

AN ABSTRACT OF THE THESIS OF

Wesley J. Mouw for the degree of Master of Science in Forest Resources presented on May 31, 2013.

Title: Encounters, Norms, Crowding, Management, and Behavioral Responses of Visitors at Coastal State Parks in Oregon

Abstract approved:

Mark D. Needham

With the baby boomer cohort retiring and arguably having more time for outdoor recreation, coupled with population increases and government agencies encouraging people to recreate outdoors, areas such as state and national parks will likely continue seeing high visitation. It is imperative, therefore, for outdoor recreation managers and researchers to understand issues related to use levels such as reported encounters, perceived crowding, normative tolerances, and behavioral responses to these conditions. This thesis uses data from visitors at coastal state parks in Oregon to examine: (a) their encounters, norms, and crowding; (b) the proportion of visitors who encounter more people than their normative tolerance, and whether these individuals feel most crowded and are most supportive of direct actions for managing use levels at these parks; and (c) behavioral responses that visitors are likely to impose if their norms are violated, and whether these responses are related to the salience (i.e., importance) of encounters. Data were obtained from questionnaires completed by 9,063 visitors at nine day and 10

overnight state parks on the Oregon coast. Results showed that overnight visitors encountered more people and felt more crowded than day visitors, with 68% of all overnight and 46% of all day visitors feeling crowded. Compared to visitors who encountered fewer people than their normative tolerance, visitors who encountered more people than their norm felt significantly more crowded and were more supportive of strategies for restricting use levels. Day visitors would respond differently than overnight visitors if they encountered more people than they would tolerate seeing (i.e., their norm). Day visitors, for example, would be most likely to avoid peak use times or redefine their experience, whereas overnight visitors would be most likely to express their opinions to those close to them (e.g., friends, family, members of their group). Visitors who indicated that encounters were salient (i.e., important) would be more likely to engage in these behavioral responses than those who did not consider encounters to be salient. These findings also differed among some of the state parks sampled. This thesis contains two standalone articles discussing these findings and their implications for management, theory, and future research.

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Encounters, Norms, Crowding, Management, and Behavioral Responses of Visitors at
Coastal State Parks in Oregon

by
Wesley J. Mouw

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I understand that my thesis will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my thesis to any reader upon request.

Wesley J. Mouw, Author

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CONTRIBUTION OF AUTHORS

Dr. Mark Needham and Mr. Terry Bergerson were involved in the overall conceptual design of this research. Dr. Needham provided both conceptual and statistical feedback on chapters two and three, and Dr. Bo Shelby provided conceptual feedback on chapters two and three. Dr. Mark Needham assisted with detailed editing of chapters one, two, three, and four.

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Encounters, Norms, Crowding, Management, and Behavioral Responses of Visitors at
Coastal State Parks in Oregon

CHAPTER 1 – INTRODUCTION

Travel and tourism is the world's largest industry, directly contributing US \$6 trillion to the global economy or 9% of the global Gross Domestic Product in 2011 (World Travel & Tourism Council, 2011). The United States (U.S.) is the largest travel and tourism economy in the world, generating \$1.2 trillion toward its own GDP and supporting 7.6 million jobs in 2011 (Department of the Interior, 2012). National parks are primary travel destinations in the U.S., but on a per acre basis, state parks serve more people than the national park system. In 2011, for example, there were nearly 280 million visitors to U.S. national parks (National Park Service, 2012), whereas there were 730 million visitors to state parks in this country (National Association of State Park Directors, 2012). There are currently 7,804 state parks in the U.S. (National Association of State Park Directors, 2012) serving almost three times as many people on only 16% of the geographical land area as the U.S. national parks (Walls, Darley, & Siikamaki, 2009).

The Oregon State Park system provides public access to some of the state's natural, cultural, and scenic outdoor recreation resources. Many visitors to Oregon's state parks are tourists and this industry plays a vital role in the state's economy, generating an estimated \$8.8 billion in tourism and travel spending in 2011 (Dean Runyan Associates, 2012). Many of these individuals visit Oregon's coast, which stretches approximately 363 miles (584 km) from this state's borders with Washington and California. In 2011, there were more than 42 million visitors to Oregon State Parks and over half (54%) of these individuals visited Oregon's coastal state parks (T. Bergerson, personal e-mail communication, March 5, 2012).

With such high levels of visitation to outdoor recreation areas such as state parks, there have been concerns regarding overuse and debates about whether crowding in these areas detracts from the overall satisfaction and experiences of visitors (Manning, 2011). As the general population continues growing and the baby boomer cohort retires and arguably has more time for recreation, state park visitation will most likely increase and many parks that may already be experiencing crowding could experience further challenges. Managers are responsible for addressing these use related issues in recreation areas such as national, state, and municipal parks. Strategies for managing excessive use levels and crowding include use limits (i.e., quotas), spatial and temporal zoning, directional trails, parking limits, user education, fees, and reservation systems (Manning, 2011). To help inform these types of strategies, managers should understand issues related to use levels such as reported encounters, perceived crowding, and normative tolerances (e.g., Bell, Needham, & Szuster, 2011; Needham, Rollins, & Wood, 2004).

Examining relationships among encounters, norms, and crowding has helped researchers inform social capacity related standards and develop management strategies such as use limits (Manning, 2011; Shelby & Heberlein, 1986; Vaske & Donnelly, 2002). These three concepts have been studied individually and collectively in the outdoor recreation literature (see Manning, 2011 for a review). Reported encounters describe a subjective count of the number of other visitors seen in an area, and perceived crowding is a subjective and negative evaluation of these encounters (Vaske & Donnelly, 2002). Norms provide an evaluative context for indicators and describe standards that individuals use for evaluating conditions, activities, or environments as good or bad,

better or worse (Vaske, Graefe, Shelby, & Heberlein, 1986). Encounter norms refer to standards that individuals use for evaluating their acceptance or tolerance of increasing numbers of encounters with other people (Manning, 2007; Shelby, Vaske, & Donnelly, 1996). Research has shown that visitors who encounter more people than their norm for an area are often more likely to perceive the area as crowded compared to those encountering fewer people than their normative tolerance limit (e.g., Bell et al., 2011; Needham et al., 2004; Vaske & Donnelly, 2002).

One issue associated with encounter norms and standards in recreation settings involves actions that managers should take if visitors feel crowded from encountering more people than their normative tolerances. Most researchers measuring relationships among encounters, norms, and crowding have made suggestions for how management should respond (Bell et al., 2011). In response to visitors feeling crowded as a result of encountering more people than their norm, for example, researchers may suggest restricting use by implementing quotas or user fees. Support for implementing quotas or fees, however, may be minimal among actual visitors and not positively correlated with evaluations of encounters and crowding. It is possible that visitors may report excessive encounters and crowding, but not support certain management actions designed for restricting use. Researchers have recommended questioning visitors themselves about support or opposition of strategies for managing use levels (Bell et al., 2011; Manning, 2011). This thesis, therefore, examines Oregon state park visitors': (a) reported encounters, crowding, normative tolerances for use levels, and support of use related management strategies; and (b) whether visitors who encounter higher use levels than

their norms feel more crowded and are more supportive of restrictive management strategies for addressing these use related issues.

A second issue has come into question multiple times in the literature when using normative approaches for measuring and explaining outdoor recreation behavior and conditions. Researchers have questioned the lack of including behavioral responses (e.g., coping, sanctions) in both the operational definition of norms and methods used for examining the concept (e.g., Roggenbuck, Williams, Bange, & Dean, 1991; Shelby & Vaske, 1991). Most definitions of norms share two primary components. First, social norms involve an implicit understanding of the shared beliefs, evaluations, and behavioral patterns associated with the norm (i.e., salience, consensus; Durkheim, 1933; Homans, 1950). Second, if behaviors depart from socially accepted norms, then some form of behavioral response such as punishment or sanctions should follow (Blake & Davis, 1964; Heywood, 2011; Homans, 1950; Rossi & Berk, 1985). In many societies, for example, there are social norms that committing murder or driving a vehicle after drinking excessive amounts of alcohol are unacceptable. If an individual engages in these behaviors, responses such as fines and imprisonment often follow.

Research on encounter norms in recreation settings has been useful for informing management about thresholds or standards of quality, such as acceptable and unacceptable use levels for a given setting, but behavioral responses associated with violating these norms or standards are unclear and have been largely ignored (Ceurvorst & Needham, 2012; Heywood, 2011). It is not clear, for example, how a manager or an individual visitor would respond if another visitor's encounter norm was being violated

and he or she felt crowded. This thesis, therefore, examines possible behavioral responses associated with encounter norms and crowding in state parks.

A third issue associated with encounter norms and standards in recreation settings focuses on the salience, or importance, of norms and whether researchers are measuring the most important indicators and conditions in these settings (Manning, 2011). Norm salience reveals the importance of an indicator or condition to visitors, and this concept has been examined in some recreation studies (e.g., Bell et al., 2011; Manning & Krymkowski, 2010; Manning & Lime, 1996; Needham et al., 2004). If some visitors rate indicators or conditions as highly important and standards for these indicators are being violated (e.g., encountering more people than their tolerance limit), it is possible that these visitors will be more likely to feel crowded and behaviorally respond through actions such as expressing their displeasure to managers or other visitors. This thesis, therefore, examines the salience or importance of encounters in state parks and whether behavioral responses associated with violating encounter norms is influenced by the importance of encounters in these parks.

Thesis Purpose and Organization

This thesis uses data from day and overnight visitors at multiple coastal state parks in Oregon to identify and examine: (a) visitor encounters, norms, and crowding; (b) the proportion of visitors who encounter more people than their norm, and whether these individuals feel most crowded and are most supportive of direct actions for managing use levels at these parks; and (c) behavioral responses that visitors are likely to impose if their encounter norms are violated, and whether these responses are related to the salience

or importance of encounters. This thesis contains two standalone articles addressing these issues. The first article focuses on relationships among encounters, norms, and crowding, and whether those who encounter more people than their norm feel more crowded and are more strongly supportive of direct actions for managing use levels at these parks. The second article examines behavioral responses that visitors may impose if their encounter norms are violated and compares these responses between those who are able to specify a norm or indicate that encounters matter (i.e., salient norms) and those who specify that the number of encounters does not matter (i.e., not salient).

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CHAPTER 2 - SITE-SPECIFIC CONGRUENCE AMONG ENCOUNTERS, NORMS, CROWDING, AND MANAGEMENT AT COASTAL STATE PARKS IN OREGON

Introduction

Human population growth and its effects on both the environment and social wellbeing have been concerns for many years. At a global level, a primary concern is whether the earth and its resources can sustain continuing growth of the human population (Malthus, 1803). At more local levels, the social dynamic concerning collective overuse of common resources has also been examined (Hardin, 1968). Outdoor recreation areas such as parks and other protected areas are not exempt from ecological and social impacts associated with increasing human use.

Concerns associated with rapidly growing recreation use levels in the post-World War II era gave rise to research on appropriate use levels and impacts in outdoor recreation areas. Initial concerns focused on ecological impacts in these areas, as people were worried that natural resources such as parks, forests, and other wildlands were being 'loved to death' (Wagar, 1964). Increasing use levels, however, can also influence visitor experiences and generate social impacts such as noise (Freimund, Vaske, Donnelly, & Miller, 2002), conflict among activity groups (Graefe & Thapa, 2004), and crowding (Vaske & Shelby, 2008). Perceived crowding is a subjective negative reaction to the number or density of people in a given environment (Schmidt & Keating, 1979), and it involves a negative evaluation of the density or number of encounters with other visitors in outdoor recreation (Vaske & Shelby, 2008).

Crowding research is useful for understanding visitor responses to current conditions in parks and other recreation settings, but may not reveal maximum acceptable use levels or an understanding of how use should be managed and monitored (Manning, 2011; Needham, Rollins, & Wood, 2004). Research has shown that to understand and manage social impacts associated with use levels in an area, it is necessary to identify relationships among the number of other people that visitors encounter, extent that these visitors feel crowded, and conditions they feel are acceptable and unacceptable (e.g., use levels; Manning, 2011; Vaske & Donnelly, 2002). Crowding, for example, tends to be highest in settings where a majority of visitors encounter more people than they would accept (Bell, Needham, & Szuster, 2011; Needham, Rollins, & Wood, 2004; Vaske & Donnelly, 2002). In these situations, researchers have recommended that management attention is necessary and advocated consideration of approaches such as reservation systems, quotas, fees, or zoning to address overuse and crowding (see Manning, 2011 for a review). It is possible, however, that many visitors could feel crowded and encounter more people than they would accept, but still oppose these types of management strategies because they could heavily restrict use (Bell et al., 2011). Questioning visitors directly about their support or opposition of strategies for managing use, therefore, may be more useful because it can take the guesswork out of interpreting actions that may or may not be within public tolerance limits (Needham & Szuster, 2011). This article, therefore, examines congruence among encounters, normative acceptance, crowding, and perceptions of management actions at multiple coastal state parks in Oregon.

Conceptual Foundation

Encounters, Norms, and Crowding

In outdoor recreation, reported encounters are subjective counts of the number of other visitors that an individual remembers seeing during their visit to a given location (Vaske & Donnelly, 2002). Perceived crowding is a subjective negative evaluation that this number of encounters is excessive (Shelby, Vaske, & Heberlein, 1989). Many studies have examined encounters and crowding in recreation settings (see Manning, 2007, 2011; Vaske & Donnelly, 2002; Vaske & Shelby, 2008 for reviews). Encounters and crowding describe existing conditions in a given area, but do not provide clear guidance on conditions and impacts that should or should not be allowed to occur or are deemed acceptable or unacceptable (Manning, 2011). The concept of norms provides one approach for addressing these issues. One line of research has defined norms as standards that individuals use for evaluating activities, environments, conditions, or behaviors as good or bad, better or worse (Shelby, Vaske, & Donnelly, 1996; Vaske, Graefe, Shelby, & Heberlein, 1986). Norms clarify what individuals or groups believe conditions should or should not be in a given context (Needham et al., 2004).

Managers have used information about visitor norms to inform standards of quality for social and resource indicators (Shelby & Vaske, 1991; Shelby et al., 1996). Indicators are measurable and manageable variables defining quality settings and experiences (e.g., encounters, crowding), whereas standards define thresholds where indicator conditions become unacceptable (e.g., no more than 50 people should be encountered per day). Indicators can be monitored to ensure that standards are

maintained and management may be needed if these standards are violated. Indicators and standards are central to planning and management frameworks such as Limits of Acceptable Change (LAC), Visitor Impact Management (VIM), and Visitor Experience and Resource Protection (VERP; see Manning, 2004 for a review). These frameworks focus on desirable conditions rather than just the amount of use and its impact, and basing decisions on how much and what kinds of impact are acceptable and unacceptable can allow managers to address their clientele's needs in a better fashion (Bell et al., 2011).

A simplified example may help to illustrate. The provision of opportunities for solitude is a management goal in many outdoor recreation settings. This goal, however, may be too general or broad to guide management because it does not specify what constitutes solitude and how it should be measured. Indicators and standards of quality may help to resolve these issues. Questionnaires or interviews with visitors may show that the number of encounters with other people is an important aspect of solitude, suggesting that it may be an important indicator. Norms may reveal that once most visitors encounter 100 or more other people in an area, they feel crowded and do not achieve an acceptable level of solitude. This suggests that encounters with no more than 100 or more people may be an appropriate standard for the area (Bell et al., 2011; Manning 2007).

Many studies have examined encounter norms or the maximum number of people that users will accept in a given setting (see Donnelly, Vaske, Whittaker, & Shelby, 2000; Manning, 2007, 2011; Shelby et al., 1996; Vaske, Donnelly, & Shelby, 1993 for reviews). Some of these studies have shown that when encounters exceed an individual's

norm for seeing other visitors, perceived crowding is higher compared to those who encounter fewer people than their norm. A comparative analysis of 13 studies involving more than 10,000 recreationists across a range of settings, activities, and evaluation contexts demonstrated consistently that when people reported fewer encounters than their norm they felt not at all crowded, whereas those who reported more than their norm felt slightly to moderately crowded (Vaske & Donnelly, 2002). Recent studies have shown this same pattern of relationships among encounters, norms, and crowding (e.g., Bell et al., 2011; Needham et al., 2004). These studies illustrate the concept of norm congruence where respondents judge conditions as less acceptable when they experience conditions violating their norms (Needham et al., 2004; Vaske & Donnelly, 2002).

Direct and Indirect Management

These studies revealed the number of visitors who encountered more people than their normative tolerances, and these visitors often felt more crowded than those who encountered fewer than their norm. These studies, however, rarely included additional questions asking visitors how these use related impacts should be managed. Strategies for managing outdoor recreation areas have been categorized into two general approaches. First, direct management strategies act directly on visitor behavior leaving little or no freedom of choice, and are often thought of as heavy-handed because they include rules, restrictions, and enforcement. Examples of direct strategies include quotas and other methods for limiting use and access such as zoning, fees, and prohibiting activities. Second, indirect management strategies attempt to influence decision factors on which users base their behavior, and are seen as more light-handed because they often involve

passive attempts at changing behaviors through techniques such as facility design, informational or interpretive signs, and voluntary guidelines (Needham & Szuster, 2011).

Manning, Wang, Valliere, Lawson, and Newman (2002) and a few other studies (see Manning, 2007 for a review) asked visitors how managers could improve experiences and how much impact visitors might tolerate before managers should implement actions to reduce use levels. Visitor responses in these studies, however, were rarely linked directly to relationships among encounters, crowding, and norms. In most cases, researchers who found situations where a majority of visitors felt crowded because they encountered more than they would tolerate (i.e., their norm) have simply suggested that management attention is necessary and recommended consideration of various strategies such as reservation systems, quotas, or fees for addressing overuse and crowding (see Manning, 2011; Needham & Rollins, 2009 for reviews). It is possible, however, that many visitors could encounter more people than their normative tolerance limit and feel crowded, but still oppose these types of management strategies because they would restrict visitation. It is important, therefore, to ask visitors about their opinions regarding strategies for managing use related issues in recreation settings.

Questioning visitors about their support or opposition of direct and indirect strategies for managing use can be beneficial for researchers and managers because it can take the guesswork out of interpreting actions that may or may not be within public tolerance limits (Bell et al., 2011). Visitors who feel that the number of encounters with others is unacceptable, for example, may still oppose restrictions on use. As a result, managers may decide to implement alternative strategies that may be more strongly

supported, such as redistributing use to other areas or time periods (i.e., spatial, temporal zoning). In this way, managers are able to consider strategies that are supported by a majority of visitors and avoid actions that are controversial or strongly opposed while still attempting to mitigate problems of overuse and crowding. Bell et al. (2011) provided an initial attempt to empirically and directly link visitor support and opposition of management strategies with their evaluations of encounters, norms, and crowding. Visitors who encountered more people than their normative tolerance limit not only felt more crowded, but were also more supportive of direct and restrictive actions for managing overuse and crowding (e.g., limiting use, closing site to recreation use). Their study, however, was limited to a single user group in a high use marine protected area; little is known about the generalizability of this pattern of findings to multiple user groups in coastal or other terrestrial areas. This article, therefore, builds on Bell et al. (2011) by helping to address these knowledge gaps.

Objectives and Hypotheses

This article uses data from day and overnight visitors at multiple coastal state parks in Oregon to address three objectives. The first objective is to describe visitor encounters, norms, and crowding at these parks. The second objective is to evaluate visitor support or opposition toward management actions designed for addressing use related issues in these parks. The third objective is to test the following three hypotheses:

H₁: Visitors who encounter more people than their norm will feel more crowded than those who encounter fewer than their norm.

H₂: Visitors who encounter more people than their norm will be more supportive of possible management actions designed for addressing use related issues than those who encounter fewer than their norm.

H₃: These relationships among encounters, norms, crowding, and support and opposition toward management will be consistent across parks and day and overnight visitors.

Methods

Study Site and Context

The Oregon coast stretches approximately 363 miles (584 km) between this state's borders with Washington and California. In 2011, there were more than 42 million visits to Oregon's state parks system and more than half of these (23 million or 55%) were to Oregon's 86 coastal state parks (T. Bergerson, personal e-mail communication, 2012). Of these, approximately 21.7 million visits were to day use parks and 1.4 million visits were to overnight use parks.

This study involved 14 of Oregon's coastal state parks. Parks where data were collected from only day use areas were: Cape Meares, Devil's Punchbowl, William Tugman, and Samuel Boardman. Parks where data were collected from only overnight use areas were: Nehalem Bay, Cape Lookout, Beverly Beach, Devil's Lake, and Bullards Beach. Parks where data were collected from both overnight and day use areas were: Fort Stevens, South Beach, Jessie Honeyman, Harris Beach, and Sunset Bay. For all of these parks taken together, there were an estimated 5.3 million visits to the day use areas and 1.2 million visits to the overnight use areas in 2011. The northernmost state park in

this study is Fort Stevens, which is located at the mouth of the Columbia River on the Oregon / Washington border. The southernmost state park in this study is Harris Beach, which is located eight miles from the California border. All of these parks were priority sites selected for study by the Oregon Parks and Recreation Department (OPRD).

Data Collection

Data were obtained from questionnaires administered to visitors at these parks during the summer of 2011 (July to September). Day users completed the questionnaire onsite, whereas overnight users accessed the questionnaire on the internet following a series of e-mail requests. Questions examined in this article were identical for both day and overnight users. Different survey methods (e.g., onsite, internet) may not always provide statistically comparable or consistent results and some survey methods are more appropriate for some situations, but not others (Dillman, 2007; Vaske, 2008). As a result, a pilot study was conducted at one state park in Oregon and showed that there were no statistically significant differences in results between these onsite and internet survey techniques (Needham & Rosenberger, 2011).

Day users were approached in person and asked to complete the questionnaire onsite. Questionnaires were administered by researchers and volunteer Camp Hosts who were hired by the OPRD and trained to administer these questionnaires. Participants were intercepted and asked to complete a questionnaire either as they were leaving the park or at varying locations throughout the park if they had already spent a significant amount of time in the area.

Overnight users were contacted via email and asked to complete the questionnaire on a secure internet website. OPRD and Reservations Northwest collect email addresses from overnight users when they reserve their camping site. Questionnaires were sent to random samples of these email addresses and to ensure that respondents did not complete the questionnaire more than once, each individual selected to participate was given a unique identification (ID) code that was valid for only one questionnaire attempt; the same ID code could not be used again to complete another questionnaire. This is a standard approach for avoiding duplicate responses or unauthorized people entering the website, which could bias the results and representativeness of the study (Dillman, 2007; Vaske, 2008). This ID code also allowed the researchers to identify respondents who had completed the questionnaire so that they would not be contacted again in follow up correspondence.

Three email requests were sent to elicit participation from overnight users. The first email requested participation and then a reminder email was sent two weeks after this request. A third email was sent another two weeks later to those who had not completed the questionnaire. No further emails were sent, so users were considered a nonresponse if they had not completed the questionnaire following these three email requests. This technique is standard for increasing response rates (Dillman, 2007). These e-mails were sent between August and September 2011 to overnight visitors who were camping during the same time that day users were completing questionnaires.

In total, 9,063 visitors completed a questionnaire, with 5,704 completed by overnight users (55% response rate) and 3,359 completed by day users (75% response

rate). Data from day users across all parks, overnight users across all parks, and all users taken together (i.e., total day and overnight users) were weighted by population proportions calculated from the three year average of visitation data at each park (2008, 2009, 2010) to ensure that responses were representative of these populations.

Analysis Variables

To measure reported encounters, visitors were asked “approximately how many people did you see at [park where they were surveyed] on this trip?” Responses were open-ended (i.e., fill in the blank) and there was no limit on the number of people that a visitor could specify. This approach has been used widely for measuring reported encounters in outdoor recreation (see Manning, 2011; Needham & Rollins, 2009; Vaske & Donnelly, 2002 for reviews).

Visitor perceptions of crowding were measured by asking “to what extent did you feel crowded at [park where they were surveyed] on this trip” and responses were recorded on the single-item, nine-point perceived crowding scale of 1 “not at all crowded” to 9 “extremely crowded.” This scale has been used extensively and tested rigorously in past studies (see Shelby et al., 1989; Vaske & Donnelly, 2002; Vaske & Shelby, 2008 for reviews). For encounters and crowding, overnight visitors were asked to base their evaluations on their most recent trip.

To measure encounter norms, visitors were asked “what is the maximum number of other people that you would tolerate seeing at [park where they were surveyed] on a trip?” Respondents could either: (a) specify a number (i.e., fill in the blank), (b) indicate that “the number of people does not matter to me,” or (c) indicate that “the number of

people matters to me, but I cannot specify a number.” This approach for measuring encounter norms in recreation areas has been used extensively (e.g., Cole & Stewart, 2002; Hall & Shelby, 1996; Hall, Shelby, & Rolloff, 1996; Manning, Johnson, & VandeKamp, 1996; Manning, Valliere, Wang, & Jacobi, 1999; Roggenbuck, Williams, Bange, & Dean, 1991; Vaske & Donnelly, 2002).

Visitors were also asked about their level of support or opposition toward three potential management strategies designed for addressing use related impacts: (a) “provide more opportunities for escaping crowds of people,” (b) “limit the number of people allowed per day,” and (c) “limit the number of large groups allowed (e.g., no more than 10 to 20 people).” Respondents evaluated each strategy on five-point scales of 1 “strongly oppose” to 5 “strongly support.”

Results

The first objective of this article was to describe crowding, encounters, and norms of day and overnight visitors at coastal state parks in Oregon. Visitors, on average, felt slightly to moderately crowded across these parks, with overnight users ($M = 4.04$) feeling more crowded than day users ($M = 2.94$; Table 2.1). Mean crowding differed significantly among day use areas with visitors at William Tugman ($M = 2.18$) feeling the least crowded, whereas those at Jessie Honeyman ($M = 4.18$) felt the most crowded, $F = 33.18$, $p < .001$. The eta effect size was $\eta = .28$ and using guidelines from Vaske (2008) and Cohen (1988), this effect size suggests that the difference among day use areas can be characterized as “typical” or “medium,” respectively. Although overnight use areas saw less variation in mean crowding, there was a statistically significant difference with

visitors to Bullard's Beach ($M = 3.42$) feeling the least crowded and those at South Beach ($M = 4.40$) feeling the most crowded, $F = 8.64$, $p < .001$. The eta effect size for this difference ($\eta = .12$), however, was "minimal" (Vaske, 2008) or "small" (Cohen, 1988).

In total, 68% of overnight visitors and 46% of day visitors felt crowded. The percentages of visitors who felt crowded at day use areas ranged from 26% at Samuel Boardman to 71% at Jessie Honeyman, $\chi^2 = 225.76$, $p < .001$. The Cramer's V effect size of $V = .27$ suggests that this difference was "typical" (Vaske, 2008) or "medium" (Cohen, 1988). For overnight visitors, crowding ranged from 56% at Bullard's Beach to 74% at South Beach, $\chi^2 = 60.31$, $p < .001$. The effect size ($V = .11$), however, suggested that this difference was only "minimal" (Vaske, 2008) or "small" (Cohen, 1988).

Mean encounters of visitors at day and overnight use areas are reported in Table 2.2. Overnight visitors ($M = 122$) encountered, on average, more people than day visitors ($M = 74$). There was a significant difference among day use areas with mean encounters ranging from 22 at Samuel Boardman to 131 at Fort Stevens, $F = 59.80$, $p < .001$. The eta effect size was $\eta = .38$ and according to guidelines from Vaske (2008) and Cohen (1988), this suggests that the difference in encounters among day use areas was "substantial" or "large," respectively. Encounters reported by overnight visitors also differed significantly among parks, as they ranged from 56 at Devil's Lake to 171 at Fort Stevens, $F = 22.28$, $p < .001$. The eta effect size ($\eta = .22$) suggested that this difference was "typical" (Vaske, 2008) or "medium" (Cohen, 1988).

Table 2.1. Crowding evaluations of day and overnight users at Oregon Coastal State Parks.

Park	Crowded ¹	Mean ²
Day Parks		
Jessie Honeyman	71	4.18
Devil's Punch Bowl	62	3.52
Fort Stevens	48	3.05
Cape Meares	47	2.97
Sunset Bay	45	2.83
South Beach	42	2.76
Harris Beach	42	2.72
William Tugman	29	2.18
Samuel Boardman	26	2.25
Weighted Total	46	2.94
Overnight Parks		
South Beach	74	4.40
Fort Stevens	71	4.16
Nehalem Bay	71	4.23
Beverly Beach	69	4.11
Jessie Honeyman	68	4.03
Cape Lookout	68	3.92
Sunset Bay	68	4.02
Devil's Lake	63	3.80
Harris Beach	62	3.67
Bullard's Beach	56	3.42
Weighted Total	68	4.04

¹ Percent (%) who feel crowded (3-9 on scale).

Day use areas: $\chi^2(8, N = 3107) = 225.76, p < .001; V = .27$.

Overnight use areas: $\chi^2(9, N = 5225) = 60.31, p < .001; V = .11$.

² Cell entries are mean crowding scores on a scale of 1 = "not at all crowded" to 9 = "Extremely Crowded."

Day use areas: $F(8, 3098) = 33.18, p < .001, \eta = .28; H(8) = 258.42, p < .001$.

Overnight use areas: $F(9, 5215) = 8.64, p < .001, \eta = .12; H(9) = 79.57, p < .001$.

Table 2.2. Mean encounters of day and overnight users at Oregon Coastal State parks.

Park	Encounters ¹
Day Parks ²	
Fort Stevens	131
Jessie Honeyman	101
Sunset Bay	76
Harris Beach	66
Devil's Punch Bowl	61
South Beach	59
Cape Meares	50
William Tugman	44
Samuel Boardman	22
Weighted Total	74
Overnight Parks ³	
Fort Stevens	171
Nehalem Bay	149
South Beach	129
Beverly Beach	121
Jessie Honeyman	117
Harris Beach	101
Cape Lookout	98
Bullard's Beach	93
Sunset Bay	86
Devil's Lake	56
Weighted Total	122

¹ Cell entries are mean number of people encountered.

² $F(8, 2928) = 59.80, p < .001, \eta = .38; H(8) = 721.28, p < .001.$

³ $F(9, 3909) = 22.28, p < .001, \eta = .22; H(9) = 254.44, p < .001.$

Encounter norms were measured using three response levels: (a) specify a number (i.e., open-ended), (b) indicate that the number of people does not matter to the respondent, or (c) indicate that the number of people matters to the respondent, but he or she is unable to provide a number. Among day visitors, 39% indicated that the number of people does not matter to them, 29% reported that the number of people matters to them, but they were unable to specify a norm, and 32% reported a norm (Table 2.3). Among overnight visitors, 36% reported that the number of people does not matter to them, 59%

reported that the number of people matters to them, but they were unable to specify a norm, and only 5% reported a norm. For respondents who did specify an encounter norm (i.e., maximum tolerable number of encounters of other visitors), mean norms were almost identical for both day ($M = 134$) and overnight ($M = 133$) visitors. Encounter norms at day use areas ranged from 65 at Samuel Boardman to 255 at Fort Stevens, whereas they ranged from 76 at Devil's Lake to 169 at Fort Stevens for overnight use areas. These differences in encounter norms among day use areas were significant, $F = 9.11$, $p < .001$, and the eta effect size of $\eta = .27$ suggests that this difference is "typical" (Vaske, 2008) or "medium" (Cohen, 1988). The difference in encounter norms among overnight use areas, however, was not significant, $F = 1.14$, $p = .332$.

Among all day visitors, only 8% reported encountering more than their norm (Table 2.4). There were some differences among sites for day visitors, with those at Jessie Honeyman, Devil's Punchbowl, and Cape Meares being slightly more likely to encounter more people than their norm, whereas those at South Beach and William Tugman were least likely, $\chi^2 = 23.23$, $p = .003$. The Cramer's V effect size ($V = .16$), however, suggests that this difference is "minimal" (Vaske, 2008) or "small" (Cohen, 1998). Among all overnight visitors, only 3% reported encountering more than their norm. There were some differences among sites for overnight visitors, with those at Devil's Lake and Nehalem Bay being slightly more likely to encounter more people than their norm, whereas those at Jessie Honeyman and Beverley Beach were least likely, $\chi^2 = 19.61$, $p = .021$. The Cramer's V effect size ($V = .27$) suggests that this difference among overnight use areas is "typical" (Vaske, 2008) or "medium" (Cohen, 1988).

Table 2.3. Reporting levels among the three encounter norm response categories at Oregon Coastal State parks.

Park	Does not matter ¹	Matters, but no norm ¹	Norm	
			Gave norm ¹	Encounter norm ²
Day				
Fort Stevens	44	36	20	255
Jessie Honeyman	38	34	28	160
Cape Meares	37	25	37	158
Sunset Bay	41	27	32	158
Harris Beach	37	25	38	130
South Beach	43	32	25	127
Devil's Punch Bowl	30	27	43	124
William Tugman	38	29	32	113
Samuel Boardman	39	21	40	65
Weighted Total	39	29	32	134
Overnight				
Fort Stevens	36	59	6	169
Beverly Beach	41	54	5	156
Jessie Honeyman	39	59	3	141
Cape Lookout	29	64	7	139
Nehalem Bay	35	58	7	126
Bullard's Beach	35	58	6	122
Sunset Bay	29	64	7	114
South Beach	35	60	5	109
Harris Beach	38	57	5	106
Devil's Lake	38	55	8	76
Weighted Total	36	59	5	133

¹ Cell entries are percent (%).

² Cell entries are the mean maximum amount of tolerable encounters.

Day use areas: $F(8, 918) = 9.11, p < .001, \eta = .27; H(8) = 115.02, p < .001$.

Overnight use areas: $F(9, 292) = 1.14, p = .332, \eta = .18; H(9) = 9.34, p = .406$.

Table 2.4. Percent of day and overnight visitors who encountered fewer or more people than their norm at Oregon Coastal State parks.¹

Park	Encountered fewer than their norm	Encountered more than their norm
Day Parks ²		
Jessie Honeyman	16	12
Devil's Punch Bowl	31	11
Cape Meares	27	10
Harris Beach	29	9
Sunset Bay	25	7
Fort Stevens	13	7
Samuel Boardman	33	7
South Beach	19	6
William Tugman	26	6
Weighted Total	24	8
Overnight Parks ³		
Devil's Lake	2	5
Nehalem Bay	2	5
Fort Stevens	1	4
Cape Lookout	3	4
Sunset Bay	2	4
Harris Beach	2	4
Bullard's Beach	3	3
South Beach	1	3
Jessie Honeyman	1	2
Beverly Beach	3	2
Weighted Total	2	3

¹ Cell entries are percent (%).

² Day use areas: $\chi^2(8, N = 911) = 23.23, p = .003; V = .16$.

³ Overnight use areas: $\chi^2(9, N = 279) = 19.61, p = .021; V = .27$.

The first hypothesis (H_1) specified that visitors who encounter more people than their norm will feel more crowded than those who encounter fewer than their norm. Given the small proportions of respondents who reported an encounter norm (i.e., 32% of day visitors, 5% of overnight visitors), the non-parametric Kruskal Wallis H test was used for examining differences in crowding scores among the possible responses to the encounter norm variable (i.e., number of encounters does not matter; encounters matter,

but cannot specify a number; encountered more than norm; encountered fewer than norm). There was a significant difference in crowding among these responses for both day and overnight visitors, $H = 189.73$ to 347.98 , $p < .001$ (Table 2.5). The eta effect sizes suggest that these differences were “medium” (Cohen, 1998) or “typical” (Vaske, 2008) for both day visitors ($\eta = .28$) and overnight visitors ($\eta = .26$). There was a general pattern among both day and overnight visitors across almost all parks showing that those who encountered more people than their norm felt the most crowded ($M = 3.14$ to 5.35 for day visitors, $M = 3.91$ to 6.13 for overnight visitors). Conversely, visitors who encountered fewer people than their norm or specified that encounters do not matter felt the least crowded ($M = 1.58$ to 4.06 for day visitors, $M = 2.11$ to 4.67 for overnight visitors). This finding supports this first hypothesis.

The second objective of this article was to evaluate visitor support or opposition toward management actions designed for addressing use related issues in these parks. Overall, overnight visitors were more supportive of limiting the number of people (36%) and groups (42%), and providing more opportunities for escaping crowds (63%) than day visitors who were less supportive of limiting people (18%) and groups (27%), and providing more opportunities for escaping crowds (56%; Table 2.6). Differences among day ($\chi^2 = 75.25$ to 30.93 , $p < .001$) and overnight areas ($\chi^2 = 47.28$ to 23.62 , $p = .006$ to $< .001$) for these management strategies were significant. A majority of both day and overnight visitors were not supportive of limiting people or groups, but they were supportive of providing more opportunities for escaping crowds.

Table 2.5. Mean crowding among day and overnight visitors for each encounter norm category.¹

Park	% does not matter	% enc < norm	% matters no norm	% enc ≥ norm	<i>H</i>	<i>p</i>	eta
Day							
Jessie Honeyman	4.06	3.40	4.30	5.35	15.18	.002	.23
Fort Stevens	2.53	2.89	3.44	5.00	26.31	< .001	.32
Devil's Punch Bowl	3.15	3.15	3.47	4.66	15.62	.001	.24
South Beach	2.19	2.58	2.93	4.53	26.34	< .001	.31
Cape Meares	2.72	2.72	3.22	4.21	18.56	< .001	.23
Harris Beach	2.29	2.64	3.05	4.07	25.03	< .001	.27
Samuel Boardman	1.58	1.80	2.12	4.00	38.82	< .001	.42
William Tugman	2.05	1.86	2.29	3.26	16.24	.001	.21
Sunset Bay	2.55	2.70	3.19	3.14	10.26	.017	.15
Weighted Total	2.50	2.58	3.21	4.41	189.73	< .001	.28
Overnight							
Cape Lookout	3.33	3.29	4.09	6.13	27.22	< .001	.25
South Beach	3.80	4.17	4.73	6.00	26.61	< .001	.23
Nehalem Bay	3.37	3.88	4.62	5.21	41.55	< .001	.27
Devil's Lake	3.10	2.11	4.23	5.08	37.48	< .001	.28
Bullard's Beach	2.79	3.06	3.76	5.00	33.93	< .001	.24
Sunset Bay	2.90	3.62	4.50	5.00	54.19	< .001	.32
Jessie Honeyman	3.16	4.67	4.57	5.00	45.44	< .001	.30
Fort Stevens	3.45	3.40	4.50	4.82	29.68	< .001	.23
Harris Beach	3.08	2.88	4.02	4.35	20.94	< .001	.21
Beverly Beach	3.19	3.67	4.87	3.91	63.98	< .001	.35
Weighted Total	3.28	3.48	4.45	5.07	347.98	< .001	.26

¹ Cell entries are mean crowding on a scale of 1 "not at all crowded" to 9 "extremely crowded."

The second hypothesis (H₂) specified that visitors who encounter more people than their norm will be more supportive of possible management actions designed for addressing use related issues than those who encounter fewer than their norm. Given the small proportions of respondents who reported an encounter norm (i.e., 32% of day visitors, 5% of overnight visitors), the non-parametric Kruskal Wallis *H* test was used for examining differences in support of management among the possible responses to the encounter norm variable (i.e., number of encounters does not matter; encounters matter, but cannot specify a number; encountered more than norm; encountered fewer than

norm). For both day and overnight visitors in total, there were significant differences among these responses for support of limiting people (day use areas: $H = 25.23$, $p < .001$, $\eta = .10$; overnight use areas: $H = 409.52$, $p < .001$, $\eta = .29$; Table 2.6), limiting groups (day use areas: $H = 48.08$, $p < .001$, $\eta = .14$; overnight use areas: $H = 347.47$, $p < .001$, $\eta = .27$; Table 2.7), and providing more opportunities for escaping crowds of people (day use areas: $H = 117.03$, $p < .001$, $\eta = .22$; overnight use areas: $H = 359.15$, $p < .001$, $\eta = .27$; Table 2.8). Among visitors at most overnight use areas, those who reported that encounters do not matter to them or encountered fewer people than their norm were least supportive of each of these management strategies. Conversely, overnight visitors who encountered more people than their norm were generally most strongly supportive of each strategy designed for addressing these use related issues. The eta effect sizes for overnight visitors ranged from .19 to .36 and averaged .28, suggesting that these differences were generally “typical” (Vaske, 2008) or “medium” (Cohen, 1988).

Table 2.6. Percentage of day and overnight visitors who support management limiting people, limiting groups, and providing more opportunities to escape crowds.

Park	Limit people (% support) ¹	Limit groups (% support) ²	Opportunities to escape crowds (% support) ³
Day Parks			
Jessie Honeyman	27	30	69
South Beach	16	26	61
Samuel Boardman	16	34	57
Cape Meares	21	39	56
Devil's Punch Bowl	18	30	55
Fort Stevens	19	21	55
Harris Beach	18	26	55
William Tugman	10	14	55
Sunset Bay	15	21	47
Weighted Total	18	27	56
Overnight Parks			
Cape Lookout	48	51	70
Sunset Bay	41	47	68
Nehalem Bay	37	46	65
South Beach	32	41	63
Devil's Lake	37	47	63
Beverly Beach	39	42	62
Fort Stevens	32	36	61
Jessie Honeyman	36	38	61
Harris Beach	34	43	61
Bullard's Beach	32	38	59
Weighted Total	36	42	63

¹ Day: $\chi^2(8, N = 2574) = 75.25, p < .001; V = .17$.

Overnight: $\chi^2(9, N = 4797) = 47.28, p < .001; V = .10$.

² Day: $\chi^2(8, N = 2565) = 30.93, p < .001; V = .11$.

Overnight: $\chi^2(9, N = 4798) = 42.50, p = .001; V = .09$.

³ Day: $\chi^2(8, N = 2632) = 31.11, p < .001; V = .11$.

Overnight: $\chi^2(9, N = 4823) = 23.62, p = .006; V = .07$.

The pattern of findings, however, was less clear among visitors at many of the day use areas. At some day use areas, visitors who reported that encounters do not matter to them or encountered fewer people than their norm were least supportive of each strategy, whereas those who encountered more people than their norm were most supportive of these strategies. This pattern, however, was not consistent across all three strategies and

all nine day use areas, and statistical differences among responses were only found in 12 of 27 possible comparisons. The eta effect sizes for day visitors also ranged from .10 to .30 and averaged .18, suggesting that many of these differences were generally “minimal” (Vaske, 2008) or “small” (Cohen, 1988). Taken together, these findings suggest that the second hypothesis was supported for overnight visitors, but only partially supported for day visitors.

Table 2.7. Support for limiting number of **people** for each encounter norm category.¹

Park	% does not matter	% enc < norm	% matters no norm	% enc ≥ norm	<i>H</i>	<i>p</i>	eta
Day							
Jessie Honeyman	2.63	2.55	2.73	3.24	7.04	.071	.17
Samuel Boardman	2.59	2.68	2.52	3.09	4.78	.189	.13
Cape Meares	2.56	2.93	2.92	3.00	9.42	.024	.20
Fort Stevens	2.34	2.60	2.80	2.84	1.67	.009	.21
Devil’s Punch Bowl	2.26	2.55	2.56	2.68	3.43	.330	.13
Harris Beach	2.42	2.70	2.44	2.63	3.74	.291	.11
South Beach	2.29	2.82	2.60	2.42	8.90	.031	.20
William Tugman	2.41	2.55	2.33	2.22	2.12	.549	.10
Sunset Bay	2.44	2.79	2.09	2.10	16.24	.001	.24
Weighted Total	2.44	2.70	2.59	2.78	25.23	< .001	.10
Overnight							
Cape Lookout	3.02	3.36	3.63	4.20	52.84	< .001	.35
South Beach	2.85	3.33	3.39	4.00	61.31	< .001	.35
Devil’s Lake	2.96	2.89	3.51	3.91	59.71	< .001	.36
Fort Stevens	2.81	2.80	3.30	3.90	53.56	< .001	.32
Beverly Beach	2.95	2.93	3.51	3.80	53.37	< .001	.32
Sunset Bay	3.10	3.38	3.46	3.71	17.24	.001	.19
Nehalem Bay	2.86	3.29	3.43	3.64	50.76	< .001	.31
Bullard’s Beach	2.90	3.41	3.33	3.63	31.87	< .001	.25
Jessie Honeyman	2.98	3.33	3.38	3.43	20.33	< .001	.22
Harris Beach	2.91	3.13	3.42	3.41	34.61	< .001	.27
Weighted Total	2.91	3.18	3.42	3.79	409.52	< .001	.29

¹ Support for management limiting number of people on a scale of 1 “strongly oppose” to 5 “strongly support”.

Table 2.8. Support for limiting number of **groups** for each encounter norm category.¹

Park	% does not matter	% enc < norm	% matters no norm	% enc ≥ norm	<i>H</i>	<i>p</i>	eta
Day							
Cape Meares	2.92	3.44	3.33	3.47	15.01	.002	.23
Jessie Honeyman	2.71	2.38	2.90	3.34	11.32	.010	.23
Devil's Punch Bowl	2.58	2.85	2.93	3.05	3.59	.310	.14
Samuel Boardman	2.84	3.06	2.92	2.96	4.36	.225	.11
Harris Beach	2.57	2.80	2.96	2.92	5.22	.156	.14
Fort Stevens	2.48	2.80	2.92	2.89	10.04	.018	.19
South Beach	2.76	3.13	2.90	2.77	4.28	.233	.13
William Tugman	2.33	2.69	2.45	2.61	5.87	.118	.14
Sunset Bay	2.27	2.92	2.59	2.38	15.06	.002	.23
Weighted Total	2.60	2.93	2.90	3.02	48.08	< .001	.14
Overnight							
Cape Lookout	3.12	3.29	3.65	4.27	36.15	< .001	.28
South Beach	2.92	3.33	3.47	4.18	49.66	< .001	.32
Devil's Lake	3.12	3.00	3.66	4.18	51.08	< .001	.33
Sunset Bay	3.12	3.31	3.60	3.95	26.07	< .001	.24
Fort Stevens	2.81	2.80	3.32	3.67	31.23	< .001	.25
Beverly Beach	2.98	2.93	3.55	3.67	40.45	< .001	.29
Harris Beach	3.08	3.71	3.58	3.65	25.93	< .001	.24
Nehalem Bay	2.97	3.86	3.59	3.61	45.36	< .001	.29
Jessie Honeyman	2.93	3.67	3.41	3.33	24.87	< .001	.24
Bullard's Beach	2.81	3.29	3.42	3.31	39.57	< .001	.27
Weighted Total	2.95	3.26	3.49	3.77	347.47	< .001	.27

¹ Support for management limiting number of groups on a scale of 1 "strongly oppose" to 5 "strongly support".

Table 2.9. Support for **providing more opportunities for escaping crowds** for each encounter norm category.¹

Park	% does not matter	% enc < norm	% matters no norm	% enc ≥ norm	<i>H</i>	<i>p</i>	eta
Day							
Samuel Boardman	3.39	3.87	3.87	4.12	24.31	< .001	.29
Fort Stevens	3.43	3.58	3.89	4.05	25.40	< .001	.30
Jessie Honeyman	3.76	4.03	3.97	3.97	4.58	.205	.13
Harris Beach	3.34	3.63	3.69	3.96	13.05	.005	.21
South Beach	3.44	3.85	3.95	3.92	21.16	< .001	.30
Devil's Punch Bowl	3.41	3.75	3.60	3.92	7.43	.059	.21
William Tugman	3.46	3.61	3.88	3.83	22.25	< .001	.25
Sunset Bay	3.31	3.53	3.66	3.57	7.86	.049	.17
Cape Meares	3.43	3.73	3.79	3.55	14.16	.003	.20
Weighted Total	3.43	3.72	3.82	3.91	117.03	< .001	.22
Overnight							
South Beach	3.47	3.67	3.89	4.41	50.02	< .001	.32
Cape Lookout	3.51	4.00	3.98	4.40	47.26	< .001	.32
Devil's Lake	3.48	3.75	3.91	4.27	50.48	< .001	.32
Jessie Honeyman	3.49	4.00	3.88	4.17	32.83	< .001	.27
Harris Beach	3.55	3.50	3.86	4.06	21.92	< .001	.21
Fort Stevens	3.49	3.60	3.82	4.05	32.25	< .001	.23
Beverly Beach	3.44	3.93	3.95	4.00	54.26	< .001	.33
Sunset Bay	3.61	3.85	3.91	4.00	19.44	< .001	.20
Bullard's Beach	3.50	3.76	3.79	4.00	23.26	< .001	.20
Nehalem Bay	3.51	3.63	3.92	3.96	39.70	< .001	.26
Weighted Total	3.50	3.79	3.89	4.11	359.15	< .001	.27

¹ Support for management providing more opportunities for escaping crowds on a scale of 1 “strongly oppose” to 5 “strongly support”.

Discussion

This article examined day and overnight visitor encounters, crowding, norms, and perceptions of use-related management strategies at multiple state parks along the Oregon coast. Across all of these parks, day and overnight visitors would tolerate seeing an average of no more than 134 and 133 other visitors, respectively, and these users reported actually encountering an average of 74 and 122 other visitors, respectively. As a result, fewer than 12% of day visitors and 5% of overnight visitors encountered more visitors

than their normative tolerance. However, 46% of day visitors and 68% of overnight visitors across all parks taken together felt crowded. These results differed among parks with some overnight (e.g., Fort Stevens, Nehalem Bay, South Beach) and day use areas (e.g., Fort Stevens, Jessie Honeyman, Devil's Punch Bowl) experiencing higher levels of reported encounters and crowding. Across all parks, the few visitors who encountered more people than their normative tolerance limit felt significantly more crowded than those who encountered fewer than their norm. Overnight visitors at all parks and day visitors at several parks were also more supportive of limiting the number of people and groups, and providing more opportunities to escape crowds if they had encountered more people than their norm. These results have implications for management and research.

Implications for Management

From a management perspective, results showed that overnight visitors encountered more visitors and felt more crowded than day visitors, with 68% of overnight visitors feeling crowded. When 66% to 80% of visitors perceive that a site is crowded, it is considered to be operating “overcapacity” and management attention is needed (Shelby, et al., 1989; Vaske & Shelby, 2008). Seven of the 10 overnight use areas and two of the nine day use areas are currently overcapacity, suggesting that management attention is necessary to ensure that experiences do not deteriorate. In addition, two of the overnight use areas and one of the day use areas is operating at a “high normal” level (51-65% crowding), suggesting that these areas are not exceeding their capacity, but are tending in that direction and should be monitored to ensure that experiences are preserved. The remaining day use areas are currently operating at “low normal” (36-50%

crowding) or “suppressed” crowding (0-35%) levels, which implies that access and crowding concerns are unlikely to exist at this time and these areas may offer relatively low density experiences.

To address sites that are operating overcapacity, managers can implement actions such as use limits, spatial and temporal zoning, parking limits, fees, or visitor information and education. Given the diversity of recreational experiences and attributes offered at each of the coastal state parks in Oregon, management approaches aimed at lowering crowding should be addressed on park-specific basis. Regardless of the strategies chosen, however, implementation should be followed by continuous monitoring and research to prevent sites from becoming “sacrifice areas” of high density where the quality of visitor experiences and natural resources become compromised (Shelby et al., 1989).

Although the majority of overnight visitors and many of the day visitors felt crowded, most of these visitors encountered fewer people than they would tolerate seeing, suggesting that encounters with other people may not be the single indicator influencing perceptions of crowding. Indicators such as noise, proximity of encounters, size of group, encounters with certain activity groups, or the behavior of those encountered can influence evaluations of crowding (Kim & Shelby, 2011a, 2011b; Needham & Szuster, 2011; Needham, Szuster, & Bell, 2011). Given the many overlapping activities that occur within some of these parks (e.g., beachcombing, kite flying, picnicking, surfing, volleyball), it is possible that the behavior of some of these activities influenced crowding evaluations among some respondents irrespective of the actual number of encounters with other visitors. Perhaps spatial or temporal zoning of

different activity groups could help to reduce perceptions of crowding at some of these parks (Jacobi & Manning, 1997; Manning, Valliere, Minter, Wang, & Jacobi, 2000).

Norms have been used widely in outdoor recreation to help inform these types of management strategies by evaluating the acceptability of indicator impacts (i.e., encounters) and creating standards of quality that can be maintained by these strategies (see Manning, 2011; Needham & Rollins, 2009; Shelby, et al., 1996 for reviews). In this study, however, the number of respondents who indicated an acceptable standard for encounters (i.e., their norm) was relatively small. Given this low number of respondents who specified a norm, especially for overnight use areas, establishing standards based on this information may not reveal thresholds that represent cognitions for a majority of visitors. Managers wishing to create formal standards for acceptable numbers of encounters may need to conduct further research at each park, perhaps using alternative methods such as photographs or scenario-based approaches for measuring these normative thresholds (see Manning, 2011; Needham & Rollins, 2009 for reviews).

Managing standards associated with encounters at levels equal to or better than normative thresholds may improve experiences and help alleviate related impacts such as crowding. Enforcing these standards, however, may result in use restrictions such as visitors paying higher fees, recreating at different places or times, or being turned away altogether. In addition, implementing and enforcing restrictions can be costly for managers and controversial among other stakeholders (Manning, 2011). One alternative to direct restrictions could be to educate visitors about current use levels so that expectations are congruent with actual conditions. Research has found that those who

encounter more than they expect to see in an area are often more likely to feel crowded (Manning, 2011).

Directly questioning visitors about their support or opposition toward these management actions takes some of the guesswork out of speculating about the acceptability of these actions. According to Manning (2011), management strategies need a logical and thoughtful process by which rational and defensible approaches can be formulated and implemented. Results showed that both day and overnight visitors were more supportive of managers providing opportunities for escaping crowds than restrictive or direct strategies such as limiting the numbers of people or groups. Furthermore, overnight users who encountered more visitors than their norm were more supportive of limiting the numbers of people and groups, and providing more opportunities for escaping crowds compared to those who encountered fewer people than their norm. Overnight users also reported higher encounters and crowding than day users, and were more supportive of all strategies for addressing use-related issues. As a result, managers may want to prioritize and concentrate their efforts on strategies designed for addressing encounters and crowding in overnight use areas first before focusing on day use areas.

Implications for Research

From a research perspective, this study examined relationships among encounters, crowding, norms, and support for management. Indicators such as encounters help to describe existing conditions, and evaluative dimensions such as perceived crowding can provide further context about these conditions. By themselves, however, these concepts do not enable standards to be set based on conditions that are acceptable or unacceptable

(Vaske & Donnelly, 2002). The normative approach used widely in outdoor recreation can be useful for measuring acceptance of conditions, thereby providing a basis for formulating standards of quality that can be useful for informing management (see Manning, 2011; Shelby et al., 1996 for reviews). Results from this study showed that crowding was consistently higher among day and overnight visitors who encountered more people than their norm. More specifically, when these visitors encountered more than their norm, they felt moderately crowded, whereas those who encountered fewer than their norm felt only slightly crowded. This relationship among encounters, norms, and crowding is consistent with past research (e.g., Needham et al., 2004; Vaske & Donnelly, 2002) and the concept of norm congruence, which suggests that respondents judge conditions as less acceptable when they experience conditions violating their norms (Manning, et al., 1996). When addressing carrying capacity related issues, therefore, future research should measure all of these concepts.

Although visitors who encountered more than their norm were more likely to evaluate the parks as crowded, those who encountered fewer than their norm also reported some degree of crowding. This finding is consistent with past research showing that visitors can report feeling crowded even if their norms have not been exceeded (e.g., Bell, et al., 2011; Vaske & Donnelly, 2002). One potential reason for the relatively high levels of crowding in these parks may be the characteristics of visitors encountered and settings where these encounters are occurring. Research has shown that characteristics of visitors such as the size of group, behavior of individuals, and degree that groups are perceived to be alike can influence crowding (Graefe, Vaske, & Kuss, 1984; Manning, et

al., 2000). A seminal study examining crowding at the Boundary Waters Canoe Area, for example, found that paddling canoeists were relatively tolerant of encountering other paddling canoeists, but were least tolerant of encountering motorboats (Lucas, 1964). Another study conducted in Acadia National Park found that walkers were more sensitive to crowding than bicyclists (Manning et al., 2000). In the Oregon coastal state parks examined here, various activity groups are common and evaluations of crowding may have been influenced by the type of activity group or behavior of other visitors encountered more than just the number of visitors encountered. In addition, many of these parks, especially the overnight areas, are geographically constrained and visitors are often within close proximity of each other and may be unable to escape high density situations or unacceptable behaviors displayed by a few visitors. The questionnaire used in this study only measured visitor reported encounters based on number of other visitors seen; it did not measure density of use or behavior of visitors or groups, which could have influenced perceptions of crowding. Future research, therefore, should examine these issues at these parks to ensure that crowding is not causing visitors to be dissatisfied or displaced (Manning et al., 2000).

Results also showed that both reported encounters and perceived crowding differed among day and overnight use areas. These differences, however, were less pronounced among overnight use areas. This variability in encounters and crowding among parks is consistent with other research (See Manning, 2011; Needham & Rollins, 2009 for reviews). The day use areas in this study offered a wide range of experiences, activities, and other attributes, whereas overnight camping areas provided relatively

similar experiences, activities, and attributes that may have decreased the variability in encounters and crowding evaluations. Given the variability in encounters and crowding across parks in this study, however, both researchers and managers need to exercise caution when attempting to generalize results or management across parks, even if they appear to be similar in results or contexts.

Prior research suggests that indirect management strategies are supported more often than direct and restrictive strategies for addressing use-related issues (Manning, 2011; Needham & Rollins, 2009). In this study, support for providing more opportunities to escape crowds (i.e., indirect strategy) and limiting the numbers of people and groups (i.e., direct strategies) were investigated. Results showed that both day and overnight visitors were supportive of creating more opportunities for escaping crowds. Although day visitors were most opposed to limiting people or groups, overnight visitors were supportive of these direct techniques. Higher encounters and crowding among these overnight visitors may be reasons for this support of restricting use in the overnight use areas. These results support studies showing visitor support for use restrictions in situations where they were deemed necessary (e.g., Manning, 2011; McCool & Christensen, 1996; Peterson & Lime, 1979). This research did not examine support for specific approaches for restricting people or groups (e.g., fee increases, reservation systems, lottery, parking limits), so research is needed to examine these issues, especially at the overnight use areas where encounters and crowding were most excessive.

In addition to confirming the presence of the relationship among encounters, norms, and crowding, this study also revealed an extension of this relationship to support

and opposition toward strategies for managing use levels. When support for these strategies was linked to encounter norms at the individual park level, overnight users who encountered more than their norm were consistently more supportive of limiting the number of people, providing more opportunities for escaping crowds, and in all but a few areas were also more supportive of limiting groups. There was less consistency, however, in relationships among encounters, norms, and management strategies at the day use areas. Earlier studies showing that users felt crowded and were encountering more than their normative tolerances typically suggested that management attention is necessary and then speculated on approaches that could be advocated for addressing overuse and crowding (Manning, 2011; Vaske & Donnelly, 2002). One recent study, however, did empirically link support for management to the relationship among encounters and norms, and found that visitors who encountered more than their norm were more supportive of direct management actions that would restrict use (Bell et al., 2011). That study, however, was conducted in a marine protected area and focused on boats instead of people. Results presented here suggest that this relationship among encounters, norms, and support for management strategies extends to terrestrial settings, particularly overnight use areas within state parks along the Oregon coast. However, given that this relationship was only found at a handful of day use areas within these parks, future research is needed to continue testing the generalizability of these relationships.

One possible explanation for these inconsistent relationships among encounters, norms, and support for use restrictions at some of day use parks may be due to low norm prevalence associated with the question format used for measuring encounter norms in

this study. Norm prevalence refers to the proportion of respondents who are able to specify a norm (Kim & Shelby, 1998). Research has shown that prevalence is often higher in the two-response category format (i.e., write a number, specify that it does not matter) compared to the three-response category format used here (Donnelly, et al., 2000; Hall & Roggenbuck, 2002; Hall, et al., 1996). Providing a third response category can help reduce respondent burden and give respondents the opportunity to “opt out” from specifying a norm, but still specify that encounters matter to them (Donnelly, Vaske, & Shelby, 1992; Roggenbuck et al., 1991). Research has also shown that those who are unable to specify an encounter norm, but indicate that encounters still matter to them, are often more similar in their attitudes toward management strategies and impacts as those who did specify an encounter norm (Hall & Shelby, 1996; Manning, 2011). Results presented here showed a similar pattern. By utilizing the three response category format here, some of the respondents who may have specified a norm in the two-response category format may have indicated that encounters matter to them, but not specified a numerical norm in the three response category format, thus reducing the sample size of those who specified a norm. In addition, those who did specify a norm were split into the two categories of encountering more or less than their norm, leaving even smaller sample sizes in each norm category and minimal statistical power to measure differences in management support (Vaske, 2008).

A second possible explanation for the low norm prevalence and inconsistent relationships among encounters, norms, and support for management actions is that most sites in this study are considered frontcountry areas with high visitation. Compared to

backcountry settings, encounter norms in frontcountry areas may not be as well-defined (Whittaker, 1992) and often yield fewer people who are able or willing to indicate a norm (Donnelly et al., 2000; Roggenbuck et al., 1991; Williams, Roggenbuck, & Bange, 1991). In this study, visitors to the day use areas were more likely to report a norm than those in the overnight areas where higher levels of crowding and encounters were reported. Research suggests that low norm prevalence in frontcountry settings (e.g., these overnight use areas) may be due to the difficulty in specifying a number from the high levels of encounters or the lack of importance attributed to encounters (Donnelly et al., 2000). Compared to backcountry areas, less research has been conducted on encounter norms in frontcountry settings, presumably due to the hypothesis that encounters may be less important in these areas (Manning, 2011). Results presented here, however, showed that 59% to 71% of overnight visitors and 56% to 70% of day users either specified a norm or indicated that encounters matter to them, suggesting that encounters represent an important indicator in these areas. Therefore, research is needed to examine the extent that both the number of response options provided for measuring norms and whether the study sites offer frontcountry or backcountry experiences influences relationships among encounters, norms, and support for management.

In this study, visitor evaluations of encounters, norms, crowding, and management at these state parks along the Oregon coast were measured mostly during high use times (e.g., summer, weekends). Findings presented here, therefore, may not generalize to all types of visitors across all seasons of use. Findings are also limited to nine day use areas and 10 overnight use areas within these parks and may not generalize

to all parks in this state or elsewhere. Future research is needed at other times and geographical areas to empirically generalize the findings of this study.

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CHAPTER 3 - SALIENCE AND BEHAVIORAL RESPONSES ASSOCIATED WITH ENCOUNTER NORMS AT COASTAL STATE PARKS IN OREGON

Introduction

In 2011, participation in outdoor recreation activities in the United States (U.S.) reached a five-year high with almost 50% percent of the population spending leisure time outdoors and half of these individuals enjoying the outdoors at least once a week (Outdoor Foundation, 2012). With the baby boomer cohort retiring and arguably having more time for outdoor recreation, coupled with a push by the U.S. government to influence more people to recreate outdoors (Executive Order No. 13575, 2011), areas such as state and national parks will likely continue seeing high visitation for the foreseeable future.

Increasing use levels and encounters in these areas, however, can generate social impacts such as noise (Freimund, Vaske, Donnelly, & Miller, 2002), conflict among activity groups (Graefe & Thapa, 2004), and crowding (Vaske & Shelby, 2008). Managers of these areas are responsible for addressing these impacts, often by implementing actions such as use limits (e.g., quotas), spatial and temporal zoning, parking limits, user education, reservation systems, and fees (Manning, 2011). To inform these strategies, it is useful for managers to understand visitor tolerances for social impacts such as increasing use levels and encounters, and the importance that visitors place on encountering or not encountering people in these areas.

The concept of norms has provided theoretical and applied insight into how use levels and encounters should be managed and monitored (Manning, 2011). Encounter norms are standards that individuals use for evaluating increasing numbers of other

people as good or bad, better or worse (Manning, 2007; Shelby, Vaske, & Donnelly, 1996). By identifying levels where encounters become unacceptable and these normative standards are exceeded, recreation managers can implement strategies that help to mitigate impacts and maintain acceptable conditions (e.g., quotas, zoning). Although the concept of encounter norms has received substantial attention in the recreation literature (see Manning, 2007, 2011; Needham & Rollins, 2009; Shelby et al., 1996; Vaske, Graefe, Shelby, & Heberlein, 1986 for reviews), there has been some concern regarding the frequent discounting of salience, sanctions, and related behavioral responses in both the operational definitions of norms and in the methods used for examining this concept (e.g., Patterson & Hammitt, 1990; Roggenbuck, Williams, Bange, & Dean, 1991; Williams, Roggenbuck, & Bange, 1991).

Most traditional definitions of norms suggest that if behaviors depart from socially accepted norms or standards, then some form of behavioral response should follow (e.g., punishment, sanctions; Blake & Davis, 1964; Heywood, 1996a, 1996b, 2011; Homans, 1950; Rossi & Berk, 1985). Many societies, for example, hold norms that committing murder or driving a vehicle after drinking excessive amounts of alcohol are unacceptable. If an individual engages in these behaviors, responses and sanctions such as fines and imprisonment often follow. Research on encounter norms in recreation have been useful for informing management about thresholds or standards of quality, such as acceptable and unacceptable encounters in a given setting, but behavioral responses such as sanctions associated with violating these norms are less clear and have received limited empirical attention (Heywood, 2011). It is not clear, for example, how a

visitor would be sanctioned directly if another visitor's encounter norm was being violated and he or she felt crowded.

Another concern associated with how norms are used for informing and managing standards in recreation settings involves the salience (i.e., importance) of these norms, and whether researchers are measuring the most important indicators and conditions in these areas (Manning, 2011). Norm salience refers to the importance, or cognitive accessibility, of certain conditions or impacts (e.g., encounters), and may provide insight into how strongly visitors may react if these deteriorate to the point of being unacceptable (Jackson, 1965; Stankey & McCool, 1984). If some visitors rate conditions or impacts as highly important and standards are being violated (e.g., encountering more people than their normative tolerance limit), it is possible that these visitors will be more likely to behaviorally respond through coping measures (e.g., try to ignore the situation, cognitively redefine the experience) or imposing sanctions such as expressing their displeasure to managers. Understanding norm salience or the importance associated with conditions such as use levels and encounters may help managers and researchers focus on issues that are deemed most important, and anticipate the intensity of visitor reactions if their normative standards are violated. This article, therefore: (a) examines the behavioral responses that visitors might impose if their encounter norms are violated, and (b) compares the likelihood of these responses between visitors who are able to specify a norm or indicate that encounters matter to them (i.e., salient norms) and those who specify that the number of encounters does not matter (i.e., not salient).

Conceptual Foundation

Norms and Behavioral Responses

“No concept is invoked more often by social scientists in the explanation of human behavior than norms” (Gibbs, 1968, p. 212). Psychology and sociology introduced the concept of norms, and the recreation and leisure fields adopted it to help explain acceptable and unacceptable behavior, conditions, and impacts (see Manning, 2007, 2011; Needham & Rollins, 2009; Shelby & Heberlein, 1986; Shelby et al., 1996; Vaske et al., 1986; Vaske & Whittaker, 2004 for reviews). A primary concern in the application of this concept in recreation settings, however, has revolved around the limited examination of behavioral responses such as sanctions traditionally associated with norms (e.g., Heywood, 1996a, 1996b, 2011; Patterson & Hammitt, 1990; Roggenbuck et al., 1991; Shelby & Vaske, 1991; Williams et al., 1991). Sanctions, for example, are associated with adherence to norms and are internal or external forces compelling individuals to behave in compliance with a norm. The structure of this behavior is based on a sense of obligation to abide by the norm, and can be sanctioned positively in an effort to reinforce behavior, or negatively to discourage behavior (Grasmick, Blackwell, Barsik, & Mitchell, 1993; Heywood, 2002; Vaske & Whittaker, 2004).

Sanctions are emotional and coercive components that are expressed by others or felt by one’s self (Blake & Davis, 1964; Grasmick & Bursik, 1990; Grasmick, Bursik, & Kinsey, 1991; Heywood, 2002; Heywood & Murdock, 2002). Individuals are typically compelled to conform to norms due to formal or direct sanctions, but may motivate others to conform to norms through informal or indirect sanctioning. Behaviors can be

sanctioned formally or directly as rules, laws, and awards, or informally or indirectly such as a smile, dirty look, or boycott (Blake & Davis, 1964). Internal sanctions can influence behavior through shame, guilt, or pride, whereas external sanctions often influence behavior through material rewards or punishment (Parsons, 1951).

Although studies have measured sanctions associated with various behaviors, much of this research is in the fields of law (e.g., Posner & Rasmusen, 1999; Scott, 2000) and economics (e.g., Camerer, 2003; Fehr & List, 2004; Fehr & Rockenbach, 2003) focusing on formal external sanctions by various institutions. Given that comparatively little research has empirically examined sanctions associated with norms in recreation settings, researchers have called for investigation into measuring and quantifying sanctions associated with norms in these areas (e.g., Heywood, 1996a, 2011; Heywood & Aas, 1999; Patterson & Hammitt, 1990; Roggenbuck et al., 1991; Williams et al., 1991). Internal sanctions associated with norms for littering in public areas have been examined (Cialdini, Reno, & Kallgren, 1990), but sanctions associated with conditions such as recreation use levels and encounters have received limited attention (Manning, 2007).

Unlike direct sanctions (e.g., on other visitors), other behavioral responses and coping techniques such as displacement and product shift have received attention in recreation and leisure, and these behavioral responses for coping with excessive use levels and encounters may be forms of indirect sanctions. Displacement involves physically moving away from an unacceptable situation such as encountering too many people in an outdoor recreation area (Becker, 1981). Individuals may be displaced to different locations (i.e., spatial displacement) or times (i.e., temporal displacement;

Shelby, Bregenzer, & Johnson, 1988). Although a catalyst for spatial displacement may be a crowded recreation area, the physical movement away from this unacceptable situation in the area may serve as an informal and indirect sanction toward its managers in the form of a loss in user fees or lack of support from those displaced visitors. Product shift involves changing the way that visitors define experiences and opportunities, and may serve as a type of internal sanction where they redefine their tolerances for conditions (Shelby & Heberlein, 1986).

Heywood (2011) suggested that these types of behavioral responses associated with conditions such as encounters are driven by standards found in institutional norms. These institutional norms are rules or standards that are formulated and implemented by administrative authorities, and enforced through formal external mechanisms (Heywood, 2011). Institutional norms differ from social norms, which are often informal rules shared by groups or societies that guide behavior typically through informal or indirect sanctions (Heywood, 2011). Social behavior has the potential to be sanctioned directly, whereas the social condition itself (e.g., crowding, encounters) may be difficult to sanction directly. In the context of recreation areas such as parks and other protected areas, for example, it is unclear how a visitor would be sanctioned if another visitor's encounter norm was being violated and he or she felt crowded. It is possible for a visitor to formally sanction other visitors by complaining to them or give them dirty looks if they feel crowded. Visitors are more likely, however, to behaviorally respond internally such as by doing nothing about the situation, redefining the experience and setting, or visiting at a different time. Institutional norms and sanctions are also probably more

likely where visitors would sanction managers of these recreation areas because they directly influence encounters through tactics such as setting formal use limits, zoning, permits, fees, or other regulations to control visitation (Heywood, 2011; Manning, 2011).

Smyth, Watzin, and Manning (2007) acknowledged that conditions such as encounters and crowding in recreation settings are a direct result of human behavior, and the decision to allow conditions to reach socially unacceptable levels often lies within the behavior of the managing institution. Public institutions and their representatives (e.g., managers) are at least partially obligated to adhere to norms of society and provide experiences that are acceptable to clients. In areas where encounters reach unacceptable conditions, for example, managers can potentially experience behavioral responses such as informal external sanctions (e.g., public disapproval, boycott) carried out by those who have experiences such as feeling crowded (Smyth et al., 2007). It is often up to the institution, however, to levy formal external sanctions such as creating restrictions, permits, or fees to correct conditions back to within acceptable standards (Heywood, 2011).

An assumption when measuring norms associated with conditions and impacts (e.g., encounters, crowding) is that they are linked to behaviors (Shelby & Vaske, 1991). In other words, if there is a preference for a particular condition or it is important to the individual, the obligation to behave in a way that promotes this condition is more likely (Manning, 2007). In a study by Heywood and Murdock (2002), for example, visitors who had a strong obligation to avoid littering also had a strong preference against seeing litter. In another study by Heywood and Aas (1999), a similar relationship was found

between the obligation to control dogs and the norm for encountering leashed and unleashed dogs. They further identified strong consensus regarding the norm to control dogs and evidence of internal behavioral responses such as sanctions for failing to control dogs. These studies suggest relationships between behavioral responses such as sanctions that visitors may impose if their norms for conditions are violated, and the salience or importance of these conditions.

Norm Salience

To allocate resources efficiently, managers seek to identify characteristics that are most salient or important at their sites (Shelby et al., 1996). Norm salience refers to the importance that individuals such as visitors tend to place on conditions or impacts (e.g., encounters); higher salience suggests that the issue may be important in defining quality settings or experiences (Manning, 2011; Manning & Krymkowski, 2010). This concept has been examined in some outdoor recreation studies (e.g., Ceurvorst & Needham, 2012; Freimund, Vaske, Donnelly, & Miller, 2002; Needham, Szuster, & Bell, 2011), and is influenced by types of settings (Manning, Lime, Freimund, & Pitt, 1996) and activities occurring in these areas (Vaske, Donnelly, Heberlein, & Shelby, 1982). The salience or importance of encounters, for example, is often higher in backcountry settings where encounters are often lower compared to frontcountry areas where encounters are typically higher and expected (Donnelly, Vaske, Whittaker, & Shelby, 2000; Vaske, Donnelly, & Petruzzi, 1996). Variability in how encounter norms are measured can also influence the salience or intensity of encounters (Hall & Shelby, 1996; Roggenbuck et al., 1991).

These encounter norms have been frequently measured by asking respondents to either specify the maximum number of other people they would tolerate seeing, or that encounters with other people does not matter to them (Shelby, 1981; Shelby et al., 1988; Whittaker & Shelby, 1988). In some studies, a third response category has been included where respondents can specify that the number of encounters with other people matters to them, but they are unable to specify an exact number (e.g., Fischhoff, 1991; Hall & Shelby, 1994; Manning et al., 1996; Roggenbuck et al., 1991; Vaske et al., 1996). Studies including this additional option have found that respondents who were unable to specify a norm, but indicated that encounters still mattered were similar to those who were able to specify an exact number (see Manning, 2011 for a review). Both groups, for example, had similar attitudes toward management and impacts (Hall & Shelby, 1996). Given that norms are often used for creating numeric thresholds or standards representing acceptable encounter levels, those who indicate that encounters matter, but are unable to specify a number cannot be used in these instances. Evaluations that include this additional response option, however, may be more exhaustive and representative (Roggenbuck et al., 1991).

When relatively large proportions of respondents are unable to report a norm for a given condition or impact, it may be because that norm being considered is not salient or important to the quality of the experience or resource (Whittaker, 1992). Manning and Krymkowski (2010) suggested that researchers should focus on conditions or impacts that are most relevant to visitors so they are likely to report a norm (e.g., a minimum acceptable number of encounters). However, in cases where respondents are unable to

report an exact number, but still indicate that encounters matters to them, this condition or impact is arguably still salient or important. In frontcountry settings, for example, many visitors may feel that encounters are important and salient, but are simply unable to provide a precise number representing the maximum number of other people they would accept seeing simply because they are overwhelmed with the idea of thinking about a specific number after encountering hundreds or even thousands of other visitors. Having a better understanding about conditions and impacts that are important or salient to visitors will help researchers and managers focus attention on issues that matter most, and may also reveal the intensity of reactions for mismanaging these important conditions and impacts (Manning, 2011).

It is possible that visitors who are able to specify an encounter norm or consider encounters to be important (i.e., salient) will be more likely to behaviorally respond such as expressing their displeasure to managers or other visitors if their norms are ever violated. Conversely, visitors who state that the number of encounters with other people does not matter to them (i.e., not salient) may be less likely to respond if encounters or crowding become excessive. An understanding of these groups of visitors can be beneficial for managers who would like to anticipate possible current and future behavioral reactions if a condition or impact becomes intolerable or unacceptable.

Research Questions

This article is exploratory and uses data from day and overnight visitors at several coastal state parks in Oregon to address four research questions. First, to what extent do visitors feel that encounters are salient or important at these parks? Second, are there any

behavioral responses (e.g., direct sanctions on managers or other visitors, product shift, displacement) that visitors are likely to impose if their encounter norms are violated at these parks? Third, are visitors who feel that encounters are salient or important more likely to behaviorally respond if their encounter norms are violated at these parks? Fourth, to what extent are relationships among encounter norms, salience, and behavioral responses consistent across parks and day and overnight visitors?

Methods

Study Site and Context

The Oregon coast stretches approximately 363 miles (584 km) between this state's borders with Washington and California. In 2011, there were more than 42 million visits to Oregon's state parks system, with more than half of these (23 million or 55%) to Oregon's 86 coastal state parks (T. Bergerson, personal e-mail communication, 2012). Of these, approximately 21.7 million visits were to day use parks and 1.4 million visits were to overnight use parks.

This study involved 14 of Oregon's coastal state parks. Parks where data were collected from only day use areas were: Cape Meares, Devil's Punchbowl, William Tugman, and Samuel Boardman. Parks where data were collected from only overnight use areas were: Nehalem Bay, Cape Lookout, Beverly Beach, Devil's Lake, and Bullards Beach. Parks where data were collected from both overnight and day use areas were: Fort Stevens, South Beach, Jessie Honeyman, Harris Beach, and Sunset Bay. For all of these parks taken together, there were an estimated 5.3 million visits to the day use areas and 1.2 million visits to the overnight use areas in 2011. The northernmost state park in

this study is Fort Stevens, which is located at the mouth of the Columbia River on the Oregon / Washington border. The southernmost state park in this study is Harris Beach, which is located eight miles from the California border. All of these parks were priority sites selected for study by the Oregon Parks and Recreation Department (OPRD).

Data Collection

Data were obtained from questionnaires administered to visitors at these parks during the summer of 2011 (July to September). Day users completed the questionnaire onsite, whereas overnight users accessed the questionnaire on the internet following a series of e-mail requests. Questions examined in this article were identical for both day and overnight users. Different survey methods (e.g., onsite, internet) may not always provide statistically comparable or consistent results and some survey methods are more appropriate for some situations, but not others (Dillman, 2007; Vaske, 2008). As a result, a pilot study was conducted at one state park in Oregon and showed that there were no statistically significant differences in results between these onsite and internet survey techniques (Needham & Rosenberger, 2011).

Day users were approached in person and asked to complete the questionnaire onsite. Questionnaires were administered by researchers and volunteer Camp Hosts who were hired by the OPRD and trained to administer these questionnaires. Participants were intercepted and asked to complete a questionnaire either as they were leaving the park or at varying locations throughout the park if they had already spent a significant amount of time in the area.

Overnight users were contacted via email and asked to complete the questionnaire on a secure internet website. OPRD and Reservations Northwest collect email addresses from overnight users when they reserve their camping site. Questionnaires were sent to random samples of these email addresses and to ensure that respondents did not complete the questionnaire more than once, each individual selected to participate was provided with a unique identification (ID) code that was valid for only one questionnaire attempt; the same ID code could not be used again to complete another questionnaire. This is a standard approach for avoiding duplicate responses or unauthorized people entering the website, which could bias the results and representativeness of the study (Dillman, 2007; Vaske, 2008). This ID code also allowed the researchers to identify respondents who had completed the questionnaire so that they would not be contacted again in follow up correspondence.

Three email requests were sent to elicit participation from overnight users. The first email requested participation and then a reminder email was sent two weeks after this request. A third email was sent another two weeks later to those who had not completed the questionnaire. No further emails were sent, so users were considered a nonresponse if they had not completed the questionnaire following these three email requests. This technique is standard for increasing response rates (Dillman, 2007). These e-mails were sent between August and September 2011 to overnight visitors who were camping during the same time that day users were completing questionnaires.

In total, 9,063 visitors completed a questionnaire, with 5,704 completed by overnight users (55% response rate) and 3,359 completed by day users (75% response

rate). Data from day users across all parks, overnight users across all parks, and all users taken together (i.e., total day and overnight users) were weighted by population proportions calculated from the three year average of visitation data at each park (2008, 2009, 2010) to ensure that responses were representative of these populations.

Analysis Variables

Encounter norms were measured by asking visitors to indicate the maximum number of other people they would accept seeing at one time at the park. Respondents could either: (a) specify a number representing their maximum number of acceptable encounters (i.e., fill in the blank), (b) indicate that “the number of people does not matter to me,” or (c) indicate that “the number of people matters to me, but I cannot specify a number.” This approach for measuring encounter norms in recreation areas has been used in previous studies (e.g., Cole & Stewart, 2002; Hall & Shelby, 1996; Hall, Shelby, & Rolloff, 1996; Manning, Johnson, & VandeKamp, 1996; Manning, Valliere, Wang, & Jacobi, 1999; Roggenbuck et al., 1991; Vaske & Donnelly, 2002).

Unlike methods traditionally used for measuring salience or importance associated with encounters where a numerical norm must be specified, this research will also include respondents who indicated that the number of encounters matters to them, but they were unable to specify a number. Visitors who either provided a number or specified that the number of people matters to them, but were unable to specify a number were considered to believe that the condition (i.e., encounters) was salient or important. Conversely, visitors who indicated that the number of people does not matter to them were considered to believe that the condition was not salient or important. This approach

for isolating the three response categories into salient or important responses and not salient or important responses is consistent with methods used in other studies (e.g., Donnelly et al., 2000; Vaske, Donnelly, & Petruzzi, 1996).

In total, 11 variables measured possible behavioral responses to encounters at the park. Visitors were asked to “imagine that you were to visit this park and see more people than you would tolerate seeing. If this situation were to occur, how likely would you take each of the following actions?” Six variables measured potential direct and indirect sanctions: (a) “express my opinions to park managers about the condition or situation,” (b) “express my opinions to members of my group about the condition or situation,” (c) “express my opinions to other visitors at the park about the condition or situation,” (d) “express my opinions to friends or family about the condition or situation,” (e) “express my opinions by writing reviews about the condition or situation,” and (f) “never visit this park again because of the condition or situation.” Five variables measured other behavioral responses: (a) “avoid peak use times (weekends, holidays) or visit earlier or later in the day when fewer people are here to avoid this condition or situation” (i.e., temporal displacement); (b) “come back to this park, but recognize that it offers a different type of experience than I first believed” (i.e., product shift); (c) “keep my opinions to myself;” (d) “tell myself that there is nothing I can do about the condition or situation, so just try to enjoy the experience for what it is;” and (e) “accept the condition or situation by not doing anything about it.” Responses were measured on four-point scales of 1 “very unlikely” to 4 “very likely.”

Results

The first research question in this article involved determining the extent that visitors felt encounters to be salient or important at state parks on the Oregon coast. Saliency was operationalized as those who either specified a number of encounters that represented their normative tolerance or indicated that encounters matter, but they could not specify a precise number. In total, 61% of day visitors and 64% of overnight visitors across all parks taken together indicated that encounters were salient or important (Table 3.1). In fact, the majority of visitors at all day use areas (56% to 70%) and overnight use areas (59% to 71%) considered encounters to be important. Although there were statistically significant differences in saliency among both the day use ($\chi^2 = 15.78, p = .046$) and overnight use areas ($\chi^2 = 32.09, p < .001$), the Cramer's *V* effect sizes were only $V = .08$. Using guidelines from Vaske (2008) and Cohen (1988), this suggests that these differences among parks were “minimal” or “small,” respectively.

The second research question focused on behavioral responses that day and overnight visitors may impose if they were to encounter more people than they would tolerate seeing at these parks (i.e., if their encounter norms were ever to be violated). The percentages of day visitors likely to respond in various ways if their encounters were to be exceeded are shown in Table 3.2. If day visitors were to encounter more people than they would tolerate seeing, they would be most likely to avoid peak use times by visiting earlier or later (i.e., temporal displacement; 74%), or return but recognize that the park offers a different type of experience than they first believed (i.e., product shift; 71%). Day visitors would be least likely to never visit the park again (20%) and express

opinions by writing negative reviews (23%). There were statistically significant differences among the day use areas for seven of the 11 behavioral responses, $\chi^2 = 16.97$ to 47.41, $p = .030$ to $< .001$. In general, visitors at Fort Stevens and Jessie Honeyman would be most likely to engage in these responses, whereas those at William Tugman would be least likely. The Cramer's V effect sizes, however, ranged from only $V = .08$ to $.14$, suggesting that the strength of these differences was "minimal" (Vaske, 2008) or "small" (Cohen, 1988).

Table 3.1. Salience of encounters among parks.¹

Park	Not Salient	Salient	χ^2	p	V
Day Parks			15.78	.046	.08
Devil's Punch Bowl	30	70			
Cape Meares	37	63			
Harris Beach	37	63			
Jessie Honeyman	38	62			
William Tugman	38	62			
Samuel Boardman	39	61			
Sunset Bay	41	59			
South Beach	43	57			
Fort Stevens	44	56			
Weighted Total	39	61			
Overnight Parks			32.09	< .001	.08
Cape Lookout	29	71			
Sunset Bay	29	71			
South Beach	35	65			
Fort Stevens	35	65			
Nehalem Bay	35	65			
Bullard's Beach	35	65			
Devil's Lake	38	62			
Harris Beach	38	62			
Jessie Honeyman	39	61			
Beverly Beach	41	59			
Weighted Total	36	64			

¹ Cells are percent (%). Salient = Specified a norm or that encounters matter. Not salient = Specified that number of people does not matter.

The percentages of overnight visitors likely to respond in various ways if their encounters were ever to be exceeded are shown in Table 3.3. If overnight visitors were to encounter more people than they would tolerate seeing, they would be most likely to express their opinions to friends or family (84%) and to members of their group (81%). More than two-thirds of overnight visitors would also avoid peak use times by visiting earlier or later (i.e., temporal displacement; 74%), or return but recognize that the park offers a different type of experience than they first believed (i.e., product shift; 74%). Similar to day visitors, overnight users would be least likely to never visit again (24%) and express opinions by writing negative reviews (26%). There were significant differences among the parks for only four of the 11 behavioral responses, $\chi^2 = 17.44$ to 31.23 , $p = .042$ to $< .001$. Similar to the day use areas, the Cramer's V effect sizes for these differences ranged from only .06 to .08, suggesting that the strength of these differences was "minimal" (Vaske, 2008) or "small" (Cohen, 1988). Given that these descriptive and bivariate results revealed insignificant or minimal differences in salience and behavioral responses among the parks, the data were aggregated across parks for further analyses.

Table 3.2. Likelihood of **day visitors** to behaviorally respond if they encounter more people than they would tolerate seeing at Oregon Coastal State Parks.¹

Behavioral Responses	Harris Beach	Samuel Boardman	Sunset Bay	William Tugman	Jessie Honeyman	South Beach	Devil's Punch Bowl	Cape Meares	Fort Stevens	Total ²	χ^2	<i>p</i>	<i>V</i>
Avoid peak use times by visiting earlier or later.	68	70	71	64	78	79	77	73	78	74	31.66	< .001	.11
Return, but recognize a different experience.	71	65	74	58	73	69	71	72	75	71	32.31	< .001	.11
Tell self that there is nothing I can do.	68	72	67	54	76	68	68	71	75	70	47.41	< .001	.14
Accept condition by not doing anything.	66	72	60	52	67	67	62	65	69	66	39.56	< .001	.13
Express opinions to friends or family.	57	55	65	54	73	67	60	64	64	62	38.39	< .001	.12
Express opinions to members of group.	57	52	64	51	67	61	53	61	65	60	35.95	< .001	.12
Keep my opinions to myself.	51	60	50	47	53	50	52	49	52	52	13.39	.099	.07
Express opinions to other visitors.	31	25	27	23	34	30	31	24	31	29	16.97	.030	.08
Express opinions to park managers.	26	24	29	26	35	26	26	24	25	27	12.75	.121	.07
Express opinions by writing reviews.	22	18	25	21	28	25	26	20	23	23	15.19	.056	.08
Never visit this park again because of condition.	21	21	17	15	23	23	21	17	17	20	13.10	.108	.07

¹ Cells are percent (%) likely to behaviorally respond in response to encountering more visitors than they would tolerate seeing.² Total column is weighted.

Table 3.3. Likelihood of **overnight visitors** to behaviorally respond if they encounter more people than they would tolerate seeing at Oregon Coastal State Parks.¹

Behavioral Response	Harris Beach	Sunset Bay	Jessie Honeyman	South Beach	Fort Stevens	Nehalem Bay	Devil's Lake	Beverly Beach	Bullards Beach	Cape Lookout	Total ²	χ^2	p	V
Express opinions to friends or family.	83	85	85	86	84	86	81	81	83	84	84	9.68	.377	.04
Express opinions to members of group.	79	82	82	81	83	84	79	80	76	82	81	16.81	.052	.06
Tell self that there is nothing I can do.	75	75	75	76	79	74	70	77	71	76	76	18.72	.028	.06
Avoid peak use times and visit earlier/later.	77	75	72	73	73	73	71	72	72	80	74	16.19	.063	.06
Return, but recognize a different experience.	70	71	73	71	77	75	68	77	71	77	74	26.90	.001	.07
Accept condition by not doing anything.	59	59	56	61	57	58	52	60	53	59	58	16.35	.060	.06
Keep my opinions to myself.	40	41	37	39	37	36	35	38	36	35	37	6.57	.682	.04
Express opinions to park managers.	35	33	33	33	33	38	38	34	39	29	34	17.44	.042	.06
Express opinions to other visitors.	30	33	32	32	34	31	35	31	33	31	32	5.02	.832	.03
Express opinions by writing reviews.	24	27	22	25	26	28	29	28	25	26	26	10.19	.336	.05
Never visit this park again.	24	29	23	30	19	24	30	22	26	24	24	31.23	<.001	.08

¹ Cells are percent (%) likely to behaviorally respond in response to encountering more visitors than they would tolerate seeing.

² Total column is weighted.

The third research question involved examining whether visitors who felt that encounters are salient or important would be more likely to behaviorally respond if their encounter norms were ever to be violated at these parks. Questions measuring these behavioral responses were preceded by a hypothetical statement asking respondents to “imagine that you were to visit [the park where they were surveyed] and see more people than you would tolerate seeing. If this situation were to occur, how likely would you take each of the following actions?” Given this statement, it was deemed inappropriate to compare behaviors among all possible responses to the encounter norm variable (i.e., number of encounters does not matter; encounters matter, but cannot specify a number; specified a numeric encounter norm) or between those who encountered more or fewer visitors than their norm, simply because this statement asked visitors to assume that they could specify a number representing their normative tolerance limit and that this number had already been violated. Instead and consistent with this article’s research questions, responses were compared between those who considered encounters to be either not salient or salient (i.e., either specified a norm or indicated that encounters matter, but they could not specify a number).

Table 3.4. Likelihood of **day visitors** who indicate encounters are salient to behaviorally respond to encountering more people than they would tolerate seeing at Oregon Coastal State Parks.¹

Behavioral Response	% Likely		χ^2	<i>p</i>	ϕ
	Not Salient	Salient			
Avoid peak use times and visit earlier/later.	64	78	58.78	< .001	.16
Tell self that there is nothing I can do.	70	67	2.46	.117	.03
Return, but recognize a different experience.	67	72	7.43	.006	.06
Accept condition by not doing anything.	66	63	2.44	.118	.03
Express opinions to friends or family.	52	67	57.58	< .001	.15
Express opinions to members of group.	49	65	59.76	< .001	.16
Keep my opinions to myself.	56	49	13.93	< .001	.08
Express opinions to other visitors.	25	28	3.17	.075	.04
Express opinions to park managers.	29	24	6.85	.009	.05
Express opinions by writing reviews.	22	21	.04	.840	.00
Never visit this park again.	17	19	1.49	.222	.03

¹ Cells are percentage (%) likely to behaviorally respond.

Among day visitors, those who indicated that encounters were salient would be significantly more likely than those who did not think that encounters were salient to avoid peak use times (78% vs. 64%), return to the park but recognize that it offers a different type of experience than they first believed (72% vs. 67%), and express their opinions to friends or family (67% vs. 52%) and members of their group (65% vs. 49%). Those who indicated that encounters were not salient would be significantly more likely than those who indicated that encounters were salient to keep opinions to themselves (56% vs. 49%) and express opinions to park managers (29% vs. 24%). There was a

significant difference between the salient and not salient groups for six of these 11 behavioral responses, but the strength of these differences ($\phi = .05$ to $.16$) was “minimal” (Vaske, 2008) or “small” (Cohen, 1988).

Table 3.5. Likelihood of **overnight visitors** who indicate encounters are salient to behaviorally respond to encountering more people than they would tolerate seeing at Oregon Coastal State Parks.¹

Behavioral Response	% Likely		χ^2	p	ϕ
	Not Salient	Salient			
Express opinions to friends or family.	73	90	238.85	< .001	.22
Express opinions to members of group.	71	86	168.92	< .001	.19
Tell self that there is nothing I can do.	81	72	47.60	< .001	.10
Avoid peak use times and visit earlier/later.	66	78	73.08	< .001	.12
Return, but recognize a different experience.	78	71	25.39	< .001	.07
Accept condition by not doing anything.	66	53	75.41	< .001	.12
Keep my opinions to myself.	48	32	126.01	< .001	.16
Express opinions to park managers.	35	34	.23	.632	.01
Express opinions to other visitors.	27	35	33.70	< .001	.08
Express opinions by writing reviews.	22	28	17.41	< .001	.06
Never visit this park again.	16	30	121.69	< .001	.15

¹ Cells are percentage (%) likely to behaviorally respond.

For overnight visitors, those who indicated that encounters were salient would be significantly more likely than those who did not think that encounters were salient to express their opinions to friends or family (90% vs. 73%), members of their group (86% vs. 71%), other visitors (35% vs. 27%), and by writing reviews (28% vs. 22%), avoiding peak use times (78% vs. 66%), and never visiting again (30% vs. 16%). Those who

indicated that encounters were not salient would be significantly more likely than those who indicated that encounters were salient to tell themselves there is nothing they can do (81% vs. 72%), return to the park but recognize that it offers a different experience than they first believed (78% vs. 71%), accept the condition by not doing anything about it (66% vs. 53%), and keep opinions to themselves (48% vs. 32%). There were significant differences between the salient and not salient groups for 10 of the 11 behavioral responses. Effect sizes measuring the strength of these differences, however, ranged from $\phi = .06$ to $.22$ and averaged $.13$, suggesting that these differences were relatively “minimal” (Vaske, 2008) or “small” (Cohen, 1988).

Discussion

This article used data from coastal state parks in Oregon to examine visitor behavioral responses, such as coping techniques and possible sanctions, associated with encountering more people than they would tolerate seeing, and how these responses are influenced by the salience or importance of encounters. Overall, day visitors would respond differently than overnight visitors if they encountered more people than they would tolerate seeing. If encounters were exceeded for day visitors, for example, they would be most likely to avoid peak use times (i.e., temporal displacement) and redefine their experience (i.e., product shift), whereas overnight visitors would be most likely to express opinions to friends, family, or members of their group. Both day and overnight visitors would be least likely to never visit again or write negative reviews about the park they visited. The majority of day and overnight visitors at each park indicated that encounters were salient (i.e., important) and these individuals would be more likely to

engage in behavioral responses (e.g., avoid peak use times, redefine experience, express opinions) than those who did not consider encounters to be important. These findings have implications for management, theory, and future research.

Implications for Management

From a management perspective, studies have suggested that encounters are less important to visitors in frontcountry settings given the expectation of many others to be present in these areas (Donnelly, et al., 2000; Shelby, Heberlein, Vaske, & Alfano, 1983). Results presented here, however, indicated that a majority (i.e., 56-71%) of visitors at these coastal state parks in Oregon felt that encounters with other people were salient or important. The importance of visitor encounters at these parks suggests that managers should not ignore this issue and impacts often associated with excessive encounters such as crowding, conflict, and dissatisfaction (Manning, 2011).

Findings also showed that if day visitors encountered more people than they would tolerate, they would be most likely to avoid peak use times (74%). Visitors to day use areas are often repeat visitors and have the ability to visit at a time most acceptable to them (Manning, 2011). Managers, therefore, should be aware that excessive encounters could lead to people visiting at different times, placing visitation pressure on different days, seasons, and times of the day. Furthermore, day visitors would also be likely to return to the park, but recognize that it offers a different experience than they first believed (i.e., product shift; 71%). This finding implies that visitor expectations about encounters may not be met and are possibly being exceeded in these areas. Research has shown that if people encounter more people than they would expect seeing in an area,

they are more likely to feel crowded (Shelby, et al., 1983; Vaske & Donnelly, 2002). If excessive encounters would cause visitors to redefine the setting or experience in their minds, managers may want to inform and educate visitors about actual encounter and use levels at each park, or concentrate on reducing encounters in these day use areas to ensure that expectations and actual experiences are aligned or balanced.

Overnight visitors, however, would be most likely to express their opinions to friends, family, or members of their group if they encounter more people than they would tolerate. Consequences of visitors expressing their opinions to those close to them should not be underestimated because word of mouth is often a main source of promotion and information about parks and related recreation settings (Manning, 2011; Needham & Rollins, 2009). Conversely, these opinions may provide visitors with more accurate information about encounters from which to base their expectations. Furthermore, 76% of overnight visitors and 70% of day visitors indicated that they would tell themselves there is nothing they can do if they encounter more people than they would tolerate seeing. This result may imply a perceived lack of control over social conditions in these parks. Management, therefore, may want to focus on engaging more visitors and other stakeholders in management decisions and outreach (Needham & Rollins, 2005).

If visitors encounter more people than they would tolerate seeing, 27% of day visitors and 34% of overnight visitors would express their opinions directly to park managers. In other words, 73% of day visitors and 66% of overnight visitors would not say anything to managers. Managers do not always perceive impacts the same as visitors, so it is important that managers foster approaches for open lines of communication with

their visitors (Manning, 2011; Shelby & Shindler, 1992). Given that visitors perceive encounters to be important at these parks, managers may want to offer a program where systematic feedback is obtained about impacts visitors find important, such as encounters.

These visitor responses to encountering more people than they would tolerate varied between those who indicated that encounters were salient (i.e., important) and not salient. Both day and overnight visitors who reported that encounters were important would be significantly more likely to avoid peak use times, never visit again, and express opinions to friends, family, and members of their group. For example, 19% of day visitors and 30% of overnight visitors who indicated that encounters were important would never visit the park again in response to high encounters. Visitors who indicated that encounters were not salient would be more likely to tell themselves that there is nothing they can do about the situation, accept the condition by not doing anything, and keeping opinions to themselves. In other words, visitors who reported that encounters were important would be most likely to alter their behavior or cognitions about the park and express their opinions to others, whereas those who felt that encounters were not important are unlikely to do anything in response. Understanding possible responses can prepare managers for potential consequences if encounter levels become unacceptable.

Implications for Theory and Research

From a research and theoretical perspective, this article examined the likelihood of visitors behaviorally responding to encountering more people than they would tolerate seeing at coastal state parks. Behavioral responses of visitors who experience excessive encounters have received attention in the recreation literature and have focused on

behavioral and cognitive coping techniques such as displacement, product shift, and rationalization (e.g., Manning & Valliere, 2001; Shindler & Shelby, 1995; Vaske, Donnelly, & Petruzzi, 1996). Comparatively less attention, however, has focused on other responses such as direct (e.g., express opinions to other visitors) and indirect sanctioning when norms are violated (e.g., express opinions to managers; Blake & Davis, 1964; Heywood, 1996a, 1996b, 2011). This article also examined if the salience or importance of encounters influences the likelihood of these behavioral responses. This article, therefore, should be considered exploratory and an attempt to address some of these knowledge gaps. Research is needed to build on this study and examine these issues in more geographical settings and contexts using various methodological techniques.

The ability to report an encounter norm (i.e., norm prevalence) implies that encounters are salient or important enough to recall (Manning, 2011). Research has found that prevalence tends to be lower in frontcountry settings compared to backcountry areas (Donnelly et al., 2000). Research has also found that the question format for measuring norms can influence the ability to report a norm (Donnelly et al., 2000; Hall & Shelby, 1996; Roggenbuck et al., 1991). Prevalence, for example, is often higher in the two-category response format (i.e., specify a norm, the number does not matter) compared to the format that includes a third response option (i.e., encounters matter, but unable to specify a norm). There has been limited attention, however, given to this third response option, and in frontcountry settings this may be the most appropriate option for visitors who are unable to report a norm, but still feel that the indicator is important (Roggenbuck et al., 1991). Responses in this category should not be ignored (Hall & Shelby, 1996).

This article measured salience of encounters by combining responses of visitors who either specified a numerical encounter norm or indicated that encounters matter, but were unable to specify a number representing their norm. Visitors who indicated that encounters do not matter were considered to believe that encounters are not salient or important. Although this method is consistent with past studies (e.g., Donnelly et al., 2000; Vaske et al., 1996), research is needed to validate this approach and examine the extent that results in other locations or contexts are consistent with those reported here.

Results showed that the majority of day and overnight visitors reported that encounters were salient (i.e., important). Research often focuses on indicators of quality and impacts that are deemed important or salient in defining the quality of a recreation experience or setting. In backcountry settings, for example, encounters are considered to be important because they have an impact on solitude, so have received a considerable amount of research attention in these remote areas (see Manning, 2011 for a review). Comparatively less research has been conducted on encounters in frontcountry settings. Researchers have suggested that encounters are not as important in these settings given visitor expectations and tolerances of encountering others in frontcountry areas (Donnelly et al., 2000; Manning, 2011). Results of this study, however, revealed that a minority of visitors indicated that the number of encounters does not matter (i.e., not salient; 29-44%), which is similar to a few studies in other frontcountry areas (see Donnelly et al., 2000 for a review). The level of salience for encounters implies that they are important enough to deserve further attention in frontcountry areas such as these parks.

Day visitors would be most likely to utilize coping techniques such as temporal displacement (i.e., avoid peak use times or visit earlier or later in the day; 74%), product shift (i.e., return to the park, but recognize that it offers a different experience than first believed; 71%), and rationalization (i.e., tell themselves that there is nothing that can be done and enjoy the experience for what it is; 70%). These visitors were least likely to spatially displace (i.e., never visit this park again; 20%). Some studies have suggested that visitors are most likely to change their cognitions about an area before they become displaced (e.g., Shelby, et al., 1988). Results presented here, however, showed that day visitors are more likely to temporally displace than change cognitions about the area (i.e., product shift, rationalization), and the proportions of visitors who would behaviorally respond in these ways were fairly similar among responses (70-74%). It is possible that because many of these day visitors are local residents and repeat visitors, it may be easier for them to visit at different times than change their cognitions.

Overnight visitors, however, would be most likely to express their opinions to friends and family (84%) or members of their group (81%). This suggests that day visitors are more likely to respond to excessive encounters by altering their own internal cognitions and behaviors, whereas overnight visitors are more likely to outwardly express their opinions perhaps in response to the higher levels of encounters and perceived crowding experienced by overnight visitors (see first article in this thesis). These responses measured in this article, however, are intended behaviors in response to a hypothetical future condition (i.e., “imagine that you were to visit [the park where surveyed] and see more people than you would tolerate seeing; if this situation were to

occur, how likely would you take each of the following actions”). Research is needed to examine relationships between current conditions (e.g., encounters, crowding) and actual visitor behaviors in response to these conditions.

These results suggest that as encounters increase, visitors (especially overnight users) may be likely to complain by expressing their opinions to those close to them instead of others such as managers. This reaction may be partially explained by the concept of cognitive dissonance (Festinger, 1962), which states that there needs to be some consistency between an individual’s cognitions and behaviors, otherwise they will feel dissonance and need to alleviate this psychologically uncomfortable feeling. Overnight visitors, for example, may have negative opinions about the levels of encounters experienced, but may be unable to change their behavior by leaving the campsite, so instead complain to those close to them in an attempt to help reduce this dissonance. Festinger (1962) also stated that the level of dissonance experienced will depend on the importance ascribed to the issue. Visitors who felt that encounters are important or salient, for example, may be more likely to experience a need to alleviate this dissonance in high encounter situations, such as by responding outwardly.

Some of these external or outward behaviors are forms of sanctions (e.g., express opinions to other visitors, managers). Sanctions associated with violating encounter norms have been discussed in the recreation literature (e.g., Heywood, 1996a, 1996b, 2011), but empirical investigation is limited. Some researchers have suggested that having encounter norms violated in a park or related setting may result in sanctions directed at the managers who are responsible for use levels (Heywood, 2011; Smyth,

Watzin, & Manning, 2007). Results presented here showed that 34% of overnight visitors and 27% of day visitors would respond to excessive encounters by expressing their opinions to park managers. In addition, 32% of overnight visitors and 29% of day visitors would express their opinions directly to other park visitors. Although it is debatable whether these types of behavioral responses are actual sanctions in response to excessive encounters, these results offer a rare attempt at linking norms to possible sanctions that may be operationalized in response to recreation conditions. Research needs to build on this work by examining the extent that these results generalize to other sites and contexts.

Past research has measured and compared behavioral responses, such as coping mechanisms (e.g., product shift, rationalization), to encounters and crowding conditions (e.g., Hall & Shelby, 1996; Shelby, et al., 1988), but little research has related these responses to the salience or importance of these conditions. Both day and overnight visitors who reported that encounters were important would be most likely to avoid peak use times, never visit again, and express opinions to friends, family, and members of their group. Visitors who indicated that encounters were not salient or important would be more likely to tell themselves that there is nothing they can do about the situation, accept the condition by not doing anything, and keep opinions to themselves. Taken together, these results suggest that visitors who reported that encounters were important would be most likely to alter their behavior or cognitions about the park and express opinions to others, whereas those who felt that encounters were not important are unlikely to do anything in response. In contrast, however, day and overnight visitors who indicated that encounters were most important (i.e., salient) would be least likely to express their

opinions to park managers. This may be an indicator of a lack of trust in managers to handle use levels or a perceived lack of similarity with managers who may not empathize with visitors (Siegrist & Cvetkovich, 2000). Future research may benefit from evaluating these issues between visitors and agencies responsible for managing use levels and encounters in outdoor recreation settings.

Finally, this study should be viewed as exploratory and a starting point for examining salience and behavioral responses (e.g., coping, possible sanctions) associated with encounters in recreation settings such as state parks. Visitor evaluations were measured primarily during high visitation periods (e.g., summer, weekends) and may not generalize to other days or seasons. Findings are also limited to nine day use areas and 10 overnight use areas within state parks along the Oregon coast, and may not generalize to all state parks or other types of parks in Oregon or elsewhere. Further research is needed to empirically investigate the extent that results obtained here generalize to other geographical areas and contexts.

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CHAPTER 4 – CONCLUSION

The preceding chapters collectively advance the field of natural resource recreation management by examining relationships among visitor: (a) reported encounters, crowding, norms, and support for management; and (b) salience or importance of encounters and behavior in response to excessive encounters. This chapter summarizes findings of the preceding chapters, relate these findings to previous research, and offers suggestions for how these findings can assist with future management and research.

Summary of Findings

Chapter two used data from day and overnight visitors at state parks along the Oregon coast to evaluate relationships among encounters, norms, crowding, and support for management. Although a substantial amount of research has evaluated these concepts across a variety of environments and contexts, much of this research has been focused on backcountry settings with less emphasis on frontcountry settings. Furthermore, most researchers measuring relationships among encounters, norms, and crowding have suggested how management should respond if encounters are exceeded. This research evaluated whether visitors who encountered more people than their norm actually supported or opposed management actions designed for addressing use related issues in these areas. Results revealed that although day and overnight users would tolerate seeing no more than 134 and 133 other visitors, respectively, they reported encountering only an average of 74 and 122 other visitors, respectively. Despite encountering fewer visitors than their normative tolerance limit, 46% of day visitors and 68% of overnight visitors felt crowded. Visitors who encountered more people than their norm felt more crowded

than those who encountered fewer than their norm. Compared to overnight visitors who encountered fewer people than their norm, those who encountered more people than their norm were more supportive of managers providing opportunities for escaping crowds and limiting the number of people and groups. Similarly, day visitors who encountered more people than their norm were most supportive of managers providing more opportunities for escaping crowds.

Chapter three examined behavioral responses, such as coping techniques and possible sanctions, associated with encountering excessive levels of use. Most definitions of norms suggest that some form of behavioral response (e.g., sanctions, coping) should follow when norms are violated, however, little research in outdoor recreation has addressed these responses. Results showed that day and overnight visitors would respond differently if they encountered more people than their normative tolerance limit. Day visitors, for example, would be most likely to avoid peak use times and redefine their experience, whereas overnight visitors would be most likely to express their opinions to friends, family, or members of their group.

This chapter also examined if the salience or importance of encounters influenced the likelihood of engaging in these behavioral responses to excessive encounters. Research has suggested that encounters are less important in frontcountry settings and are less likely to influence behavior than in backcountry settings. Results revealed that 61% of day visitors and 64% of overnight visitors indicated that encounters were important. Research also suggests that norms are more likely to influence behavior when they are salient to the individual. Findings presented here showed that visitors who indicated that

encounters were salient would be more likely to behaviorally respond to excessive encounters than visitors who felt that encounters were not important. When evaluating specific behavioral responses, day visitors who indicated that encounters are salient would be most likely to avoid peak use times and return to the park, but recognize it offers a different experience than first believed. Overnight visitors who indicated that encounters are important would be most likely to avoid peak use times and express their opinions to those close to them.

Management Implications

These results revealed that 68% of overnight visitors and 46% of day areas felt some degree of crowding. More specifically, seven overnight use areas and two day use areas had crowding levels over 65%, which is considered “more than capacity” or “overcapacity.” These levels of crowding suggest that management and research attention is necessary to ensure these areas do not turn into “sacrifice areas” of high density where quality experiences and environments may be compromised. Although most overnight visitors and many day visitors felt crowded, the majority of visitors encountered fewer people than they would tolerate, suggesting that there may be other factors influencing crowding such as noise, proximity of encounters, or activity groups. Measures for reducing crowding should not be directed solely at restricting numbers of users, but also techniques such as visitor education or temporal and spatial zoning.

Directly questioning visitors about their support and opposition of management strategies designed to address crowding related issues can take the guesswork out of interpreting acceptance of these actions. Results showed that both day and overnight

visitors were most supportive of management providing more opportunities for escaping crowds; they were less supportive of restricting the number of people and groups.

Overnight users who encountered more people than their norm, however, were more supportive of limiting people and groups. Based on these results, management may want to provide more opportunities for escaping crowds by dispersing use through temporal or spatial zoning, or promoting alternative locations in both the day and overnight use areas.

Results also showed that a majority of day and overnight visitors indicated that encounters with other people were salient (i.e., important). Managers, therefore, should not ignore encounters or related impacts such as crowding, conflict, dissatisfaction, and other types of behavioral responses. These responses to excessive encounters differed between day and overnight use areas. If day visitors encounter more people than they would tolerate seeing, for example, they would be most likely to avoid peak use times and return or recognize that the park offers a different experience than they first believed. Visitor expectations about encounters in these day use areas, therefore, may not be met. If overnight visitors encounter more people than they would tolerate, they would be most likely to express opinions to friends, family, or members of their group. These responses to excessive encountering may have consequences on future visitation. Many prospective visitors to parks often get information about these parks from those close to them and could be deterred from visiting if negative opinions are expressed.

Furthermore, if 76% of overnight visitors and 70% of day visitors encounter more people than their norm, they would tell themselves that there is nothing they can do. This may imply a perceived lack of control over social conditions in the parks. Managers

should focus on obtaining more stakeholder input and involvement with the creation of management objectives and standards at these parks. Giving visitors a voice may give them a sense that there is something they can do if impacts such as encounters and crowding reach unacceptable levels. In addition, only 27% of day visitors and 34% of overnight visitors would express opinions to managers if encounters are excessive. It may be beneficial for managers to keep an open line of communication with visitors to obtain more accurate information about some impacts in their parks. Managers may also want to implement a program where systematic feedback is obtained about some of the impacts that visitors find important or unacceptable.

Many of these behavioral responses varied between those who indicated that encounters were salient or important and not salient or unimportant. Visitors who indicated that encounters are salient would be more likely to respond in some manner (e.g., express opinions, avoid peak use times). Understanding ways that visitors may respond to excessive encounters, especially in places where they are important, can prepare managers for potential consequences if conditions become unacceptable. Just because visitors may encounter many other users and feel that encounters are important, however, does not mean that they will unconditionally support management designed to restrict use. In these cases, managers should consider alternatives to restricting use.

Theoretical and Research Implications

These findings also have theoretical implications and highlight issues warranting additional research. Consistent with the concept of norm congruence, results showed that crowding was consistently higher among park visitors who encountered more people than

their norm. Those who encountered fewer people than their norm, however, also reported some degree of crowding. This finding is consistent with other research and may be related to characteristics of visitors encountered and settings where these encounters are occurring. In addition to the number of people encountered, group size, behavior of individuals, and the degree that groups are perceived to be alike have been found to influence crowding. Research should examine the influence of these characteristics on evaluations of crowding at these coastal state parks.

Research has also suggested that indirect management strategies are more strongly supported than direct and restrictive strategies. Both day and overnight visitors were supportive of creating more opportunities for escaping crowds. Day visitors, however, were most opposed to limiting people or groups, whereas overnight visitors were more supportive of these direct management techniques. Higher crowding and encounters at the overnight areas may explain overnight visitor support for restricting use in these areas. This research did not, however, measure support for specific approaches to restrict people or groups (e.g., fee increases, reservation systems, parking limits), so research is needed to examine these issues, especially in the overnight use areas where encounters and crowding were most excessive.

This research extended the encounter, norm, crowding relationship to include visitor support for these management actions to addressing these use related issues. Prior research identifying areas where visitors encountered more people than their norm typically advocated that management attention is necessary and then suggested strategies that managers could implement. This study actually asked visitors the extent that they

supported or opposed strategies for managing use and found that overnight visitors who encountered more than their norm were more supportive of restrictive management actions. Less consistency, however, was found among day use areas. One study that did empirically link support for management to relationships among encounters and norms was conducted in a marine protected area and focused on boats instead of people. Given that this relationship was found at overnight use areas and only a handful of day use areas, future research is needed to examine the generalizability of these relationships.

One possible explanation for inconsistent relationships among encounters, norms, and support for management at some of the day use areas may be due to the low norm prevalence associated with the question format used for measuring encounter norms in this study. Norm prevalence has been shown to be higher in the two-response category format (i.e., specify a norm, the number of encounters does not matter) compared to the three-response category format used here (i.e., the number of encounters matters, but unable to specify a precise number). Some respondents who may have specified a norm in the two-response category format may have indicated that encounters matter, but did not specify a numerical norm in the three response category format, thus reducing the sample size of those specifying a norm. Low norm prevalence may also be due to the fact that these sites offer mostly frontcountry experiences. Compared to backcountry settings, encounter norms in frontcountry settings may not be as well defined and often yield fewer people who are willing or able to specify a norm. A majority of visitors in this study reported an encounter norm or indicated that encounters matter, suggesting that encounters represent an important indicator in these parks. Research should evaluate the

question response format and whether frontcountry or backcountry experiences influence relationships among encounters, norms, and perceptions of management.

This study also examined the likelihood of visitors behaviorally responding to excessive encounters. Responses such as coping techniques have received a substantial amount of attention in the outdoor recreation literature (e.g., displacement, product shift). Less attention has focused on responses such as direct and indirect sanctions in response to excessive encounters. This research also examined whether the salience or importance of encounters influences the likelihood of engaging in these behavioral responses. Prior research has suggested that encounters are not as salient or important in frontcountry settings due to visitor expectations and tolerances of encountering others in these settings. Results presented here, however, revealed that only 22-44% of visitors indicated that the number of encounters does not matter at the parks in this study. Although encounters in frontcountry settings may be less important than in backcountry settings, these results imply that they are important enough to deserve further attention in frontcountry areas.

Day visitors who experience excessive encounters would be most likely to utilize coping techniques such as temporal displacement and product shift, and least likely to spatially displace. It is possible that because many of these day visitors are local residents and repeat visitors, it may be easier for them to visit at different times. Overnight visitors, however, would be more likely to respond by expressing their opinions to those close to them (e.g., friends, family, group members). This outward response may be due to the higher level of encounters and crowding experienced by overnight visitors, but research is needed to confirm this speculation.

This reaction of visitors complaining to those close to them may be partially explained by the concept of cognitive dissonance. Overnight visitors, for example, may have negative cognitions about encounter levels, but may be unable to change their behavior (i.e., leaving the campsite), so instead complain to those close to them in an attempt to relieve this dissonance. The level of dissonance experienced will often depend on the level of importance ascribed to an issue. Visitors who felt that encounters are salient or important, therefore, may be more likely to experience a need to alleviate the dissonance in unacceptably high encounter situations by responding outwardly. Future research is needed to examine this phenomenon in recreation settings.

Some of these external behavioral responses to excessive encounters are forms of sanctions that have received little empirical attention in the recreation literature. Some research has suggested that visitors experiencing excessive encounters may direct sanctions at managers who are responsible for use levels in a park. This study, however, found that only 34% of overnight visitors and 27% of day visitors would express opinions to park managers, and 32% of overnight visitors and 29% of day visitors would express opinions to other park visitors. Although it is debatable whether these types of behavioral responses are actually direct formal sanctions in response to encounters, these results offer a rare attempt at linking recreation related norms to possible sanctions that may be operationalized in response to conditions. More research is needed to build on this work and examine the extent that these results generalize to other sites and contexts.

Visitors who reported that encounters were important would be most likely to alter their behavior or cognitions about the park and express their opinions to others,

whereas those who felt that encounters were not salient are unlikely to do anything in response. Day and overnight visitors who revealed that encounters are salient or important, however, would be least likely to express their opinions to park managers. This may be an indicator of a lack of trust in managers to handle use levels or a perceived lack of similarity with managers who may not empathize with visitors. Future research may benefit from evaluating reasons why visitors are less willing to communicate with managers about unacceptable conditions.

Finally, visitor evaluations of encounters, norms, crowding, management, and behavioral responses at these state parks along the Oregon coast were measured mostly during high use times (e.g., summer, weekends). Findings presented here, therefore, may not generalize to all types of visitors across all seasons of use. Findings are also limited to nine day use areas and 10 overnight use areas within these parks and may not generalize to all parks in this state or elsewhere. Future research is needed at other times and geographical areas to empirically generalize the findings of this study.

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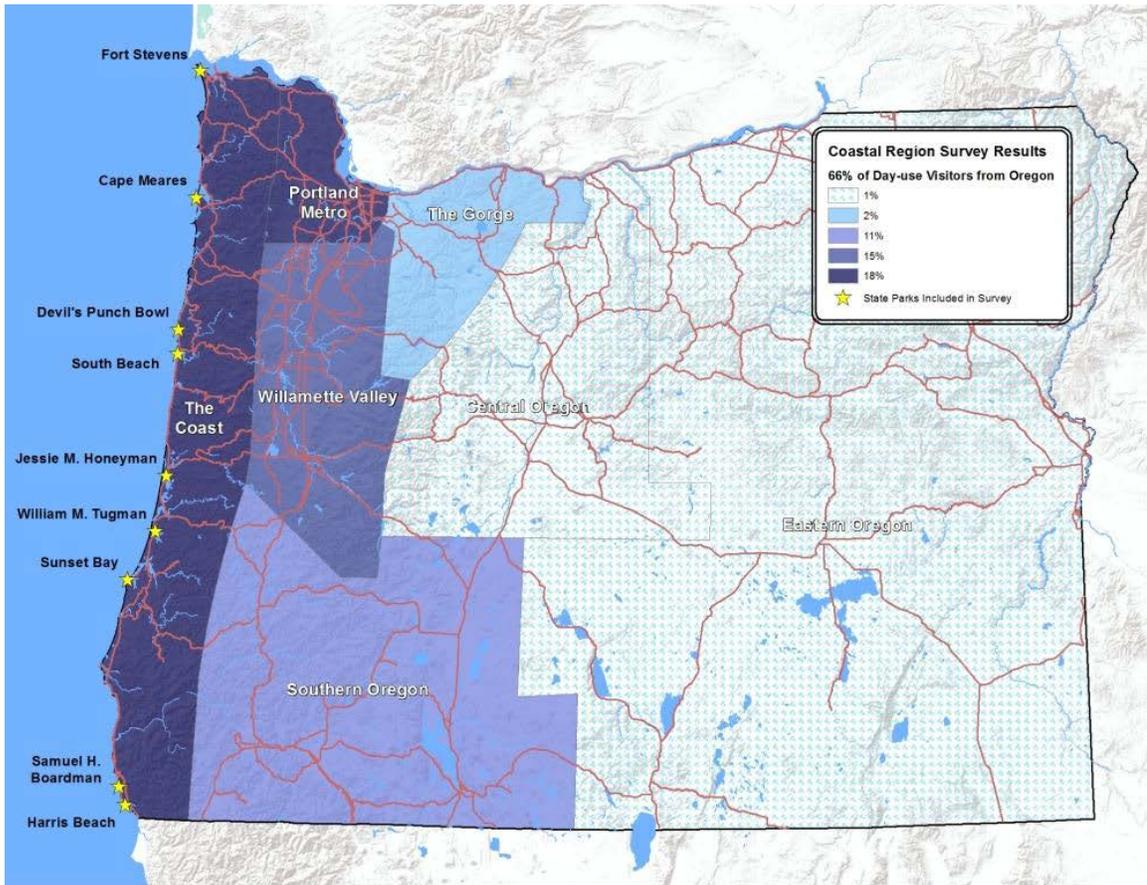
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APPENDICES

Appendix A. Oregon Parks and Recreation Department coastal region day-use areas



Appendix B. Oregon Parks and Recreation Department coastal region day-use areas

