

EVALUATING USER IMPACTS AND MANAGEMENT CONTROLS:

IMPLICATIONS FOR RECREATION CHOICE BEHAVIOR

Harriet H. Christensen and Nanette J. Davis

ABSTRACT: This paper describes potential factors affecting recreation choice behavior. Freedom and lack of constraints are experiences frequently sought by recreationists. Data in the paper are based on questionnaires completed by agency managers and informal conversations with users in the Mount Rainier area of Washington State. Managers' and users' perceptions of impacts such as vandalism, theft and littering, and social control practices are described for developed and semi-developed campgrounds. A framework illustrates the recursive nature of deviance and social control. Implications of impacts and regimentation practices for influencing choice of recreation settings are discussed.

INTRODUCTION

Demand for recreation opportunities in natural settings continues to grow. Recreation use on National Forest lands during fiscal year 1983 numbered 228 million recreation visitor days; 78 percent of this use occurred in the western States and Alaska (U.S. Department of Agriculture, Forest Service 1984). Only one-third of this use is in improved locations; the remainder is found throughout undeveloped forest lands. At these areas, users can view wildlife, sightsee, camp, hike, picnic, hunt, fish, ride horseback, canoe, raft, ride off-road vehicles, and take part in many other outdoor activities. These opportunities are found throughout the 191 million acres of National Forest land, 87 percent of which is located in the West, and on other public lands, also located primarily in western States.

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Harriet H. Christensen and Nanette J. Davis, respectively, Research Social Scientist, USDA Forest Service, Pacific Northwest Forest and Range Experiment Station, Seattle, WA., and Professor, Department of Sociology, Portland State University, Portland, OR., and Visiting Professor, Western Washington University, Bellingham, WA.

Several studies have addressed the kinds of experiences people desire in natural environs--wilderness use, Hendee and others 1978; snowmobile use, McLaughlin and Paradise 1980; river running, Schreyer and Roggenbuck 1978; off-road vehicle use, Watson and others 1980; developed camping, Clark and others 1971; and dispersed use, Clark and others 1984. Satisfactions expected by users include experiencing natural environs that are largely unaltered by human use, feeling free and independent, and escaping adverse conditions such as noise, unsafe areas, and pollution. (For an extensive discussion on motives and experiences desired, see Knopf 1983).

Recreation choice behavior in this paper refers to factors that may influence recreationist's decision making and choice of recreation setting. The issue of recreation choices has become more important. We have reached a turning point in recreation management because of increased use and the need for more astute management practices to deal with the many problems of congestion, vandalism, and reduced budgets of forest management. What needs to be known is how people make choices and to what degree impacts and regimentation affect those choices.

This paper has three objectives: (1) to identify user impacts, such as vandalism and theft, and to discuss possible influences they have on recreation choices users make, (2) to identify the possible negative effects of social control and regimentation on user choice behavior, and (3) to propose a theoretical model for future empirical research. Specifically, we will discuss managers' and users' perceptions of impacts; for example, illegal entry of personal vehicles, a stolen camp stove or sleeping bag, and other depreciative behaviors. Second, we will look at users' and managers' perceptions of regimentation, such as enforcement practices. Finally, we will present a control model that summarizes the recursive nature of depreciative behavior in some instances, and how impacts and control practices can produce unanticipated results in terms of possible effects on recreation choice behavior.

Throughout the paper we draw on the Recreation Opportunity Spectrum model (ROS). Inherent in the ROS is the assumption that opportunities include activities such as camping and hiking; settings that encompass physical, social, and managerial environments; experiences such as freedom, solitude, adventure, and socializing with people; and benefits such as improved health. The ROS model posits that a wide range of choices is available to users with multiple types of activities and experiences possible. Two elements of the opportunity spectrum--level of visitor impacts and level of regimentation--will be used in this paper to speculate on how users define available recreation choices (Clark and Stankey 1979, Driver and Brown 1978).

VALUES, IMPACTS, AND SOCIAL CONTROL

Available findings on users' expectations reveal a variety of values. As regimentation increases, we, in research, increasingly need to consider freedom, quality experience, and security (or absence of victimization) as crucial values in the outdoor experience. Quality experiences are expected by users in the outdoor environs. Recreational enjoyment as an aspect of quality entails an absence of threats from vandalism, theft, and litter. Kinds of deviance that may be distracting include rest rooms with heavy graffiti, theft of a backpack or wallet, or breaking and entering a vehicle at a trailhead. Yet we know there is discrepancy between values and behavior (Clark and others 1971). With litter, for example, we believe it is inappropriate to litter, yet we do it anyway (Clark and others 1972, Heberlein 1971). Therefore, we need to monitor choices of behavior actually made rather than rely totally on what users say about their behavior.

Freedom and security are two primary qualities of the recreation experience that users expect. In fact, the nature, extent, and level of control over use are factors that characterize various recreational opportunities. Control measures range from subtle techniques, such as barriers for traffic control (a form of site design) and providing information to users, to more authoritarian kinds of control, such as law enforcement. The state of the art on social control is not advanced: dichotomies such as direct versus indirect, manipulative versus regulatory, or coercive versus benign approaches have been addressed in the literature (Christensen and Davis 1984, Fish and Bury 1981, Hendee and others 1978).

In dispersed areas, one of the values appealing to users is the lack of regimentation and control found with other kinds of recreation; this value was reported by nearly two-thirds of the campers in three dispersed areas in the Pacific Northwest (Clark and others 1984). Most of the dispersed area users who had been returning to the same location for about 6 years agreed that being free to alter campsites to meet their own needs--by setting up tables or building fire rings,

for example--was important. A sense of security is also important. Nearly 75 percent of campers and day users in this study reported feeling safe although they expressed a desire to be kept informed by recreation managers of potential dangers such as unsafe drinking water, poisonous snakes, and dangerous roads.

Similar results are found in the Downing and Moutsinas (1978) study of dispersed, roaded forest land users in the Pacific Northwest. Users want the opportunity to "do their own thing." They prefer little development and value privacy, freedom, and peace and quiet (Downing and Clark 1979).

Certainly freedom and security are values also expected in wilderness areas; however, they may take on a different meaning by wilderness users than users of dispersed or developed recreation areas. Some studies on wilderness user attitudes have shown support for trailhead registering, wilderness rangers patrolling the backcountry, some regulation of areas, willingness to accept more controls, and so forth. Charging entrance fees and assigning visitors to campsites are not favored by wilderness users (Lucas 1980; Stankey 1973, 1980).

Researchers do not know much about users' interpretation of freedom and constraint in outdoor recreation settings. Some users may arrive at an area; expect rules, official contact, or visibility of the ranger; and feel the absence if the controls are not present. Dissatisfaction and reaction may occur. Inappropriate social control may thus lead to dissatisfaction with the recreation experience: some users may desire and expect fairly comprehensive and explicit regulations, some may prefer no regulations. We do not know how much is too much and how little is too little in different settings or what effects these have on recreation choice behavior. Intrinsically, wilderness implies fewer controls and controls that are more subtle and benign in nature compared to those for other areas. In fact, we do not know if there are fewer rules in wilderness than in dispersed areas. Many policies govern practices in wilderness areas--these include policies on minimum impact hiking and camping, fire rings, and wood fires.

By contrast, developed settings for overnight or day use have many rules and regulations and expectations by the managing agency. Clark and others (1971) found that users of such areas expected to enjoy tranquility and solitude but did not seek exclusion from neighboring campers. Furthermore, campers reported that their recreational experience was not reduced by the presence of additional rules and regulations, sound of other campers talking and singing, or people bringing city conveniences to the campgrounds.

Freedom and security to people in developed settings may mean something quite different than freedom and security in the wilderness, backcountry, or dispersed areas. Lee (1972)

suggests that the everyday normative constraints are still present during some leisure behavior but perhaps operate at a low level of awareness. Users in developed settings still experience traffic constraints and prohibition of dogs off leash, for example, but not to the degree they do in the urban setting.

People recreate in different developed settings depending on their social group, their experiences, and their preferences for specific activities. If regimentation and official intervention exceed their expectations of appropriate control, dissatisfaction and, in some instances, reaction will occur. Reaction may include displacement and selecting other locations and opportunities for recreation where regimentation is less and more appropriate "in the eyes of the beholder" (Clark and others 1971). Reaction may also entail deviance: rulebreaking, theft, and vandalism. The question we pose is, "What are users' expectations of legitimate social control practices and policies over the use of space and social organization?"

METHODS

To study the magnitude and dynamics of vandalism and other types of depreciative behavior, we have drawn data from two sources: questionnaires completed by agency managers and informal conversations with users in the Mount Rainier area of Washington State.

Managerial data are based on a comprehensive multi-agency survey conducted during autumn 1982. Agencies participating in the assessment included the U.S. Department of Agriculture, Forest Service; U.S. Department of the Interior, Fish and Wildlife Service, National Park Service, and Bureau of Land Management; and the U.S. Army Corps of Engineers. The census was conducted of managers working at various administrative levels in recreation or resource management, law enforcement, planning, maintenance, and cultural resource management in California, Oregon, Washington, and Alaska. Total questionnaires mailed numbered 667 with an overall return rate of 90 percent. For this paper, we extrapolated the responses of 36 managers in the Mount Rainier area to compare with values of users in the same region.

Informal contacts were made with users in Mount Rainier National Park and Mount Baker-Snoqualmie National Forest. Specific sites chosen for study were a Park campground and a range of day use and overnight recreation sites along a 30-mile stretch of Washington State Highway 410 northeast of the park. Study sites included: White River Campground, developed campground managed by the National Park Service in Mount Rainier National Park; Dalles and Silver Springs, two semi-developed campgrounds; and Greenwater drainage, a dispersed recreation area in the Mount Baker-Snoqualmie National Forest. Each study area was visited during two or three weekends throughout the summer of 1980

according to a predetermined systematic schedule. Forest Service researchers unobtrusively circulated throughout the recreation areas, reaching as many people as were available and engaging in informal and open conversation with users at their campsite. The resulting sample was non-random and did not represent all users at these specific sites. Given the exploratory and qualitative nature of the study, however, the sample was considered sufficient to identify the range of issues of concern to users and users' responses. Contacts with users were unstructured, thus users had an opportunity to express their feelings and judgments in a manner that did not restrict responses yet allowed for comparability between them.

A brief summary of users' and managers' characteristics is given in table 1. Four Federal natural resource agencies are represented in the sample of managers from the Mount Rainier area. Duties were described earlier in the paper. Most managers were in their present job for six years and had management and administrative responsibilities.

Table 1.--Selected characteristics of users and managers in the Mount Rainier Area

Study Participant	Percent (Number)
Users:	
Location where contacted--	
National Forest	63 (121)
National Park	37 (70)
Total	100 (191)
Approximate age--	
Under 18	1 (1)
18-30	27 (52)
31-50	50 (95)
Over 50	22 (42)
Total	100 (190)
Sex of user group--	
Male only	34 (64)
Female only	20 (39)
Male and female	46 (88)
Total	100 (191)
Number of visits to area--	
First visit	40 (53)
Once before	19 (26)
2-3 times before	17 (22)
4 times or more before	24 (32)
Total	100 (133)
Managers:	
Agency represented--	
Forest Service	69 (25)
National Park Service	3 (1)
Fish and Wildlife Service	8 (3)
Corps of Engineers	20 (7)
Total	100 (36)
Major duty of job--	
Management/administration	54 (19)
Law enforcement	6 (2)
Planning/evaluating	8 (3)
Combination of above	23 (8)
Other	9 (3)
Total	100 (35)
Other characteristics--	
Mean of 6 years at this position	(35)
Mean of 6 years assigned to this recreation area	(34)
Mean of 10 years working in any recreation area	(34)
	(103)

The 191 users represented a mix of male and female visitors. The age distribution reflects the observer's estimate of the user's age and is accurate only as a general indicator. These users were primarily from western Washington; however, their history of previous visitation indicated a wide variation in the amount of past experience they had with the specific recreation location in which they were contacted.

MANAGERS' AND USERS' PERCEPTIONS

The perception data presented in this paper offer a beginning to understand choices users' make (Worchel and Cooper 1983, p. 524): different perspectives lead to different perceptions about what is available. This means that differences between managers' and users' perspectives relate to choices users make regarding recreation behavior. But as yet, we do not know to what extent these differences lead to changes in expectations users have or in choices users make.

Table 2 shows managers' and users' perceptions of problems in semi-developed and developed campgrounds in the Mount Rainier area. For a variety of reasons such as status, ideology, and function, there are major differences between users' and managers' perceptions regarding the seriousness of

the problems (Davis 1984). Taking semi-developed campgrounds, what is defined as "problems" for users--theft or vandalism of their equipment and conflict between users, is seen as even more problematical by managers, with a full 28 percentage point difference on the theft measure, 26 percentage point difference between managers and users on the vandalism issue, and a 41 percent difference on the conflict between users measure. Even more dramatic differences in perception between managers and users occur on issues of litter (58 percentage point difference) and rulebreaking (47 percentage point difference).

Turning to developed campgrounds, the data show similar disparities. Theft of users' equipment, an issue managers and users were divided on in semi-developed campgrounds is recognized as "somewhat" or "very much of a problem" by 90 percent of the managers but only 35 percent of users (55 percentage point difference). Vandalism of users' equipment, a problem articulated by only 39 percent of the users, was seen as "somewhat" or "very much of a problem" by 77 percent of managers. On the other measures, differences between the two groups remain sharply divided, with users trailing behind managers 55 percent on the litter variable, 44 percent on the rulebreaking measure, and 55 percent on the issue of conflict between users. Two conclusions have been drawn from these data. First, there are strong differences between users' and managers' perceptions regarding the seriousness of the problems. Managers indicate a far greater likelihood to perceive various impacts such as vandalism as a problem. For example, they have an entirely separate domain of concerns often unrelated to users' interests and needs. These differences suggest that rather than a presumed set of identical interests that are often said to prevail between managers and users, these two groups may have conflicting interests. Managers may set the general parameters for recreational opportunities, but to enable democratic choice by users, they must respond to users' specific interests and needs.

Second, social control and regimentation are invariably related to impacts. Regimentation, defined as the nature, extent, and level of control over recreational use, historically has had two modes. The literature has tended to contrast social control as polar opposites: direct versus indirect or coercive versus benign approaches (Christensen 1984, Christensen and Davis 1984, Hendee and others 1978). These dichotomous values, however, oversimplify the complex reality of social control for different recreational opportunities. Control practices vary across the recreational spectrum with more prevalent and possibly more coercive control

Table 2.--Managers' and users' perceptions of problems in semi-developed and developed campgrounds in the Mount Rainier area

Problem and Perception Group ¹	Semi- Developed Campground	Percentage Point Difference	Developed Campground	Percentage Point Difference
Percent (Number) ²		Percent (Number)		
Theft of users' equipment:				
Managers	71 (24)		90 (21)	
Users	43 (97)	28	35 (58)	55
Vandalism to users' equipment:				
Managers	67 (24)		77 (22)	
Users	40 (117)	26	39 (69)	38
Litter:				
Managers	88 (26)		86 (22)	
Users	30 (105)	58	31 (64)	55
Rulebreaking:				
Managers	73 (26)		77 (22)	
Users	26 (109)	47	33 (67)	44
Conflict between users:				
Managers	69 (26)		77 (22)	
Users	28 (107)	41	22 (59)	55

¹ The question in the instrument was "How important are each of the following problems in this recreation area? Possible responses for managers were "not at all," "somewhat," "very much," and "do not know." Values for managers reflect the sum of responses "somewhat" and "very much" of a problem. Users' responses were "a problem" and "not a problem." The managers' questionnaire was structured; informal conversations with users were unstructured. Because the nature of instrument construction was different in the studies, results are tentative and suggestive.

² Numbers in parentheses signify the number of responses from which the percentages were derived.

toward the developed end of the recreational spectrum. Recent research suggests that impacts also vary across the spectrum (Christensen and Davis 1984, Christiansen 1983). Thus, as use of various opportunities changes and as impacts increase, regimentation can also be expected to change.

How likely are managers and users to agree on what constitutes effective prevention and control strategies? Table 3 provides some tentative answers. At developed campgrounds, the differences in perspectives between the two groups are sometimes sharp. For example, 88 percent of the managers believe that maintenance of facilities is effective as a strategy for preventing impacts, but only slightly more than half the users agree. Yet there is extensive literature on the positive effects of maintenance on reducing depreciative behavior (Boston Parks and Recreation Commission 1978; Christensen and Clark 1979; Samdahl and Christensen, in press). Although there are sharp differences in perceptions on site design, education, and incentives and rewards, the fact that users lag behind managers about 20 to 35 percentage points, suggests that visitors perceive the recreational experience far differently than managers. Only in the use of stricter enforcement do we begin to see the gap between users and managers closing, with users 18 percent behind managers.

Table 3.--Managers' and users' perceptions about the effectiveness of various prevention and control strategies in the Mount Rainier area

Management Practice and Perception Group ¹	Semi- Developed Campground	Percentage Point Difference	Developed Campground (Rural)	Percentage Point Difference
	Percent (Number) ²		Percent (Number)	
Stricter enforcement:				
Managers	77 (26)		78 (23)	
Users	65 (96)	12	60 (50)	18
Education:				
Managers	88 (25)		90 (21)	
Users	60 (91)	28	68 (59)	22
Incentives and rewards:				
Managers	82 (22)		79 (19)	
Users	44 (77)	38	59 (44)	20
Site design:				
Managers	80 (25)		78 (23)	
Users	64 (67)	16	44 (34)	34
Maintenance:				
Managers	86 (28)		88 (24)	
Users	60 (60)	26	53 (32)	35

¹ The question in the instrument was "In your judgment, do you believe the following strategies would be effective in reducing problems that are occurring at this recreation area?" Possible responses for managers were "not at all," "somewhat," "very much," and "do not know." Users' responses were "effective" and "not effective." The managers' questionnaire was structured; informal conversations with users were unstructured. Because the nature of instrument construction was different in the studies, results are tentative and suggestive.

² Numbers in parentheses signify the number of responses from which the percentages were derived.

Shifting to the semi-developed campground, two variations from the developed campground emerge. First, there are substantial differences on all measures across the two opportunities. And, second, the directions of differences show two opposing patterns. On some measures, there is an even greater perceptual departure of users from managers. For instance, education is perceived by users as even less effective in semi-developed sites than in developed campgrounds; and users are half as likely as managers to assert the effectiveness of incentives and rewards.

On other measures, users are less divided over the effectiveness of specific strategies in semi-developed areas, as compared with developed sites. Again, law enforcement as a control strategy apparently is held in relatively high agreement by both managers and users, with users showing only a 12 percentage point difference.

In summary, these data point to the following conclusions: (1) there is greater disparity between managers and users on what constitutes a depreciative problem than on what to do about impacts; (2) the potential for conflicts between managers and users may be more pervasive regarding control practices than over users' potential or actual loss of quality recreation because of impacts; and (3) the failure of managers to communicate to users the rationale behind deploying strategies such as education, incentives, design, and maintenance may contribute to the incipient and unanticipated expansion of stricter law enforcement, which as these data suggest, both managers and users are more likely to agree is an effective control strategy. What this means is that this disparity between the two groups may be influencing managers' interaction with users in such a way that managers perceive users in negative ways; for example, as a cause of the problem. Furthermore, because managers see and experience more problems, they may promote negative interaction. Users, in turn, may respond negatively by withdrawal and deviance, thereby lessening the recreational experience. Our recursive model considers possible implications of this negative interaction.

RECURSIVE MODEL OF SOCIAL CONTROL

The apparent contradiction between freedom, the desired state for users, and constraint, the managers' mandate to protect property and resources, can be depicted using a recursive model. This model clarifies how mutually responsive elements in a system of interactions can produce unanticipated results. Such results occur when managers' perceptions of impacts are the sole or nearly exclusive source for defining a situation. In brief, the model shows the circular, or recursive effect of deviance: deviance may produce social control, the control may create negative reactions, reactions may increase the rate of deviance, and the deviance may contribute further to more control (fig. 1).

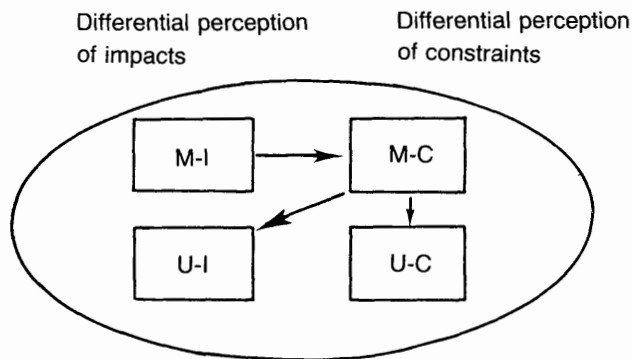


Figure 1.--Recursive model of social control. (M-I = managers' perceptions of impacts, U-I = users' perceptions of impacts, M-C = managers' perceptions of control, and U-C = users' perceptions of control.)

The differential perception of impacts by managers and users occurs because of different interests and needs of the two groups, and because the lines of communication between groups are absent or inadequate. Management thus develops an unshared definition of a problem, which becomes the sole or near exclusive definition of reality. Thus, fairly trivial impacts (for example, minor rulebreaking, simple graffiti and litter) may be interpreted by managers as more significant signs of the general breakdown of all rules. Despite the selective (and often distorted) definition, management puts pressure on the control system and on users to accept this definition of reality by instituting more rules and regulations (see Lemert 1972 for a discussion on adaptive control). Users' perceptions, where they disagree with managements' definitions, are either ignored or presumed to be identical with managers' views, and there is a general move toward the extension of control. Thus, external controls, such as law enforcement without users' consent have the paradoxical effect of creating social reactions, including a new round of rulebreaking by resentful, disgruntled, or excluded users. Displacement of users may also occur.

In this way the stage is set for increasing the credibility gap between authority and users with predictable consequences: users' reactions further generate management restrictions. Given this context, the recursive effect is inevitable. Increased constraints curtail users' margin of freedom and a rise in deviance leads to managements' further dependence on restrictive approaches to tighten security.

Specifically focusing on the model, the direction of the arrows indicates the direction of influence or dominance. Managers' perceptions of impacts

(M-I) obviously influence controls (M-C) they put into place. A recent example in a major urban area in the West began with rowdiness and vandalism (knocking down a few signs). Users were displaced by a few controls: removal of the parking slips, placement of "no parking" signs, and planters strategically placed around the area. Users' perceptions of appropriate controls (U-C) may be deemed irrelevant and may be ignored if they do not understand or agree with them. To avoid conflict, managers need to explain the rationale behind rules and practices. Legitimate feedback from users, rather than "catch as catch can," is also needed. Some users have more input than others in the establishment of policy and rules; for instance, wilderness users. The recursive model does not apply across the entire spectrum of opportunities; it is for developed and semi-developed campgrounds.

Similarly, managers' perceptions of controls (M-C) are imposed on users' definition of (U-I) possible sanctions if they were to break the rule. For example, a sign in Yosemite may read: "Please do not feed the bears." A user may feed the bear anyway even though they are aware of a fine if caught. Users' perceptions are affected by controls: they may lead to a greater feeling of safety or to the belief that users' freedom is curtailed. The model suggests users may not be heard regarding definitions of rulebreaking and appropriate controls. Users are guided by knowledge of sanctions and self management; constraints come from authority: "Can I park here?" "Can I have a fire here?" "Can I get firewood here?" Here, we are dividing social control between definitions and practices--the concepts, images, and language ("discourse"). Managers initiate a discourse based on the ideas and the images that users are rowdy, potential vandals, or deviants. This may lead to overreaction rather than to correct assessment of the recreational situation.

CONCLUSIONS

How can the recursive effect of the buildup of deviance and control in recreation settings be prevented? Given that this model points out the most negative potential outcomes between managers and users, how can freedom and constraint be balanced in this system? How can users' choices genuinely be respected in the recreational environment at the same time that managers must protect the public domain? The polar distinctions of freedom or constraint need to be amended to a unified conception of freedom and constraint, given the variety of different recreation opportunities. This requires alternative strategies of open communication, linkages between management and user groups, more dependence on informal and benign control practices, limited use of coercive controls, and other approaches that rely more explicitly on users' expectations. Such adaptive control suggests a greater opening for volunteerism and other user-centered approaches. The flexible system would adopt a variety of interventions (social control) useful for different

recreational contexts and would also integrate users at various points in the system.

Future research should address the extent to which certain types of environments, impacts, or controls encourage or discourage visits. The research should entail the kinds of conditions users find acceptable, including the forms of vandalism and regimentation that deter users from enjoying the full range of recreational opportunities and returning to formerly visited areas. In this proposed research, it should be imperative to clarify the users' perspectives in terms of what freedom and constraints mean in various settings.

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