflict can exist in organized group position statements, articles written to be published in newspapers by identifiable interest groups, justifications for court cases, or simply a careful analysis of the meanings and attitudes placed on the wilderness resource by different interests. There seem to be those subpopulations who believe social density should not be controlled by the managing agencies. There are also organized groups who believe social density management is prescribed in the legal foundations of the wilderness system in the U.S. Conflict between these two groups should be studied at the subpopulation level, not the individual level. A simple vote to determine the outcome of this debate would not be constructive.

Implications

There remains a need to approach feelings of conflict related to undesirable social density in a reactive manner, trying to measure how much conflict occurs and whether it is caused by some perceptions or behaviors that can be modified to reduce the conflict. These measures could serve as good indicators (Stankey and others 1985) of impact to

solitude experiences that is attributable to the behavior or presence of others.

Some conflict, however, exists because of incompatibility of user behaviors, uses or values associated with wilderness and are most likely to be addressed by temporal or spatial separation of opposing social groups. An appropriate approach to conflict management may be a proactive one that brings all interests together in order to understand conflicting values and work through compromise or recognition of decision criteria. The way we identify groups for involvement in public participation and how we define public participation may change substantially in the near future. Our dependence upon management solutions that ignore the complexity of social value differences and reactively attempt to solve conflicting demand issues through exclusion may also change (Watson and others 1997).

Conflict research suggests to us that social density should not be studied as an independent causal factor. The number of people one sees along a trail in wilderness or on a float trip on a river may have more to do with expectations and importance attached to certain types of encounters than the absolute numbers of people. Sometimes managers have established social density indicators for wilderness based only on numbers of people seen each day without distinguishing between user types (for example, horse back riders and hikers, kayakers and rafters). This practice ignores the most basic piece of information provided from early carrying capacity studies. While consistent relationships have not been found between encounters and experience quality, people have provided different responses to encountering different types of groups, in different places, behaving differently, and under different management regulations.

There is no easy way to incorporate the knowledge derived from previous conflict research into social density determinations without management decisions about objectives for social density. In the initial plan for the Salmon River inside the Frank Church-River of No Return Wilderness, a desire was stated to manage the river for a particular type of group, the intermediate-skilled river floater. This targeted "market" resulted from an analysis of opportunities in the immediate region of this river, recognizing an abundance of roadside and remote settings available for novice and beginning skill levels, as well as extremely challenging whitewater in both remote and accessible rivers of the region. Even this general decision about the type of visitor most dependent upon this river within the regional context provides guidance for science to explore and understand the types of conflict (good conflict, bad conflict, acceptable conflict?) reported between parties on the river. We don't have this type of guidance in very many places, though it could be valuable in guiding management decisions beyond those about social density. Providing opportunities for demonstrating primitive skills could intentionally vary across a system, as well as the types of encounters that are most probable, not just the number of people encountered or numbers of parties encountered.

Approaching social density from a conflict perspective suggests that we need to explore two primary aspects of visitor experiences:

1. We need to understand the orientations people have toward the place of interest. Whether it is a nonconforming

user (like jet boaters on the Salmon River inside the Frank Church-River of No Return Wilderness), a group of scientists, scouts, a wilderness therapy group, or a commercially outfitted group in the wilderness, we need to proactively study the values, meanings, expectations, and importance they attach to the place.

2. How does interacting with various numbers and types of people interact with these values, meanings, and expectations? Participatory Rural Appraisals (Medina and Rodriguez 1998) and Community-based Conservation practices (Jones and Braun 1996) are planning and management implementation methods that attempt to proactively understand the attitudes, values, and behaviors that need to be addressed in wilderness management and assure they are addressed. An approach to social density management that similarly is based on the mix of human and ecological values associated with wilderness (or a regional system of wilderness opportunities) instead of the single dimensional crowding measures commonly used today will extend our abilities to meet the full potential of wilderness to current and future generations of people.

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