



Examining OHV user displacement at the Oregon Dunes National Recreation Area and Sand Lake: A 10-year trend study



Candice J. Riley^a, Chad D. Pierskalla^{b,*}, Robert C. Burns^b, Kudzayi C. Maumbe^b, Alan R. Graefe^c, David A. Smaldone^b, Susan Williams^d

^a California University of Pennsylvania, Department of Earth Sciences, 250 University Ave., California, PA 15419, USA

^b West Virginia University, Recreation, Parks and Tourism Resources, PO Box 6125, Morgantown, WV 26506-6125, USA

^c The Pennsylvania State University, Recreation, Park and Tourism Management, 701J Donald H. Ford Building, University Park, PA 16802, USA

^d Concord University, Recreation and Tourism Management, PO Box 1000, Vermillion St., Athens, WV 24712, USA

ARTICLE INFO

Article history:

Received 10 July 2014

Received in revised form

9 April 2015

Accepted 9 April 2015

Keywords:

Displacement

OHV

Recreation trends

Crowding

Conflict

Satisfaction

ABSTRACT

The purpose of this research is to combine data from three cross-sectional surveys (2002, 2006, and 2011) to examine the possibility of two distinct OHV user displacement processes at Oregon Dunes National Recreation Area (ODNRA)/Sand Lake. We adopted a broader definition of displacement to better understand displacement of OHV visitors during periods of changing levels of management regimentation that ranged from low (Type 1 displacement) to high (Type 2 displacement). The study used a random sampling method and a total of 1773 exit interviews were completed. The data were analyzed using Analysis of Variance, Chi-Square tests, and Analysis of Moment of Structures. Results suggest a Type 2 displacement process in 2002 was followed by a Type 1 process in 2006 as a result of changing managerial and social conditions. Ultimately, these changes led to more highly satisfied visitors in 2011 that are recreating in a safer environment.

MANAGEMENT IMPLICATIONS

Visitor displacement is not inherently bad when it is managed. As part of their current management plan, ODNRA/Sand Lake managers use the Recreation Opportunity Spectrum (a zoning tool) to define recreation opportunities for the area, and in a larger regional context, this can be used to minimize Type 1 displacement in some areas (higher levels of regimentation) and Type 2 in others (lower levels of regimentation). To be effective at ODNRA/Sand Lake, clearly stated management objectives are needed for each recreation opportunity zone.

© 2015 Elsevier Ltd. All rights reserved.

1. Introduction

In recreation research, displacement has been narrowly defined as a type of visitor behavior in which people are driven away from preferred places that are no longer considered acceptable or satisfying (Becker, 1981; Kuentzel & Herberlein, 1992; Schreyer & Knopf, 1984; Shelby, Bregenzer, & Johnson, 1988). Although the term displacement has typically been confined to visitors who

seek solitude and can no longer find it, other types of people with different needs and desires may also be displaced. Some users are sensitive to the behaviors of other users and crowding. Some users value freedom and lack of regulation more than solitude and would be displaced by the imposition of regulations. Because these people are affected differently by different courses of action (or inaction), managers need to be aware of their presence and views. Hall and Cole (2000) provide a more generic, balanced definition of displacement, "as a process in which recreationists are driven away from a preferred place due to changes in conditions resulting from management action or lack thereof" (2000, p. 113). We adopted the broader definition of displacement in our research to help managers of the Oregon Dunes National Recreation Area (ODNRA)/Sand Lake find ways to better manage Off-Highway Vehicle (OHV) use.

In 2002, the first of three studies examining OHV use patterns at ODNRA and Sand Lake was conducted. The study examined

* Corresponding author. Tel.: +1 304 293 6530; fax: +1 304 293 2441.

E-mail addresses: Riley@calu.edu (C.J. Riley),

Chad.Pierskalla@mail.wvu.edu (C.D. Pierskalla),

Robert.Burns@mail.wvu.edu (R.C. Burns),

Kudzayi.Maumbe@mail.wvu.edu (K.C. Maumbe), gyu@psu.edu (A.R. Graefe),

David.Smaldone@mail.wvu.edu (D.A. Smaldone),

swilliams@concord.edu (S. Williams).

several variables including visitor demographics, trip characteristics, experience use history, overall trip satisfaction, quality of outdoor recreation, and perception of crowding and conflict. The study was repeated in 2006 and 2011. The purpose of this research is to combine data from the three cross-sectional surveys (2002, 2006, and 2011) to examine a possible visitor displacement process given evidence provided by OHV user displacement trends, trends in levels of sensitivity to crowding and conflict, and satisfaction trends at ODNRA/Sand Lake. The results are discussed in the context of changing social and managerial conditions such as the adoption of a 2003 alcohol ban and stricter camping rules in 2005 at ODNRA/Sand Lake.

2. Major management actions implemented from 2002 to 2011

After the first study was completed in 2002, the Forest Service implemented an alcohol ban on ODNRA/Sand Lake. The more restrictive management policy was adopted in May 2003 and was among the most radical management actions implemented during the study period. The alcohol ban was necessary to help reduce traumatic injuries, violent crimes, illegal behavior, resource damage at riding areas and dispersed campsites, and “drunken rowdiness” (*Alcohol ban in sand dunes of Oregon curbs trouble, 2003*). The alcohol ban includes all OHV riding areas with the exception of developed sites such as campgrounds, picnic areas, or parking lots. The penalty for violation is a \$5000 fine and/or six months imprisonment (*USDA Forest Service, 2012*). For some, the alcohol ban was seen as a way for riders to “take their business elsewhere” (*Barnard, 2003*), while others see the alcohol ban as a way to maintain a safe environment for all OHV users.

Examples of other major management actions implemented in the ODNRA during the study period (2002–2011) include confining overnight dune campers at ODNRA/Sand Lake into 133 “sand-camps” in 2005 to end the “camping free-for-alls” (*Hubbard, 2013*). In 2011, Siuslaw National Forest, which ODNRA/Sand Lake is a part of, started working with stakeholders on a proposal to close some of the illegal OHV riding trails, while other illegal riding trails will be designated as legal. Managers hope that designated riding trails will lead to better managed OHV use and protect native plant communities in the area such as lichens and mosses from extinction (*Hubbard, 2013*). The following four research questions were addressed in the context of those restrictive management policies that could contribute to user displacement.

1. What are the *relationships* between perceived crowding and conflict and quality of the recreation experience at ODNRA/Sand Lake?
2. What are the *crowding and conflict sensitivity trends* over the ten year study period (i.e., crowding–quality relationships, conflict–quality relationships, perceptions of crowding, and perceptions of conflict)?
3. What are the *displacement trends* of ODNRA/Sand Lake over the ten year study period (i.e., changes in gender, experience use history, and trip characteristics)?
4. What are the *trends in visitor satisfaction and quality outdoor recreation* over the ten year study period?

3. Literature review

3.1. Coping behavior

Although one relatively straightforward goal of outdoor recreation management is to provide for high quality visitor experience

opportunities (*Fletcher & Fletcher, 2003*), measuring management success based on overall satisfaction alone has been challenging. Empirical research has often found that visitor satisfaction remains high even when user densities and other conditions change (*Becker, 1981; Shelby et al., 1988; Manning, 2011*). For example, visitors sensitive to perceived crowding levels may be replaced by less sensitive visitors; therefore, satisfaction as reported in cross-sectional surveys may continue to be high (*Manning & Valliere, 2001*). Many studies on crowding and conflict suggest that coping behaviors provide a reasonable explanation for consistently high reporting of quality, and a better understanding of coping may provide managers with more useful information (*Johnson & Dawson, 2004; Manning & Valliere, 2001*). The coping mechanisms investigated include spatial and temporal displacement (altered patterns of recreation activity), product shift (redefining expectations or experiential definition), and rationalization (reducing inconsistencies between expectations and actual encounters through a cognitive process). Any coping mechanism could be used by visitors to reduce stress (*Sutherland, 1996*), but displacement and product shift are among the most commonly studied and most frequently reported mechanisms adopted by outdoor recreation visitors. For example, *Hall and Shelby (2000)* found that temporal displacement (42%) and spatial displacement (26%) were most likely used by visitors of a reservoir site to deal with crowding. *Johnson and Dawson (2004)* reported that hikers in the Adirondack Wilderness were more likely to use displacement and product shift strategies (30%), more so than rationalization (8%) when dealing with unacceptable social conditions including over-crowding. *Manning and Valliere (2001)* found that most residents living around Acadia National Park (94%) adopted a behavioral or cognitive coping mechanism, primarily displacement and product shift behaviors, to deal with crowding and conflict on carriage roads. *Hammitt and Patterson (1991)* also concluded that backpackers in Great Smoky Mountains National Park were more likely to adopt physical coping behaviors (e.g., camping out of sight of other groups, timing trip to avoid other parties, and avoiding popular trails) than social coping behaviors (e.g., avoiding talking to backpackers outside of own group). Finally, *Fleishman, Feitelson, and Salomon's (2007)* study of visitors in two Israeli Nature Reserves assessed concerns regarding visitor encounters. To measure crowding sensitivity, the visitors were asked whether the number and behavior of encounters mattered to them. They found that the most crowding sensitive visitors were more likely to be disturbed when crowding was highest, and for them, a greater investment of resources (e.g., terminating their visit earlier than planned) was needed to respond to the resulting stress. All these examples emphasize the important role of coping behaviors as a way for visitors to avoid or minimize negative experiences that result from crowding and conflict (social conditions of the environment). However, the current literature on outdoor recreation seems to lack studies that examine how visitors cope and adapt to management actions or inactions intended to meet management objectives (managerial conditions of the environment). This paper intends to help address this concern using a method similar to *Légaré and Haider (2008)*.

Légaré and Haider (2008) combined data from three cross-sectional surveys to explore how the Chilkoot Trail hikers were affected by restrictive management policies (i.e., user fees and daily visitor quota) by evaluating changes to the visitor composition. Based on the consistently high level of satisfaction and increasingly favorable evaluations of problems reported from 1993 to 2004, they concluded that the implemented management actions achieved intended management goals. Furthermore, they believe that “Understanding the process of [visitor] adaptation that takes place as a result of management actions or inaction, and how different sub-populations of visitors are likely to be affected will lead to a better management of the system of parks and protected areas in Canada.” (p. 175).

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات