As use of public lands for recreation and other objectives has grown in popularity over the past century (Monz, et al., 2010), a complex system of land classification has been developed to manage recreation and other land use. However, while visitation to parks, forests, wildlife refuges, and other public areas continues to increase, there is evidence to suggest that many users may not know the classification of the lands that they are visiting for outdoor recreation. This may indicate a similar lack of information about the management objectives for those areas. Since each agency manages land units to reach its specific goals and objectives (often not primarily for recreation), there is a potential for conflict to exist between recreational visitors and land managers, especially if visitors are unaware of the management goals and objectives for a particular area. The literature on recreation conflict, defined as goal interference that can be attributed to another group or individual (Jacob & Schreyer, 1980), tends to focus on conflicts between recreation groups (e.g. skiers vs. snowboarders, motorized vs. non-motorized use). However, little has been written about conflict between users and managers, which is likely to have a significant impact on the quality of the recreation experience, as well as the ability of managers to fulfill their obligations.

2.0 Literature Review

It is widely accepted in social research that goals form the basis of most rational decision making (Fishbein & Ajzen, 1975; Jacob & Schreyer, 1980; Endsley, 1995). For most users of a recreation area, the primary goal directing their behavior is to have a satisfying recreation experience. Each visitor is likely to have different conceptions of what a satisfactory experience is, and may have different specific objectives to reach that endpoint, but the overall goal is the same. Managers of these areas, however, often have to balance policies and procedures that lead to recreation satisfaction with other goals such as resource extraction, wildlife conservation, visitor safety, or flood control in order to satisfy multiple stakeholders.

The latter is particularly true on public lands that are often managed for multiple uses. For example, the Multiple-Use, Sustained-Yield Act of 1960 indicates that national forests in the U.S. are to be simultaneously managed for timber, water, range, wildlife, and recreation, and that no one use is more important than the others (Bethel, 1969; Dove, 1992). Other federal and state lands are constrained by similar mandates. In complex systems such as this, more than one goal is often present, and these goals may sometimes be in conflict with one another (Endsley, 1995). When this is the case, managers should select policies and actions that lead to achieving the best set of selected goals. When these practices interfere with recreation users’ ability to achieve their own goals, conflict may result between users and managers. To reduce this potential for conflict, it is important for both users and managers to be aware of the system in which they are operating (Endsley, 1995). In most cases, people are not helpless recipients of information, but are active seekers of information to fulfill their goals (Bultena & Klessig, 1969; Endsley, 1995; Manning, 1999), but visitors to public lands sometimes lack a sufficient level of awareness about management practices, agency goals and objectives, or rules and regulations to act appropriately within that system. Additionally, managers of those areas may have an incomplete understanding of the goals of recreational visitors, leading to policies or actions that could reduce user satisfaction. This lack of awareness by both managers and recreational visitors has not been studied in detail by recreation researchers and may be a critical element in conflict situations.

While there is little empirical evidence of this suspected unawareness among recreational visitors to public lands, anecdotal and implicit evidence can be found. During informal interviews with visitors to the Ocala National Forest in Florida, it was observed that many respondents did not know that they were on a national forest or what the term “national forest” meant (Personal observation, 2008). When asked what recreation areas they had visited, many respondents referred to the forest (or sections of it) as a “national park,” “wilderness,” or other inaccurate designation. A similar trend was found in a study of Pennsylvania State Parks. When asked to list which state parks they had visited during the past 12 months, many respondents named areas not included in the state park system (Mowen et al., 2006). Furthermore, several respondents that indicated they had not visited a state park within the past 12 months included state parks on their lists of recreation areas they had visited (Mowen et al., 2006). These findings indicate visitors may not be aware of how the lands that they visit are designated or that this information is not important to them.
Another study examined constraints to visiting Pennsylvania State Parks. Non-users were surveyed and asked about the factors that limited or prevented them from visiting parks in Pennsylvania. Some respondents indicated entrance fees were too expensive, rides were too costly, and the lines were too long. This suggests a lack of awareness about PA state parks because there are no entry fees or rides at any of these parks (Kerstetter et al., 2002). Finally, in a study of a national park in Greece, Papageorgiou (2001) found the vast majority of visitors had heard the term “park,” but few were able to define the content of the term. Over two thirds of the sample did not have a clear understanding of parks or the rationale for their creation (Papageorgiou, 2001). This lack of awareness for land classification may signify there is a similar lack of awareness of management objectives and strategies in these areas as well. This could potentially lead to conflicts between recreational visitors and land managers.

One theory that has been used in a variety of fields to assess the level of awareness of operators in complex, dynamic systems is situation awareness (SA). Developed in the fields of cognitive psychology and the applied science of human factors (Wickens, 2008), SA research seeks to investigate the perception and comprehension of relevant elements in a complex system in order to project future outcomes and direct decision-making (Endsley, 1995). While SA theory has been primarily applied to high-stakes decision-making in fields of aviation, air traffic control, flexible manufacturing, refineries, nuclear power plant operation, tactical strategic systems (fighter pilots, police units, military command, etc.), and medical decision-making (Endsley, 1987; Spick, 1988; Endsley, 1995; Durso & Sethumadhavan, 2008; Sitterding, et al., 2012), it may be a useful tool for addressing the level of understanding of land management systems among recreation users and managers when addressing conflict between and among these groups. When an individual has a clearer understanding of how a system functions, she/he will be able to detect and pay attention to more relevant environmental cues, develop reasonable expectations about future goal achievement, and develop links between recognizing a situation and the appropriate action required to reach a particular objective (Endsley, 1995).

Public land management can be viewed as a complex, dynamic system involving many actors. Public lands are managed simultaneously for multiple goals and objectives, sometimes in competition with one another. Managers as well as recreational users must acquire relevant information about the environment, process that information to form an understanding of the system, and make decisions based on predicted outcomes in order to achieve goals. Additionally, past experience with a situation or environment has been shown to allow a person to develop expectations about future events or goal achievement, even if the system is not exactly like ones encountered in the past (Endsley, 1995). Breakdowns in complex systems often occur from either incomplete SA (knowledge of only some of the elements in the system) or erroneous knowledge concerning the value of certain elements (Endsley, 1995). When these breakdowns occur, there is greater potential for conflict between managers and users of public lands. Finally, while managers and visitors are operating within the same system (a public area open to recreation), they are operating at different levels. Visitors come to the area solely to have a satisfactory recreational experience (though what constitutes “satisfactory” is likely to vary among them). Natural resource managers, however, must integrate recreation needs with other elements of the systems such as resource extraction, wildlife habitat management, public education, and law enforcement. When users are unaware of management objectives and strategies for achieving those objectives (policies, rules, and regulations), conflict may result between visitors and land managers. However, more research is needed to address the level of awareness of goals and objectives of both visitors and managers of public lands.

3.0 Methods

This paper represents the results of the first two phases of a three-phase study design. Phase One involved interviews with specialized informants representing recreation and land managers. The purpose of these interviews was to identify management goals for these areas, managers’ perceptions of visitor goals, and perceptions of user-manager conflict. Phase Two involved interviews with specialized informants representing a small sample of knowledgeable recreation users. These interviews sought to identify user goals, key issues relating to recreation, users’ perceptions of management goals, and perceptions of user-manager conflict. Finally, in Phase Three, the results of these interviews will be used to develop an on-site survey to be administered to recreational users of these areas.

Interviews were conducted with both recreation users and managers of a state park and man-made lake in West Virginia between August 2014 and February 2015. This area was selected as it exemplifies the complex management structure of public lands typically found in West Virginia. In addition to the state park, there is a wildlife management area and an Army Corps of Engineers recreation area on the same lake. Additionally, this lake is in close proximity to a relatively large population within the tri-state region (WV, OH, and KY). The diversity of land units here, each with different goals and objectives for management, lends itself well to this study. Further, this park has a recent history of user-management conflict regarding the use of golf carts on park roads. This issue has involved state officials ranging from park staff to senators, as well as visitors, some of whom established an organization to oppose policy changes affecting the use of carts within the park.

3.1 Limitations

While efforts were made to reduce bias and error, there are inherent limitations present in this study. First, this study relies on self-reported data, which is susceptible to high degrees of reporting bias. In particular, respondents may be hesitant to honestly answer questions relating to compliance with regulations, especially if they have been non-compliant. To minimize this bias, respondent anonymity was stressed during data collection and no potentially incriminating questions were asked. Further, since
recreation users have a tendency to downplay conflict (Jacob & Schreyer, 1980) or use coping mechanisms to minimize the impacts of conflict (Schneider & Hammitt, 1995, Schneider, 2000, Schuster, 2000, Graefe & Thapa, 2004), it is possible that despite the presence of contributing factors, respondents would under-report any conflict. To address this issue, alternative methods for measuring recreation conflict were used to assess the presence of situations fitting the conflict definition, regardless of whether or not the respondent reports experiencing conflict. Finally, this sample is not representative of all public land users as data was collected in only one area of West Virginia. This limits generalizability, but has the potential to inform future research into public land management and recreation conflict.

4.0 Results and Discussion

Data were collected through the use of semi-structured specialized informant interviews (Bernard, 2006) with land managers and recreational visitors. A total of 10 manager interviews and 7 visitor interviews were conducted during the 6-month study period. Though a relatively small sample size is represented by the interviews, it has been shown that with purposive sampling, data saturation routinely occurs within the first twelve interviews, and basic themes can be identified in as few as six (Guest, Bunce, & Johnson, 2006; Bernard, 2006). Since the goal of these interviews was merely to identify themes that would be used to develop an on-site survey tool, the small sample size was deemed sufficient. As similar questions were asked to both land managers and recreational visitors, data from both phases of interviews will be presented together to allow for comparisons across groups. Numbers in parenthesis following question responses indicate the number of interviewees who provided that response.

4.1 Manager Characteristics

The first set of questions asked to park managers was to identify the characteristics of managers. These questions were not presented to park visitors as they were not expected to be able to answer them with any degree of confidence. Interviewees representing land managers serve in various administrative and operational roles at the park. Typical responses to questions about the role the interviewee plays at the park included planning, problem-solving, trouble-shooting, policy-making, training, overseeing operations, customer satisfaction, event promotion, maintenance and upkeep of facilities, and dealing with visitor complaints. Past experience at the park ranged from 0 years (for a WV state parks administrator who has never actually worked at the park in question) to 12 years, with an average of 5.8 years of experience. Interaction with visitors ranged from low to high with over half of the sample stating that they spend 50% of their time or more interacting with visitors. These interactions were generally viewed as positive by respondents (4), but some indicated that interactions are both positive and negative (2), or that they only interact with visitors if there is a problem (2).

4.2 Visitor Characteristics

The next set of questions was asked to both park managers and recreational visitors and identifies perceptions of visitor characteristics. Themes that emerged from this line of questioning included repeat visitation, use by tourists versus locals, visitor satisfaction, and past experience. Both managers and visitors perceived that park use comes primarily from return visitors. Among managers, responses ranged from 60%-80% repeat visitation, while visitors estimated that 70%-80% were returners. Additionally, managers indicated that most campers are returners (3), the vast majority of park visitors are returners (2), and most day users are returners (2). There was also strong agreement between managers and visitors about the origin of park visitors with 5 managers and 2 visitors indicating that use is primarily by local residents. Managers also indicated that not many tourists come to the park (3) and the pool is mostly used by people living near the park (1). There was less agreement about which recreation areas around the lake get the most use. The state park receives significantly more visitors than the Army Corps recreation area (around 250,000 visits per year) and managers were easily able to identify that. Visitors, however, were not as confident. Visitors that prefer to visit the state park correctly believed that the state park gets more use (4), but visitors who prefer the recreation area believed that it was more highly used (2). Both managers and visitors perceive that guests are highly satisfied with the park (5 visitors and 6 managers), but some managers indicated that people are mostly satisfied, but you cannot please everyone (4). The high rate of returning visitors seems to be related to satisfaction. One visitor interviewee stated that people who know what to expect from the park are completely satisfied, while others may not be. Manager responses indicated the same: returning visitors know what to expect (4); there is a direct relationship between past experience and compliance with the rules (1). Positive outcomes of this high level of past experience among visitors are that they love the park and want to protect it (6). However, some managers also indicated that there are negative outcomes such as glorification of the past, historical expectations about management, and resistance to change (4).

4.3 Perceptions of Management Goals and Objectives

Recreation conflict has been defined as goal interference that can be attributed to another group or individual, however it is rarely measured in this way. To address this, one goal of the present study is to identify conflict between recreational visitors and land managers based on this definition. To accomplish this, it is first necessary to establish what the goals and objectives are for each group. The purpose of the next set of interview questions was to identify management goals and objectives.
Land managers were asked to prioritize the three most important goals and objectives for the park or recreation area. Responses for the top priority included increasing visitor satisfaction (5), protecting natural resources (2), getting people into the park (1), getting more return visitation (1), and securing funding sources (1). Responses for the second priority were more recreational development and improved offerings (3), education (2), keeping the park clean (2), historical preservation (1), increasing revenues (1), and marketing and promotion (1). Third priority responses included improving the recreational experience (3), maintenance, enhancements, and upgrades (3), education (2), keeping the staff happy (1), and securing funding sources (1). The mission statement for WV state parks is to “promote conservation by preserving and protecting natural areas of unique or exceptional scenic, scientific, cultural, archaeological, or historical significance and to provide outdoor recreational opportunities for the citizens of the state and its visitors.” However, interview responses indicate a much stronger focus on customer satisfaction and an enhanced recreational experience than on conservation and preservation of natural, cultural, and historical resources. In fact, two manager respondents stated that environmental protection is not a primary concern for the state park and that the Army Corps of Engineers is responsible for that since they own the land. The mission statement of the Army Corps of Engineers, however, makes no mention of environmental protection. Their goal is to “deliver vital public and military services; partnering in peace and war to strengthen our Nation’s security, energize the economy, and reduce risks from disasters.”

Visitors were also asked to identify land management goals for the area. Visitor responses included ensuring natural areas are there for people to use (4), providing recreational activities (3), making a profit (1), not wasting anything (1), and reducing vandalism in the parks (1). Again, while the top response was to protect the natural resources, the majority of responses focus on the recreational experience and visitor satisfaction. Some visitors seemed to be somewhat dissatisfied with the condition of the built and natural environment at the park. One respondent indicated that park staff maintains what they have, but never improves anything. Another respondent believes that protecting the natural resource is not important to managers and that the park has become rundown.

Consistent with these perceived management goals, actions to achieve goals focus primarily on customer satisfaction. Managers provided actions such as more development (4), running the park as a business to make money (2), more programming (2), heavy marketing activities (1), moving to an online reservation system (1), and protecting the resource and environmental health and safety (1). Visitors were less able to identify management actions to achieve goals, but stated that the park has good people in good positions (1), they are efficient in their operations (1), they do not waste anything (1), and that there is consistency (2).

Questions were also asked of visitors and managers about how similar or different each group perceived the other to be in terms of management goals. Managers stated that visitor priorities are very different from manager priorities (8), visitors are resistant to change (4), visitors are uninformed about management goals (3), there is lots of variation in visitors’ understanding of management goals (3), and visitors generally understand and are on the same page as managers (1). Visitors stated that managers and visitors are far apart in terms of their goals (3), some visitors understand management goals better than others (2), the average visitor has no idea about management goals (1), and the average visitor does not care about management goals as long as they are able to enjoy themselves (1). Both visitors and managers seem to see the other group as different in terms of goals and objectives. This may contribute to an in-group/out-group mentality, possibly leading to user-manager recreation conflict.

Finally, participants were asked to identify barriers that managers may face in achieving goals and objectives. While some administrative and operational barriers were identified by managers, such as bureaucracy (6), lack of funding (6), deferred maintenance (2), not enough lifeguards/staff (1), and not enough facilities (1), the majority of the responses related to barriers posed by park visitors. Responses included demand for improvements (4), visitors do not like the rules (3), difficulty in getting information out to people (2), visitors not reading information/flyers (2), RVs are too big and draw too much power (2), catering to a wide variety of guests with different needs (1), getting people into the area (1), visitors do not care about natural resources (1), and visitors getting in the way of mowing schedules (1). Likewise, visitors identified barriers such as being short staffed (3) and a lack of funding (3), but mostly identified barriers caused by visitors like alcohol use by visitors (2), visitors swimming in the lake outside of designated areas (1), visitors not caring about natural resources (1), visitors not following rules (1), vandalism and unintentional damage (1), and a lack of understanding on the part of managers about the visitors they are trying to serve (1). While recreation conflict between visitors and managers has never been examined before, it is clear that visitors do in fact interfere with managers’ ability to fulfill their goals. Most of the manager interviewees indicated that these barriers are major challenges to accomplishing goals (6), but some said that managers are able to work around them (3). Visitors believe that managers are very successful in achieving their goals (6), but that these things do present a significant challenge (3) and that they are just a part of the job and managers should adapt (2).

4.4 Perceptions of Visitor Goals and Objectives

Questions were also asked to establish goals and objectives for recreational visitors. Items were related to underlying motivations for visiting the area, activity preference, and barriers to goal satisfaction. When asked why visitors come to the park, managers responded that they wanted to have a good time (6), to get away or escape (4), to socialize with friends, family, or other guests (4), to experience nature (2), or to relax (1). Visitors stated that they wanted to socialize with friends and family (4), get away from the house or town (3), or see the sights (lakes, trails, etc.) (3). Though both manager and visitor responses are similar, over half of the visitors interviewed believed that managers have no understanding at all about visitor goals (4). Other visitors
believed that managers do have a good understanding of visitor goals (3). Of those that believe managers do not understand visitors, reasons provided for this included not enough manpower to find out what visitors want (1), not taking the time to find out what visitors want (1), and managers assuming that visitors do not want change, so things stay the same (1). Again, this may be an indication of in-group/out-group mentality and may contribute to conflict.

Visitors and managers had nearly identical responses when asked about which areas of the park are used most frequently. Both groups indicated that the campgrounds get the most use, followed by the pool and swimming area, picnic areas, and the marina. Managers seemed to have a broader understanding of use patterns. It was indicated that usage revolves around the school schedule and there are different populations throughout the year. In the summer, when school is not in session, there are more families with children in the park, which correlates with more problems and conflict situations. Once school starts up in the fall, park usage is mostly by seniors and the park is much more quiet and relaxed. It is to be expected that managers have this type of understanding, while the majority of visitors do not. When visitors are in the park, they are only seeing a snapshot of the park while managers can observe trends over time. In addition to the most highly used areas, some managers indicated that trails (3) and cabins (1) are underutilized. No visitor participants mentioned underused areas or facilities.

Similar to questions about manager goals, visitors were asked to prioritize their top three recreational activities. Top priority responses were camping (4), boating (2), and fishing (1). Second priority activities were swimming (3), boating (2), and fishing (2). Third priority responses were fishing (3), hiking or walking (2), boating (1), and swimming (1). When asked about visitor activities, managers were easily able to identify the top four: camping (6), swimming (5), fishing (4), and boating (4), but also mentioned special events (3), picnicking and day-use (2), socializing (2), hunting (1), hiking (1), people-watching (1), and the fitness trail (1). Again, it appears that managers have a good understanding about visitor use of the park.

Participants were also asked if there were activities that visitors would like to do, but are unable to due to rules, regulations, or policies. Managers identified swimming in the lake (6), driving golf carts in the park (5), consuming alcohol (5), increased length of stay at the campgrounds (4), more camping units (tents or RVs) allowed per campsite (4), bigger or faster boats on the lake (3), more vehicles allowed to be parked on each campsite (3), extended visiting hours (2), campfires at the cabins (1), more or better electrical hookups in the campgrounds (1), and hunting (1). Although this list is extensive, when asked if not being able to do these things affects visitor satisfaction, 100% of managers interviewed indicated that there is no impact on visitor satisfaction and that visitors are completely satisfied despite not being allowed to do these activities (10). When asked the same questions, visitors identified far fewer activities. Responses included drinking alcohol (4), swimming in the lake (4), and allowing bigger or faster boats on the lake (2). The majority of visitors perceive that doing these things would make the experience better (5), but some were still satisfied even though they are not allowed to do these activities (2).

When asked about barriers that visitors face in achieving their recreational goals, several managers indicated that there are no barriers at all (4). Other responses were that visitors do not know or understand the rules (4), confusion about policies or management practices (3), poor roads getting to the park (1), and inadequate signage (1). Some visitors also indicated that there are no barriers (2), but most were able to identify some. Responses included confusion about policies or rules (3), not getting the campsite they wanted (1), inadequate signage (1), not enough campsites available for reservation (1), not enough recreation facilities (1), too much on-site presence from park staff (1), and not enough on-site presence from park staff (1). Additionally, several visitors also indicated that other visitors present barriers to goal satisfaction. Responses included alcohol use by other visitors, noise, children misbehaving, no solitude, and “shady people.” Similar to responses about barriers that managers face, there appears to be a significant amount of visitor goal interference that can be attributed to management action, though user-user conflict is also present. This indicates that user-manager recreation conflict is two-directional in nature and is experienced by both park visitors and land managers.

The final set of questions in this section asked about desired changes to the park to enhance visitor satisfaction. Managers believe that visitors desire more development (3), a fully-online reservation system (2), increased public image (1), and better protection of the natural environment and enhanced environmental health and safety (1). The focus seems to be on new development and enhancement of the park. Visitors, on the other hand, indicated that they would like more concentration on naturalist programs and activities (1), more information about the park made available (1), updated facilities such as bathrooms and playgrounds (1), more maintenance activity (1), more care taken for the natural landscape (remove trash, vandalism, etc.; more maintenance; more trees planted in campgrounds) (1), and a cleaner and safer lake (1). The focus for this group seems to be more on maintenance and upkeep of existing facilities, rather than new development or technology.

The last set of interview questions relate to park rules, regulations, and policies, violations of those policies, and disciplinary action for violations. The most common violations identified by managers were vandalism (4), fishing violations (4), no-wake zone violations (4), golf cart use (3), issues with visitors’ pets (3), reckless driving/speeding (2), drugs (2), theft (2), issues with visitors’ children (2), noise (2), filling RV water tanks in the wrong place (1), dumping sewage in the lake (1), ATV use (1), alcohol use (1), domestic violence (1), and other violent crimes (1). Visitors identified alcohol use (4), too many people on a campsite (3), fishing violations (3), parking violations (2), no-wake zone violations (2), and vandalism (1). Though visitors were
able to identify many of the same violations that managers listed, there seems to be a difference in the perceptions of how frequent or important the violations are between groups. Alcohol use, for example, was the most common response among visitors, but was only mentioned once during manager interviews. This may be because although alcohol use is prohibited in the park, it is not seen as a major problem to managers, especially when compared to more grievous infractions such as fishing violations or no-wake zone violations. Conversely, vandalism was the most frequently cited problem by managers, but was only mentioned once by visitors. It may be that visitors do not grasp the true cost of vandalism to the park and therefore do not see it as a major problem, whereas managers struggle to repair and replace vandalized property with a very limited budget.

Both visitors and managers seem to agree that citations are seldom given out at the park, and that warnings are much more common disciplinary actions. Managers stated that citations are only given out for major offenses or to repeat offenders (3), citations are few and far between (2), and that too many regulations can restrict visitor satisfaction and enjoyment (1). Visitors indicated that people get warnings and not citations (4), no one is ever kicked out of the park (2), and when alcohol is found, it is collected and can be picked up when the visitor leaves (1). Some visitors perceived that disciplinary action is very common (3), but others believe that there is not enough enforcement of rules and regulations (2). Visitors in general seem to be content with the frequency of disciplinary action. In several interviews, it was mentioned that the consistency is nice. Visitors know what they can and cannot get away with and while there are official rules and regulations, there is another set of unofficial rules that both staff and visitors follow.

5.0 Conclusions and Implications

Though there are considerable similarities between managers’ and visitors’ perceptions of land management goals, visitor recreational goals, policies, regulations, and other issues discussed in this paper, there are also many areas where their perceptions differ. These gaps in awareness or perception may be contributing to user-manager recreation conflict, potentially reducing visitor satisfaction and making it more difficult for land managers to serve their mission. While the body of research on user-user recreation conflict spans decades, little to nothing has been written about user-manager conflict. It is clear that each group presents challenges to goal satisfaction to the other, and that these barriers are easily identified by both groups. Therefore, more research should be conducted to isolate and identify the underlying causes of these potential conflicts. The results of the interviews presented here have been used to inform the development of an on-site visitor survey that will help to further understand these complex issues. It is anticipated that the results of this study will help to better inform park managers about the perceptions and needs of visitors, allowing them to address knowledge gaps and correct misconceptions. This may help to reduce the in-group/out-group mentality held by both visitors and managers, allowing for more collaborative efforts between the two groups moving forward.

6.0 References


