

EMPLOYEE PERCEPTIONS OF PROTECTED AREA LAW ENFORCEMENT

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Abstract

It is widely accepted that criminal activity negatively impacts visitors' recreation experiences in the nation's parks and forests (Fletcher 1983). To further understand how law enforcement can effectively manage criminal activity in protected areas, this study was designed to describe law enforcement and non-law enforcement rangers' perceptions of a range of law enforcement issues. The data for this study were collected through a web-based survey of National Park Service full-time rangers and superintendents (n=527). Analysis indicated differing perceptions of crime and law enforcement in the parks among respondents with and without law enforcement experience. Also, results indicated a preference for harder (arrest and citation versus educational) levels of enforcement among rangers employed at parks closer to urban areas. These results seem to agree with literature in both the recreation field and the law enforcement field in terms of the relationship between urban encroachment, crime, and law enforcement on protected areas.

1.0 Introduction

The decisions faced by land agencies during much of the last century focused on facility development and resource protection. Over the past thirty years, land-agency policy expanded to include the management of visitor behaviors, recreation and educational programming, and visitor safety. Presently, there are many issues facing the country's parks, forests, and preserves, one being safety and law enforcement. After the events of September 11, 2001 there has been a decline in number of visitor days at some parks and forests; however there has been an increased demand for safety. In turn, the need to

understand security issues, crime, and law enforcement has become even more important.

Criminal activity in protected areas (land maintained by federal, state, local, and non-governmental agencies for the purposes of resource protection and recreation) is on the rise. "Such [activities] can have adverse psychological effects on visitors, as well as major impacts on organizational budgets" (Gramann, Bonifield, & Kim 1995, p. 31). Fletcher (1983) and Coble, Selin, & Erickson (2003) all indicate that as visitors' perceptions of fear of criminal activity increase, visitors will stop using an area or modify their use. To ensure visitor safety and a decrease in perceptions of crime, law enforcement has had to become more of an integral part of resource management (Heinrichs 1982).

Research into law enforcement has been an understudied area in public land management agencies, including the United States National Park Service (NPS). To better understand the needs of law enforcement in protected areas, relevant literature was reviewed and conversations were held with NPS and US Forest Service rangers and management. From these conversations the following theme arose: there is a need to understand the differing perceptions of administrative management and law enforcement rangers. The purpose of this research is twofold. First, the study seeks to understand if perceptions of park rangers with law enforcement experience are different from those rangers without law enforcement experience on a range of law enforcement management issues. Secondly, this study describes the relationship between proximity of a National Park unit to an urban area (population greater than 75,000) and the level of enforcement advocated by rangers in that unit. Level of enforcement is operationalized as either hard enforcement (arrests and citations) or soft enforcement (educational).

2.0 Related Research

2.1 Recreation and Crime

It could be assumed that crime and recreation are not strongly related in any manner. However, Pendleton (2000) writes "the meaning of crime and the meaning

of leisure are determined by interactions between people and between people and the settings in which they find themselves” (p. 113). The interaction between people and crime is the basis of many studies on visitor perceptions of safety and how those perceptions change visitors’ behavior. Fletcher (1983) found that crime impacts an individual’s recreation in the following ways: “(1) . . . actual and perceived safety and security problems appeared to affect negatively the use and enjoyment of parks; . . . (2) safety and security concerns were reasons for reduced use and enjoyment of the parks by a minority of those users interviewed . . .” (p. 34). The mechanisms involved in creating the negative impact of crime on recreation are many. The literature cites two main constructs linking crime and the recreation experience; constraints and Csikszentmihalyi’s flow experience. Crawford and Godbey (1987), Crawford, Jackson, and Godbey (1991), and Mannell and Kleiber (1997) have all indicated that fear can be a constraint to leisure participation. Likewise, the flow experience, which matches skill level and challenge of experience over time to create satisfaction, may also be affected by perceptions of crime and safety. For example, if recreationists perceive crime to be a problem to be overcome during the recreation experience they may question their ability to negotiate the perceived dangers inherent to crime (Coble, Selin, & Erickson 2003).

Although crime has negative impacts on recreation, the techniques used to deter criminal behavior may also have an indirect impact on recreation. “On the one hand is the need to maintain law and order in the park. On the other is the need to recognize law enforcement practices may negatively and unfairly impact the average visitor” (Philly & McCool, 1981 p. 367). In 1982, Lucas indicated rules and recreation are in conflict when freedom of choice is considered. Perceived freedom is a main tenet of recreation, however regulations limit that freedom. Clearly, both criminal behavior and management techniques designed to limit said behavior create impacts on all visitors.

2.11 Crime in Protected Areas

Crime is the largest facet of depreciative behavior that occurs in protected areas. Some crimes involve the area itself, a specific resource, or a group of people. Many

crimes are not specific to just protected areas. Drugs, gang activities, assaults, theft, disorderly conduct, weapons violations, etc. all occur in both urban and protected areas (Chavez & Tynon, 2000). However, there are certain crimes that occur mostly in protected areas or are modified because they occur in such an area (e.g. illegal camping, poaching, and tree theft). Elements of these crimes are dependent on a specific resource or the protected area as a whole (Philly & McCool 1981; Forsyth, Gramling, & Wooddell 1997; Gramman & Vander Stoep 1987).

Beyond describing crime in protected areas, there is a literature that addresses the rate of crime in these areas and the effect it has on the agency. Chavez and Tynon (2000) report that “it appears [that] acts of criminal activity and domestic terrorism [in protected areas] are on the increase and it is time to study them further” (p. 407). The apparent increase in crime is having a negative impact on agency managers, visitors, and the resources.

2.12 Perceptions of Crime in Protected Areas

Chavez and Tynon (2000) indicate there is a lack of public awareness of crime on U.S. national forests. Dunham and Alpert (1997) indicate the public believes crime is progressively getting worse even though it is not. Among employees, Philly and McCool (1981) found crime rates were not highly associated with perceptions of crime or law enforcement practices. They found that managers with law enforcement experience may perceive crime with a greater intensity and more seriously than those who have not held a law enforcement position.

Where do these perceptions originate? Philly and McCool (1981) indicate sources such as gossip, hearsay, educated guessing, and law enforcement experience. Regardless of the basis for crime perceptions, they exist and have been found to be correlated with a number of factors. Philly and McCool found, among National Park Service managers, perception of the amount of serious crime is positively correlated to the number of vandalistic acts reported in the park.

2.2 Law Enforcement Perceptions and Techniques

Literature describing employee perception of law enforcement varies greatly in topic, but is centered on the

differing perceptions of various groups of employees. The first area of research indicates that many law enforcement officers feel that only fellow officers can judge them. Hence, Dunham and Alpert (1997) report officers do not like citizen review boards or the thought of a non-law enforcement officer critiquing them. Officers feel that 'outsiders' cannot judge the "split second decisions" and "chaotic moments of action" police must make (p. 90).

Even within the law enforcement community there are two groups with differing perceptions: sworn officers and non-sworn personnel. Sworn officers often fail "to recognize that both operations and support are 'real police work'" (Hunter, Barker, & Mayhall 2004, p.105). This perception may cause conflict between sworn officers who are primarily in the operations division of an agency and non-sworn who provide essential support functions. Harris and Brown (1972) found a significant difference between U.S. Forest Service supervisors and rangers they supervised on attitudes towards various law enforcement tasks. They stated this difference may be responsible for conflicts between employees. Lastly, they indicate that variables such as tenure of employment, law enforcement experience, and other demographics did not have a significant effect on rangers' perceptions of their responsibilities.

Besides perceptions of law enforcement, the techniques that law enforcement employs to deter crime is an important area of the literature. The plethora of different crimes, with a variety of victims and negative impacts, that occur in protected areas are committed with a wide range of motivations and behaviors. Hence, a wide range of law enforcement tactics must be employed to combat the multifaceted nature of crime. In general, there are two groups of options officers can use, which can be labeled either as soft enforcement or as hard enforcement.

Soft or "low key" (Charles 1982; Carroll 1988) enforcement are tactics to reduce criminal activity with various forms of communication rather than the use of tickets, citations, and arrests. "Soft enforcement encourages compliance through informal methods of education, prevention, and community relations" (Pendleton 1998a). Specifically, a soft approach prompts visitor behavior through physical design, monitoring

and improvement of safety conditions, and visitor cooperation (Jubenville, 1978). For example, Swearingen and Johnson (1995) found the presence of a ranger curtailed off-trail hiking in Mt. Rainier National Park.

In contrast, hard enforcement includes formal sanctions such as ticketing, arrests, and/or stern warnings (Pendleton 1998a). "This is equated by the public with the typical police action of most city police forces; however, it is absolutely necessary in light of the many deliberate law and regulation violations within most park and recreation areas" (Jubenville 1978, p. 215). Since hard enforcement may hamper an enjoyable park experience, protected area managers have encouraged soft enforcement when appropriate (Lukas 1999).

Recently, with an increase in crime in the nation's parks (Pendleton 1997, 1996) there has been a growing shift away from soft enforcement. As early as 1982, Heinrichs indicated that some managers felt that "low-caliber authority" may not be enough to handle the increasing threat of crime. The increase in crime has motivated managers to look for professional law enforcement personnel who are not afraid to use hard tactics against criminal activity (Shore 1994; Pendleton 1998b).

3.0 Methods

3.1 Study Area, Population, and Response Rate

The data were collected via a web-based survey in early March, 2005, with 3,023 full-time National Park Service rangers and superintendents contacted via email to participate in the study. 527 individuals returned a completed survey and 94 of the email addresses were determined to be invalid (effective N=2,933). Thus, a response rate of 18.0 percent was achieved.

3.2 Survey Instrument

The instrument used to survey the NPS employees was a web-based questionnaire. A web survey was chosen because it was determined to be the most appropriate way of contacting individuals across all States and territories of the United States. Furthermore, Dillman (2000) indicated that response rates and response validity is similar or better than a paper mail survey when dealing with a population that has complete email and world-wide web access as does the population in

Table 1.—Association between the perceptions of the effects of criminal activity and law enforcement experience (n=520)

Item	df	χ^2	p	λ
Is criminal activity a problem in the unit in which you are employed?	2	53.33	<0.001	0.12
Are you impacted by criminal activity in your day to day work routine?	2	72.72	<0.001	0.06
Is the visiting public aware of the extent of the criminal activity?	2	33.39	<0.001	0.04

this study. The instrument was designed by the research team based on the relevant literature and conversation held with personnel in the Law Enforcement and Emergency Services Office of the National Park Service. The instrument was reviewed by an expert panel of law enforcement officers. After the individual items of the instrument were designed the instrument was then formatted to be used with Web OnQ (a web survey software package developed by the Sociology Department of Clemson University).

4.0 Analysis and Results

The sample consisted of 527 usable surveys which were returned electronically through the world-wide web. About two-thirds of the respondents were male (n=342, 68.4%). The mean age was 44.3 (sd=9.2) with a range of 23 to 65 years of age. The length of employment with the National Park Service ranged from less than one year to over 40 years, with a mean of 18.2 years (sd=8.9). Almost three-fourths of respondents (n=372, 71.7%) had full-time law enforcement experience within the National Park Service. Over three-fourths (n=404, 76.66%) of the rangers surveyed currently worked in parks within a hundred miles of a metropolitan area of 75,000 persons or more. In summary, the respondents were predominantly male, in the middle of their National Park Service careers and worked in park units within a couple hours of an urban area. Many have had law enforcement experience.

4.1 Differing Perceptions of Law Enforcement

To test for differing perceptions between law enforcement and non-law enforcement rangers, two tests were used. Pearson Chi-Square was used to test the association between law enforcement experience and dependent variables with nominal and ordinal levels of measurement. Lambda (λ) and gamma values were

also calculated to indicate the measure of association identified by the Chi-square test. Lambda was calculated when the dependent variable was nominal. Gamma was calculated when the dependent variable was ordinal. An Independent-Samples t-test was used to test for the differences between law enforcement experience and dependent variables with interval and ratio levels of measurement.

The association between dependent variables concerning criminal activity and the independent variable of law enforcement experience (whether or not the respondent had any law enforcement experience) is recorded in Table 1. Results indicate there was a moderately ($\lambda = 0.12$) statistically significant association ($\chi^2_{df=2}=53.33$; $p<0.001$) between law enforcement experience and perceptions of criminal activity as a problem in the respondent's park unit. Law enforcement rangers indicated that criminal activity was a problem more than non-law enforcement rangers. Furthermore, there was a significant association ($\chi^2_{df=2}=72.72$; $p<0.001$) between law enforcement experience and perceptions of the daily impact of criminal activity on the respondent's work. Thus, law enforcement rangers perceived impact by criminal activity more often than non-law enforcement officers. This association was weak ($\lambda = 0.06$). Lastly, Table 1 indicates there was a very weak ($\lambda = 0.04$) significant association ($\chi^2_{df=2}=33.39$; $p<0.001$) between law enforcement experience and perceptions of the visiting public's awareness of criminal activity. Law enforcement rangers felt that the public was more aware of crime than did non-law enforcement rangers.

Table 2 reports the mean differences in perceptions of law enforcement issues between those with law enforcement experience and those without. There were significantly different means between the two groups for

Table 2.—Mean differences of perceptions of law enforcement issues between those with and without law enforcement experience (n=506)

Item	Law enforcement experience		df	t	p
	No	Yes			
<i>Training:</i>					
Law enforcement rangers should have in-service training	5.94	6.27	482.00	-2.19	0.030
Law enforcement rangers require a high level of training	6.19	6.71	147.43	-4.00	<0.001
Law enforcement employees are adequately trained	4.91	4.46	268.17	2.70	0.007
Law enforcement rangers are best supervised by other law enforcement officers	4.58	6.08	197.60	-7.73	<0.001
Law enforcement rangers have a dangerous job	5.86	6.36	221.75	-3.44	0.001
<i>Equipment and funding:</i>					
Law enforcement is adequately funded as compared to other divisions in the park	4.80	3.23	273.21	8.09	<0.001
Law enforcement is adequately equipped to perform their duties	4.62	3.61	265.23	5.24	<0.001
Visitors can distinguish between law enforcement and non-law enforcement rangers	3.33	3.54	488.00	-1.00	0.320
<i>Management:</i>					
Law enforcement rangers are held responsible for their actions	5.58	6.07	221.87	-2.82	0.010
Superintendents are held responsible for law enforcement actions	5.31	4.74	307.63	3.04	0.003
Law enforcement rangers don't have a good understanding of management concerns	3.70	3.36	484.00	1.76	0.080
Law enforcement rangers believe management does not understand law enforcement conditions	4.92	5.39	482.00	-2.49	0.010
<i>Interaction with the public:</i>					
Law enforcement rangers should be educators, not enforcers	4.51	4.06	497.00	2.38	0.020
Law enforcement rangers should use the 'authority of the resource' not the 'authority of the government agency'	4.95	4.22	299.96	4.33	<0.001
Law enforcement rangers should always write citations whenever violations are observed	3.67	3.73	479.00	-0.32	0.750
Visitors with legitimate reasons for violating a rule or regulation should be given leeway	4.36	4.19	486.00	0.92	0.360
Discretion, in using education versus formal sanctions, is an important part of law enforcement	6.41	6.48	396.00	-0.65	0.520
<i>Status:</i>					
Law enforcement rangers feel under-valued.	4.65	5.25	485.00	-3.06	0.002
Law enforcement rangers have a heavier workload than non-law enforcement employees	3.05	4.10	490.00	-5.36	<0.001
Law enforcement rangers are treated more preferentially by managers in comparison to other employee groups	4.31	3.42	275.57	4.52	<0.001

¹Means based on a 7-point agreement scale, where 1=strongly disagree, 4=neither disagree/agree, and 7=strongly agree

*Indicates that variances were not homogeneous, thus statistics for non-homogeneous variances used

the following variables: in-service training ($t=-2.19$, $p=0.030$); high level of training ($t=-4.00$, $p\leq 0.001$); law enforcement are adequately trained ($t=-2.70$, $p=0.010$); law enforcement supervised ($t=-7.73$, $p\leq 0.001$); dangerous job ($t=-3.44$, $p=0.001$); adequately funded ($t=8.09$, $p\leq 0.001$); held responsible ($t=-2.82$; $p=0.010$); superintendents held responsible ($t=3.04$, $p=0.003$); management not understand law enforcement ($t=-2.49$, $p=0.010$); educators not enforcers ($t=2.38$, $p=0.020$); authority of resource versus agency ($t=4.33$, $p\leq 0.001$); under-valued ($t=3.06$, $p=0.002$); heavier workload ($t=5.36$, $p\leq 0.001$); and preferential treatment by managers ($t=4.52$, $p\leq 0.001$). There were no significant differences between the groups concerning the variables involving discretion, leeway, always write citations, understanding of management, and distinguished from other rangers. Hence, for a majority of the variables tested and reported in Table 2 there were differences between law enforcement rangers and non-law enforcement rangers.

Overall, the results support a difference in the perceptions of law vs. non-law enforcement NPS personnel. Although, there was not a difference found in all the comparisons, most of the variables tested were significantly different between rangers with and without law enforcement experience. However, those variables that were found not to have a significant difference were not specific to a single topic. This would indicate that although there may be no difference on some points of a certain issue, overall there are different perceptions between rangers with law enforcement experience and rangers without law enforcement experience.

4.2 Relationship Between Urban Proximity of Park and Level of Enforcement

The objective to identify the effect of a park's proximity to an urban area on the level of enforcement advocated by the park's employees would be was tested using one-way analysis of variance (ANOVA) to test for statistically significant differences in the means. A Tukey's post hoc test was performed to identify where specific differences between the groups of the independent variable exist.

Table 3.—Differences among distance categories concerning level of enforcement (n=508)

Distance of park from urban area	n	Enforcement level*	
		Softer	Harder
200 miles and over	54	4.60 ^a	
100 to 199 miles	69	4.79 ^{a,b}	4.79 ^{a,b}
50 to 99 miles	111	4.84 ^{a,b}	4.84 ^{a,b}
25 to 49 miles	86		5.09 ^b
Under 25 miles	188		5.06 ^b

$F=3.52$, $p=0.01$; $\eta^2=0.03$

^{a,b} Means with different superscripts indicate a statistically significant difference $p\geq 0.05$

* Higher means indicate agreement to harder levels of enforcement

The independent variable used was distance from park to an urban area (75,000 people or more). The dependent variable was level of law enforcement. This variable was created by forming a composite score of the twelve items regarding level of enforcement. The scale for this variable was: 1 was equal to "strongly disagree;" 4 equaled "neither disagree/agree;" and 7 was equal to "strongly agree." Each item in the composite was written as to represent perceptions of a hard level of enforcement. Hence, the higher the mean value for each item and for the composite score the harder the level of enforcement that respondent agreed with. To test for the reliability of the composite variable, a Cronbach's Alpha was calculated to measure the scale's internal consistency. The Cronbach's alpha for composing the variable was $\alpha=0.86$, indicating a high internal consistency.

There was a statistically significant difference ($F_{df=13, 487}=3.52$; $p\leq 0.008$) in level of law enforcement among the distance from park to urban area categories (Table 3). As indicated in the table the level of enforcement at park units over 200 miles from an urban area ($\bar{X}=4.60$) was statistically significantly different from park units that were 25 to 49 miles from an urban area ($\bar{X}=5.09$) and park units fewer than 25 miles from an urban area ($\bar{X}=5.06$). The other distance categories were not statistically different from each other. Hence, in general, as rangers work in a park unit closer to an urban area with over 75,000 people they are more likely to agree with a harder level of enforcement.

The results of the ANOVA that was used to test the second objective indicated that proximity of the park unit to a metropolitan area over 75,000 persons was related to the level of enforcement that respondents perceived occurred in the park unit. The closer the park unit was to the urban area the harder the enforcement level preferred by rangers.

5.0 Discussion

The purpose of the present study was to understand the differing perceptions of law enforcement administrative management and the duties, practices, and responsibilities of law enforcement rangers. While the limited research on this topic has focused on impacts of crime on the visitor experience or on protected area managers, the present study is unique in that its focus was on law enforcement and its management through the perceptions of both law enforcement rangers and rangers with no law enforcement experience.

The first research question was to determine the differing perceptions of law enforcement duties, responsibilities, and practices between those with law enforcement experience and those without. Data showed there was a difference, furthermore, this finding supports previous findings by Philley and McCool (1981) in their study of National Park Service superintendents, by Harris and Brown (1972) in a study on U.S. Forest Service rangers, and by researchers who have focused on general law enforcement research. Connecting the previous research, the present study, and the literature regarding the characteristics of the law enforcement sub-culture may help explain why these differences were found. Dunham and Alpert (1997) stated that law enforcement officers are hired for their homogeneity and adherence to norms. Furthermore, Hunter, Barker, and Mayhall (2004) indicated that new law enforcement officers are socialized into the values of the police sub-culture. Thus, it is not unfounded to posit that one of the reasons law enforcement rangers hold different perceptions than those of rangers without law enforcement experience may be because law enforcement officer's perceptions are shaped by their homogeneous personality traits which are reinforced by socialization.

Another partial explanation for the results of the first objective may be a familiarity bias. It has been found that law enforcement officers are more aware of the criminal activity around them because they deal with it and the people who commit it everyday (FVTC 1990). This may help explain the differences in perceptions regarding the occurrence of certain crimes, groups of people who cause problems, and even the techniques used to deter crime. This may be another area for future research.

The second research question suggested that the level of law enforcement used in a park unit is related to the distance the park unit is from a metropolitan area which has a population greater than 75,000. Data supported the notion that the closer a park was to an urban area the harder the level of enforcement advocated by the park's rangers. The results of the second objective can also be interpreted in light of previous research. Chavez and Tynon (2000) have done extensive research on the impacts of urban encroachment on federally protected land, finding that with urban encroachment comes an increase in crime. Furthermore, Shore (1994) and Pendleton (1998b) found that harder levels of enforcement are used as occurrence of crime increases. Logically, it follows that urban encroachment causes an increase in crimes in a protected area which in turn increases the level of enforcement technique used by law enforcement officers. Clearly, further research is needed to test these relationships; however, the present study and previous research provide a good foundation for this idea.

Further research is also needed to identify the other variables that influence the level of enforcement used in dealing with rule and law violations. Dunham and Alpert (1997) indicate that certain crimes may encourage different levels of enforcement. Furthermore, Philley and McCool (1981) posit that the level of enforcement each law enforcement ranger uses in their park unit is affected by the attitudes of their park superintendents. Also, Harris and Brown (1972) indicated that increased visitor days contribute to differing perceptions and management preferences of Forest Service rangers. A study is needed testing whether level of law enforcement technique is a function of proximity to an urban area or because of

increased visitor use, or it is a mixture of both. More research is needed to identify the variables associated with level of enforcement.

6.0 Conclusion

Law enforcement and security in protected areas has become an important concern to federal land managers. In an effort to better understand the relationships between law enforcement, crime, and protected areas this study examined National Park Service ranger perceptions of law enforcement in park units. It is necessary to better understand how these topics relate to each other and the visitor experience. A thorough understanding of law enforcement will contribute to the existing research on this topic and provide a basis for further research.

This study provided information to both researchers in the field of recreation resource management and to the managers who make decisions within protected areas. Results indicated that there are differing perceptions of crime and law enforcement duties, responsibilities and practices among law enforcement rangers and non-law enforcement rangers. Also, the study indicated that the closer a park is to an urban area the more likely rangers are to use harder levels of enforcement in handling and deterring crime.

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