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## Managing Visitors' Perceptions

*By Catherine E. Dorwart, Yu-Fai Leung, Ph.D.; and Roger Moore, Ph.D*

Park and natural resource managers are often charged with a dual mission. Their first obligation is protecting natural resources for future generations. Their second responsibility is providing appropriate public enjoyment of these resources. As Manning (1999) emphasizes, managers are often focused on reducing impacts on the resource while at the same time, providing high-quality outdoor recreation opportunities for visitors to enjoy. Yet, this paradoxical mission has the potential for conflict, as managers struggle to evaluate and define standards of quality that both safeguard the natural resources and provide a positive visitor experience.

Consequently, objective information on what factors influence visitors' experiences such as visitor attitudes, preferences and perceptions is an important prerequisite to informed management and provision of quality recreation opportunities (Manning, 1999). Researchers (Alessa et al., 2003; Farrell et al., 2001; Floyd et al., 1997; Hillery et al., 2001; Noe et al., 1997; Priskin, 2003; White et al., 2001) have found that one factor affecting visitors' experiences is their perception of environmental impacts.

What visitors notice during their visits to parks, tourist destinations, or wilderness areas affect their overall experience. Therefore, information on visitor perceptions may play an important role in selecting resource and social impact indicators, and establishing standards of quality for those indicators (Newsome et al., 2002). Information on visitor perceptions may also be valuable when setting maintenance and management priorities for allocating scarce funds and resources.

### What Is Visitor Perception?

Perception is "the reception and processing of information from the environment" (Proshansky et al., 1976: 143). Further, Michaels (2000) states that perception implies awareness but not necessarily conscious awareness. Kaplan and Kaplan (1989) explain that, without realizing it, people interpret the environment that they are in, in terms of their needs, and prefer settings in which they can function more effectively.

In addition, people form perceptual categories that identify characteristics which are most important to them in their recreation experience. For example, researchers have found that these categories provide insight into patterns that are liked or disliked (Kaplan & Kaplan, 1989). Perceptions, in turn, lead to preference judgments. Therefore what a person prefers in their outdoor recreation experience, the environment that they choose to be in, and the impacts that they notice within this experience, are all based on visitor perception.

### Environmental Impacts of Visitor Perceptions

Along with research on outdoor recreation activity patterns and satisfaction with outdoor recreation experiences, early studies focused on the attitudes, preferences and perceptions of visitors.

This was due to a "recognition of recreation as social behavior, [which] led naturally to the notion that information on visitor attitudes and preferences for facilities and services would be desirable in guiding recreation management" (Manning, 1999). Lucas (1979) concluded that early research regarding visitors' perceptions of recreation impacts on the environment tended to be limited. Also, despite the importance of a relationship between environmental impacts and visitor perception, research rarely linked the two, making it hard to assess the extent of environmental impact that visitors are or are not aware (Hillery et al., 2001). Though there is a small but growing body of research on visitors' perceptions of environmental impacts, researchers are still struggling two decades later with a lack of strong research on this subject (Alessa et al., 2003; Farrell et al., 2001; Floyd et al., 1997; Hillery et al., 2001; Noe et al., 1997; Priskin, 2003; White et al., 2001).

In fact, a review of current research demonstrates that studies still revolve primarily around visitors' perceptions of campsite, wilderness area, and trail impacts, and have just recently broadened to include studies on tourists' perceptions of recreational impacts on the environment.

### Recreational Resources

In a study on visitors' perceptions of resource impacts at three national parks, Noe et al. (1997) found that park user perceptions and tolerance for impacts varied widely. They also noted that visitors demonstrated different degrees of acceptability based on changing situations.

"Location and situational conditions defining the impact made a difference on respondent acceptability of an impact" (Noe et al., 1997). For example, finding litter near a public restroom was more acceptable than finding it near a natural stream. In addition, similar to more recent studies, litter was perceived as one of the most undesirable impacts at a natural resource area. Another study focusing on wilderness impacts in Mt. Jefferson Wilderness, Ore. compared wilderness campers' perceptions of vegetation and soil impacts at campsites that had standards set by managers and researchers. Findings suggested that visitors perceive major impacts such as a reduction in vegetation cover, compacted soils and chopped or fallen trees.

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Yet, visitors' evaluations of conditions showed no relationship to measurements. Though the sites included in this study were significantly impacted by human use, respondents indicated that the functionality of the campsite and whether damage was intentional (i.e., littering and intentional tree damage), were more important to them than the acceptable conditions managers set for that area. A similar study undertaken in the same wilderness area examined factors that influenced visitors' campsite choices at two lakes-focusing specifically on the effects of environmental impacts. Building on prior research that suggested that visitors perceive environmental impacts and are affected by them, White et al. (2001) examined important contextual influences to determine if visitors perceived or negatively evaluated impacts.

They found that most visitors' perceptions and negative evaluations of impacts did not play an important role in campsite selection. Results also suggested that visitors were likely to make tradeoffs regarding the impacts and the desirability of the site in relation to its functional amenities. For example, some campers claimed that the most desirable campsites were those that were bare of vegetation, had fire rings, and were close to the water (all impacts that managers often find unacceptable). Yet, campers negatively perceived garbage, litter, human waste and a lack of privacy when camping.

On the Starkey Hill Interpretive Trail in Toronto, Canada, Lynn et al. (2003) recently examined the effects of environmental impacts on hiking experiences in natural areas. Using a questionnaire that included photographs depicting trail impacts, the researchers determined that the presence of impacts has a strong negative effect on hiking experiences in natural areas. Litter, tree and plant damage, and fire rings were all perceived by the hikers, and had the greatest negative effects on their hiking experience. Trail extension, widening, and trail erosion also had moderate effects on their experience.

## Tourist Destinations

Recent studies in the tourism field have also focused on visitor perceptions, with most concentrating on ecosystem health and the viability of natural resources in light of the negative impacts of recreation on the environment.

One example is Hillery et al.'s (2001) study of tourists' perceptions of environmental impacts in central Australia. Their research found that perceptions of impacts varied. For example, respondents were more likely to perceive impacts at sites where there had been more tourists and where there was a higher intensity of impacts. But, when asked to compare the site that they were visiting to other sites visited (that had more environmental deterioration) tourists did not perceive greater environmental impact among sites. Also, visitors were able to distinguish among relevant environmental threats and to distinguish among impacts such as the effect of introduced plant and animals, track spreading and vandalism.

The researchers concluded that, similar to other studies, tourists are not very perceptive of their own effects on natural areas. They also found that the impacts visitors do notice are primarily the direct impacts of other tourists (Hillery et al., 2001). More recently, Alessa et al. (2003) set out to measure the effect of tourists' personal knowledge, values and perception of ecosystem health on their behavior in the Pacific Rim National Forest and Reserve's intertidal zone in British Columbia. Their study of visitor behavior and perceptions found that visitors who had a greater knowledge of intertidal ecology were more likely to engage in damaging behaviors than visitors that were less knowledgeable.

Also, visitors who perceived high ecosystem resilience in the intertidal zone were more likely to exhibit significantly higher negative behavior and therefore more negative impact on the environment. Furthermore, their findings suggested that a tourist's values for behavior assessed by measuring personal attribution (PATT) in a written survey, were inversely correlated to the average number of depreciative behaviors. For instance, visitors who expressed lower PATT were more likely to engage in biologically damaging behavior. Whereas, those respondents who expressed moderate to higher PATT were less likely to damage the environment. In addition, perception of ecosystem health scores and personal attribution scores were both significant and strong contributing variables to the number of observed harmful behaviors (Alessa et al., 2003).

Similar to the above study, Priskin (2003) assessed tourists' perceptions of nature-based tourism impacts in coastal areas. She stated that attitudinal research and information can help distinguish among visitor types and prove useful to natural resource managers or local government authorities during the formulation of visitor management strategies, plans and policies (Priskin, 2003). The study's results indicated that a majority of the tourists perceived activities such as sand boarding, horse riding, camping and four-wheel driving as the most harmful. Also, perceptions were affected by gender, age and the visitor's level of education.

For instance, more females than males perceived a majority of the activities to be more harmful, and more younger than older visitors perceived activities as more harmful. Those visitors with a college education, technical or trade qualifications found most activities to be more harmful than those with only a secondary education. In addition, visitor perceptions were comparable to real impacts documented in the recreation ecology literature, indicating a need for improved visitor education and interpretation facilities (Priskin, 2003).

## Visitor vs. Manager Perceptions

Contemporary planning frameworks such as Limits of Acceptable Change (LAC), Visitor Experience and Resource Protection (VERP), and Visitor Impact Management (VIM) have systematic procedures for evaluating recreation impacts and experiences. However the past research suggests that managers often differ from visitors in their perception (types and level of impact) and their evaluation or interpretation of such impacts (positive or negative quality) (Farrell et al., 2001; Floyd et al., 1997; Kim et al., 2003; White et al., 2001). One example of research focusing on this difference is White et al.'s (2001) study. Visitors perceived open areas with less vegetation as desirable, whereas managers perceived vegetation loss as a negative impact and detrimental to the viability of the natural resource area.

Similarly, Farrell et al (2001) found that campers' perceptions of ecological impacts differed from managers'

perceptions. Campers often perceived impacts, but unlike managers, did not rate them negatively. Rather, visitors cited the functional benefit of certain ecological impacts such as low vegetation on their camping experience.

Such discrepancies may lead to potential public misunderstandings of managers' priorities and actions designed to mitigate impacts. Lucas (1979), for example warns that managers need to be cautious in reacting to visitors' evaluations of impact conditions.

On the other hand, Manning (1999) states that though "research indicates that managers' perceptions of outdoor recreation may differ from those of visitors. If a basic purpose of managing outdoor recreation is to provide satisfying experiences to visitors, then objective and systematically collected information is needed from visitors about what defines satisfying recreation experiences" (1999:281). Therefore, it is important, though challenging, for managers to learn how to reconcile their own perceptions with those of the visitors and to draw management strategies that best serve the common good.

## Conclusion

Visitors to natural resource areas are capable of modifying biophysical systems on local to global scales. "The mediator of these modifications is human behavior, which interfaces between human cognition (social and psychological) and human actions (social and biophysical)" (Alessa et al., 2003). Human actions on local scales in natural areas range from recreational to subsistence. When these negative behaviors and actions start to affect the environment on a global scale, distinguishing between unintentional, uninformed and uneducated behavior is imperative. Therefore, understanding a visitors' perceptions of their own impacts as well as others on the environment is a key to guiding the selection of the most appropriate management responses.

Taken together, the available research indicates that visitors do in fact perceive various types of resource impacts and that some may have serious effects on the quality of visitors' experiences. As Noe et al. (1997) warns, understanding information of this nature is essential if park managers wish to include public input as guidance in managing recreation resource impacts.

Also, as society's concern for the future viability of the natural environment increases, public attitudes will continue to exert considerable influence on environmental management and policy for natural areas (Floyd et al., 1997). Visitor pressures on natural resources and the environment will likely increase, as more people come out to enjoy and experience the benefits of our natural areas.

Therefore, proactive strategies that embrace visitors and their perceptions should be developed to improve the health of our park systems, wilderness areas and tourist destinations. Researchers need to build and improve upon the body of knowledge already in place. In turn, managers need to implement strategies and tactics that will help mitigate recreation impacts, in order to protect our resources for future generations.

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