A Comparison of Urban-Proximate and Urban-Distant Wilderness Users on Selected Variables

ALAN W. EWERT
University of Northern British Columbia
3333 University Way
Prince George, British Columbia, Canada V2N 4Z9

ABSTRACT / The underlying premise of this study is that wilderness areas attract visitors desiring or expecting different wilderness experiences. In this study, wilderness areas were dichotomized according to distance from a large urban center (urban-proximate vs urban-distant). Four wilderness areas in southern California were used as the study sites. Comparisons were made on selected attributes commonly associated with the wilderness experience. Differences were observed on a number of variables such as acceptable number and type of encounters with other visitors, management preferences, and preferred group sizes. The findings of this study are congruent with those from previous studies and suggest that distance to large urban centers may be a functional variable in explaining differences among selected wilderness attributes.

The purpose of this study was to determine if visitors to wilderness areas in close proximity to large urban centers significantly differ on a number of selected variables when compared to visitors to more remote wilderness locations. The wilderness sites chosen for this study were located in central and southern California. The underlying premise of this study is that location of a wilderness area represents an important factor in the type of wilderness experience desired or expected by the wilderness visitor. If true, a question emerges as to the relevancy of a homogeneous management regime as prescribed under the 1964 Wilderness Act passed in the United States. In essence, are the attributes characterized by the 1964 Wilderness Act, or similar bills in Canada, Australia, etc., and commonly associated with remote wilderness-like locations (e.g., solitude, opportunities for primitive recreation, etc.) still relevant to the contemporary North American wilderness user? In even broader terms, does homogeneous management (e.g., management of a variety of wilderness locations using similar approaches and with similar goals) and as represented by the management of wilderness in the United States, account for the social and cultural diversity of contemporary society?

Substantial changes in land-use and development patterns have emerged since the passage of the 1964 Wilderness Act (PL 88-577). With the growth of urbanization, the distance between the ''city'' and the backcountry continues to diminish. As a result, urban development has now created a situation in which a number of officially designated wilderness areas are located within short driving distance from large metropolitan centers. Not surprisingly, some of these areas are heavily influenced by human activities including: use impacts, air pollution, and development on adjacent lands (Majeske 1993). Prud'Homme (1989) suggests that urban growth will increasingly be a function of urban expansion rather than concentration. This factor will heighten the pressure on the development of lands adjacent to wilderness areas and close to large urban centers. In part, the result of this urban growth has been the emergence of a high degree of variability in the number and types of opportunities for wilderness-related attributes such as solitude and untrammelled landscapes (Krumpe and Stokes 1994). In addition, some authors have suggested that many wilderness users would be satisfied with more amenities and a less pristine area (Hendee and others 1968; Lucas 1980; Shin and Jaakson 1997). Given this variability, a question arises as to whether visitors to wilderness areas near large urban settings are expecting a wilderness experience that is different from those who visit a more remote wilderness.

In an earlier work, Roggenbuck and Lucas (1987) studied the distribution of type of use, length of wilderness stay, and the use of outfitters and found that regional location of a wilderness area and other variables such as proximity to population centers may play important roles in participation. Williams and others (1992) found that wilderness visitors reported a greater level of acceptability for more encounters with other groups than has been the case in earlier studies (Vaske and others 1986). They suggest that there may be a potential for developing different management zones within wilderness areas that could accommodate the needs of different types of visitors. If this is an accurate perception, then the possibility exists that the Wilder-

KEY WORDS: Expectancy theory; Normative standards; Wilderness; Wilderness experience; Urbanization

ness Act of 1964 (USA) may need to be modified to accommodate this diversity of needs and expectations.

Shin and Jaakson (1997) found significant correlations between wilderness attitudes and perceived wilderness quality. That is, visitors who scored high on the wilderness ''purism scale'' (Stankey 1973), tended to visit ''high-quality'' wilderness sites and those scoring lower on the purism scale tended to visit those sites of lower perceived wilderness quality. Shin and Jaakson (1997) also suggested that different conditions of wilderness (e.g., different qualities) may influence an individual's attitudes in different ways. This is congruent with Bell and others' (1978) proposition that a person's attitude about or toward an environment (e.g., a specific wilderness site) is contingent upon its physical and perceived characteristics. Shin and Jaakson (1997) concluded that visitation to a particular wilderness may be strongly influenced by travel distance and cost constraints.

With the exception of Shin and Jaakson (1997), many of these studies involved wilderness areas that are relatively far from large urban centers. As such, they may often exclude a mix of more culturally diverse visitors or those users only able to visit for the day rather than engage in a multiday experience, than might be the case in more urban-proximate wilderness locations. To date, few systematic comparisons have been made between visitors to urban-proximate and urban-distant wilderness areas.

In comparing visitor responses to a specific set of wilderness attributes, Ewert and Hood (1995) found significant differences among a number of variables when using distance to urban environments as a discriminating factor. More specifically, Ewert and Hood (1995) suggested that because of differences in the amount of planning and preparation time, travel effort, and financial costs, wilderness areas near large urban populations (urban-proximate) would attract visitors expecting and seeking a wilderness experience different from that of visitors to a wilderness more distant (urban-distant). It should be noted, however, that Ewert and Hood (1995) only compared visitor responses from two wilderness locations. Their findings may have simply represented a diversity in wilderness conditions (Mitchell 1990) rather than a relationship of a particular type of wilderness attracting a particular set of visitors. If differences are present between urban-proximate and urban-distant wilderness users, what theoretical considerations might provide a partial explanation?

Theoretical Foundations

Underlying the theoretical framework of this study is the working hypothesis that visitors to the urban-proximate wilderness are different from their urban-distant counterparts on a number of variables. Both place of residence and previous experiences can play important roles in how an individual perceives and evaluates a particular environmental setting (Cox 1965, Pizzorno 1991). Thus, if one experiences large numbers of people in daily life, that expectation may be brought into a wilderness setting. Brunswik (1956, as described in Shafer and Hammitt 1995) refers to this formation of expectations as similar to looking through an environmental lens in which information (based on past experience) is received, ordered and interpreted. Within this context, it is suggested that the theoretical concepts of expectancy and normative standards may provide a basis to develop a partial explanation for the differences observed in this study.

Expectancy Theory

Expectancies are beliefs about a future state of affairs that are, in a sense, either explicit (i.e., conscious) or implicit (i.e., unconscious) subjective probabilities (Olson and others 1996). Within a recreational context, the expectancy-value approach involves the recreationist's belief that the target (e.g., wilderness area) has a particular set of characteristics, weighted by his or her valuation about those characteristics (Sparks and others 1991). Similarly, Pizzorno (1991) has suggested that the development of expectations, normative behaviors, and social order are linked to a value integration or the development of orientations similar to those experienced in other situations. Thus, a visitor to a wilderness area in close proximity to a large urban environment may bring a set of expectations concerning what that wilderness experience will be that varies from the expected experience at a more remote location.

In part, what a visitor expects in the way of a wilderness experience directs what the visitor perceives about that experience (Higgins and Bargh 1987, Rothbart and others 1979). This direction occurs primarily through interpretation of information and counterfactual thinking (Roese and Olson 1995). Counterfactual thoughts are representations of what could have been, but did not occur. That is, reconstructions of past outcomes are altered to match some desirable alternative or outcome. Thus, if wilderness conditions are less than desirable (e.g., a large number of human encounters), wilderness visitors may alter their expectations to match reality (e.g., not be troubled by greater number of encounters). Although this study did not examine the expectations of the wilderness visitor, per se, it would not be entirely outside the realm of logic to find visitors to an urban-proximate wilderness to have an image or set of expectations that is different from those

expectations of visitors to more remote wilderness locations that are far-removed from the intrusion of urban settings.

Normative Standards

Normative theory suggests that evaluative standards and norms can be established for social and ecological conditions (Shelby and others 1996). Social norms are considered attributes held by a group that both describe that group and prescribe the allowable actions of that group (Miller and Prentice 1996). A standard, on the other hand, is an attribute held by an individual or group that serves as a point of comparison (Higgins 1990). Within a management context, Shelby and others (1996) suggest that social norms are most appropriate in establishing a generalized standard when there is widespread consensus among personal norms.

Normative standards within a recreational context have often been examined using number and types of encounters as the measuring variable (Hammitt and Rutlin 1995, Lewis and others 1996). Moreover, studies on normative standards have considered factors such as type of activity, levels of experience, level of wilderness purism, and country of origin (Roggenbuck and others 1991, Hall and Shelby 1996, Vaske and others 1996).

Central to the concept of norms and standards is that they are generally constructed as needed rather than simply retrieved from memory. Moreover, there is often a dichotomy between local standards and global standards with some evidence that local norms are highly influential in the evaluation process of local issues even when more global norms are known (Miller and Prentice 1996, pp. 802–803). For example, the wilderness visitor may evaluate a local backcountry setting as providing a high-quality wilderness experience when the area would not qualify for wilderness under national-level guidelines as delineated in the 1964 Wilderness Act guidelines. Within the social-psychology literature, this tendency to relate to a specific setting is similar to the frame-of-reference hypothesis espoused by Marsh (1993).

In sum, the contention made in this work is that wilderness visitors evaluate a particular setting based, in part, on the types of expectations they have concerning that setting and the norms and standards that they personally hold toward that wilderness. These expectations and standards can be both descriptive (e.g., ''I am a wilderness backpacker; therefore I hold these specific sets of beliefs about what are acceptable and unacceptable behaviors.'') and prescriptive (e.g., ''As a wilderness backpacker I expect the following conditions to exist in the wilderness area I am visiting.''). As a result of their close proximity to highly visible urban influences (e.g., pollution, dense populations, developmental pressures, etc.) urban-proximate wildernesses may elicit a set of expectations and resultant normative standards that are different from those expressed toward urban-distant settings. For example, a visitor to an urban-proximate wilderness may expect to see an area that is more impacted and trafficked than in the urban-remote wilderness and adjust his or her norms and standards accordingly.

Research Hypotheses

The underlying premise of this study is that visitors to urban-proximate wilderness areas will vary on selected variables when compared to visitors to urban-distant wilderness locations. The variables selected for comparison include the following: demographics, past wilderness experience, number of reported encounters with others, management preferences, and motivations for visitation. The following research hypotheses were tested:

- H_1: There will be significant differences on selected demographic variables between the urban-proximate (UP) and urban-distant (UD) wilderness users.
- H_2: UP visitors will report significant differences (lower) on levels of wilderness experience than UD visitors.
- H_3: UP visitors will report significant differences in selected attributes that characterise their wilderness trip (e.g., planning time).
- H_4: UP visitors will report significant differences (greater) in levels of tolerance for number of encounters than UD visitors.
- H_5: There will be significant differences between UP and UD users on wilderness preferences, with UD users preferring a more pristine wilderness experience.
- H_6: There will be no significant differences between UP and UD users on motivations for visitation to a wilderness area.

Methods

This current study compared the responses of visitors of two urban-proximate (UP) wilderness areas with those visitor responses from two urban-distant (UD) wilderness locations. For the purposes of this study, UD wilderness was defined as a wilderness area 100 miles or more from a large urban setting (1 million or more residents). This definition is similar to that used in defining an Urban National Forest (Dickerhoof and Ewert 1993). All the wilderness areas were located in the

southern California region, with the UD wilderness areas being Mt. Whitney and Onion Valley. The UP wilderness areas were Sheep Mountain and San Gorgonio. All four wilderness areas are similar in type of use, topography (hiking trails through mountainous geography), and relative number of users per year. Mt. Whitney and Onion Valley are located in the central part of California approximately an 8-h drive from any large urban center of 1 million people or more. The two UP wilderness areas, Sheep Mountain and San Gorgonio, are both located within a 2-h drive of the greater Los Angeles basin with a population of over 12 million people. These wilderness areas were selected as the study sites because they are representative of the types of UD and UP wilderness locations in the region and they were relatively amenable for the placing of data collection teams (e.g., road access to trailheads, etc.).

Data collection teams were stationed at the most heavily traveled trailhead of each wilderness, and they queried wilderness visitors prior to the commencement of their wilderness trip or as they were exiting. Data were collected using a 36-item questionnaire. The questionnaire elicited information on the characteristics of that wilderness trip (e.g., length, etc.), the wilderness background of the visitor, encounter norms, management preferences, wilderness preferences, and demographic variables. Specific responses involved short responses or placing a slash (/) along a 10-cm line anchored by polar statements such as ''of no value'' and ''of great value.'' The data collection teams were instructed to elicit visitor responses at approximately the same time of day and on consecutive weekends from all the trailheads. Data were collected throughout the month of August 1994. Data were analyzed using chi-square, *t* test and ANOVA. All hikers (except children) were queried and asked if they would be willing to respond to the instrument. A response rate of 85% resulted in 260 usable questionnaires (312 attempts). From this convenience sample, 140 questionnaires came from visitors to the two UP sites and 120 came from visitors to the two UD wilderness locations.

Results

Demographic Variables

Ten demographic variables were measured in this study and included: ethnic/racial background, language spoken, language preferred, years in the United States, gender, years of formal education, size of area a respondent grew up in and size of area the respondent now lives in.

Support for H_1 (significant differences on selected demographic variables) was mixed, with the following findings. No significant differences between the responses from the UP and UD wilderness visitors were observed in the predominant language spoken (English), language preferred (English), average number of years lived in the United States (32.2 years UP, 35.1 years UD), average age of respondent (35.5 years UP, 37.7 UD), and gender. For this variable, 73% and 27% of the UP visitors were male and female, respectively, and 81% and 19% of the UD visitors were male and female, respectively.

Table 1. Chi-square analysis of cultural/ethnic background[a]

Ethnic/racial background	Observed frequency (percentage of total sample)	
	Urban-proximate	Urban-distant
Caucasian, not of Hispanic origin	105 (76)	102 (89)
Black, not of Hispanic origin	1 (.7)	0 (0)
Hispanic	14 (10)	1 (.9)
Asian or Pacific Islander	9 (7)	3 (3)
American Indian or Alaskan Native	2 (1)	3 (3)
Other (please specify)	7 (5)	5 (4)

[a]Chi-square = 13.7; $P = 0.018$; $N = 252$; Cramer's $V = 0.233$.

For this study, ethnicity and race were measured using standard Census Bureau terms. When responses to this variable were compared, significant differences using chi-square were observed. These data are listed in Table 1. As can be seen, although not a strong pattern, the data suggest that visitors to the UP locations are more culturally and racially diverse than their counterparts to UD wilderness settings. In both cases, however, visitors were most likely to be Caucasians not of Hispanic origin.

The variable education also resulted in a significant difference between UP and UD wilderness users. In this case, using a scale of 1–20 with 13–16 indicating undergraduate university-level education, UP wilderness users reported 15.1 years of formal education while UD users indicated 16.3 years ($t = 3.79$, $P = 0.000$).

Using Census Bureau categories, the variable of place where the respondent grew up generated significant differences (Table 2). For this variable, there was a greater tendency for the UD visitor to grow up in a larger and more heavily populated environment. The current residence variable also generated a significant difference, with a higher percentage of the UD visitors living in large metropolitan areas.

Finally, for the variable income, significant differences were obtained ($t = 19.9$, $P = 0.000$). Urban-proximate wilderness users reported an annual family

Table 2. Chi-square analysis of size of settlement where respondents grew up and currently live

	Observed frequency (percentage of total sample)	
	Urban-proximate	Urban-distant
Grew up[a]		
>1,000,000 people	37 (27)	31 (27)
100,000–1,000,000	13 (7)	29 (25)
10,000–100,000	49 (36)	33 (28)
<10,000	27 (20)	12 (10)
Rural	12 (9)	11 (9)
Current residence[b]		
>1,000,000	48 (41)	59 (58)
100,000–1,000,000	31 (26)	13 (13)
10,000–100,000	34 (29)	21 (21)
<10,000	4 (3)	4 (4)
Rural	1 (.85)	4 (4)

[a]Chi-square = 13.8; $P = 0.008$; Cramer's $V = 0.323$.

[b]Chi-square = 12.1, $P = 0.016$, $N = 254$; Cramer's $V = 0.235$.

income of US $60,042 and UD users reported an income of US $63,553.

Wilderness Experience

In H_2, it was hypothesized that UP wilderness visitors would have lower levels of wilderness experience–use history (EUH) as measured through the following variables: number of years of visitation to wilderness areas, number of trips typically made per year to wilderness areas, whether this was a first visit to the wilderness site, and the self-reported level of experience. Overall, the data generated mixed support for this hypothesis.

In the case of the number of years of visitation to wilderness areas, no significant differences were observed. Urban-proximate users reported an average of 18.6 years of wilderness experience and UD users 19.3 years. On the other hand, and perhaps not surprisingly, UP users reported a mean of 9.5 wilderness trips per year with urban-distant users reporting 5.5 trips per year ($t = 3.6$, $P = 0.000$).

In a similar fashion, out of a sample of 264, 72% ($N = 105$ of 145) of the UP users reported that this trip was their first one to the area. For the UD users, 53% ($N = 63$ of 119) indicated that this was their first trip to that particular wilderness. The test statistics included the following values: chi square = 10.7, $P = 0.001$.

Conversely, when asked to rate their individual level of wilderness experience, no significant differences were observed. Congruent with a number of other wilderness studies, respondents in this study reported an experience level skewed toward the intermediate (i.e., having visited two to five wilderness areas) or advanced (i.e., having visited more than five different wilderness areas).

In sum, while there was a higher percentage of UP users reporting their trip as the first time to that area, there were no significant differences observed in the number of years of experience and self-reported experience levels in wilderness areas in general.

Table 3. Selected characteristics of the wilderness trip

Variable	Urban-proximate	Urban-distant	Statistic	*P*
Number of nights spent in wilderness	.72	2.9	$t = 5.6$	0.000
Miles traveled to site (one way)	31.6	542.0	$t = 43.9$	0.000
Time spent planning for trip (days)	4.2	17.6	$t = 4.9$	0.000
Cost of wilderness trip (US$)	35.70	187.10	$t = 5.2$	0.000

The Wilderness Trip

Relative to H_3 (significant differences in selected attributes of the wilderness trip), the characteristics studied included trip length, cost, and planning time. As can be seen from Table 3, the data consistently supported this hypothesis. In the case of number of nights spent on that particular wilderness trip, UP users spent less time on their wilderness trip than did their UD colleagues. Likewise, UP visitors also devoted less time planning for their trip, traveled shorter distances, and spent less money to engage in the trip. As previously stated, given the difference in physical distances, it was expected that less travel effort, planning time, and money would be expended on the UP wilderness trip. Yet to be demonstrated, however, is whether this dichotomy manifests itself in visitors to different areas reporting differences in issues such as encounter norms and motivations for visitation.

Group Size/Encounter Issues

It was hypothesized that visitors to UP wilderness areas would travel in larger groups and would express higher levels of tolerance for numbers of encounters and for larger group sizes (H_4). The data generally supported this hypothesis.

Urban-proximate visitors reported a mean group size of 3.9 people, while the UD visitor indicated an average group size of 2.0 ($t = 2.9$, $P = 0.004$). With respect to the minimum number of people with whom they generally hike, respondents reported similar numbers (UP = 1.8, UD = 1.6). When asked about the maximum number of people they would consider acceptable

in any one group, however, the UP visitor reported a higher level (6.3 people) than did their UD counterparts (4.8 people) ($t = 2.7$, $P = .007$). This pattern continued with significant differences being noted on the variable of the maximum number of people they would feel comfortable seeing in one day. In this case, the UP user indicated a higher number (7.6) than did the UD user (6.3) ($t = 2.2$, $P = 0.026$).

No significant differences were found on the acceptable number of groups seen each day, with each group reporting approximately a maximum of eight groups before feeling the area was crowded. It would appear that in this sample, the wilderness user could be more specific in discriminating between numbers of individuals but was less discriminatory in numbers of groups.

With respect to the issue of crowding, UP users indicated that the wilderness they were in was less crowded (42.7 with a score closer to 100 indicating a higher level of perceived crowding) than the UD user felt (52.4) ($t = 2.9$, $P = 0.004$). It would have been useful in this study to collect information on how many people and groups the individual respondent actually saw. This would have facilitated a better understanding of the level of sensitivity respondents felt relative to perceived crowding and actual number of encounters.

Wilderness Preferences

It was hypothesized in H_5 that visitors to the UD wilderness areas would prefer a more pure and pristine wilderness experience. For example, they would place greater importance on solitude, preservation, and restricting users than their UP counterparts. Ten specific items were used to assess what type of wilderness the individual respondent would most prefer (Table 4). Respondents were asked to place a slash (/) on a 10-cm line at the position that best represented their feeling about that item. Each 10-cm line was anchored by dichotomous phrases such as ''solitude–being with others,'' ''preservation–recreation use,'' etc. The scale was constructed to place anthropocentric-oriented responses to the right. Hence, the higher the mean the more anthropocentric (as opposed to biocentric) the response. As noted in Table 4, significant differences were noted on three of the ten items. Moreover, it is interesting to note that in nine of the ten items, the UP users reported higher (more anthropocentric scores). The one exception was ''scientific study–recreation use,'' in which the UD visitors reported higher mean values, thus suggesting that UD visitor may be placing a higher value on recreation use. It should be noted, however, that this difference was not statistically significant.

Table 4. Response means on attributes representing wilderness preferences

Attribute	Means[a]	*t*	*P*
Solitude–others	31.3 (29.2)	0.48	n.s.
Preservation–recreation	32.7 (27.2)	1.5	n.s.
No facilities–comfort facilities	43.3 (33.4)	2.7	0.007
Restrict access–many uses	33.0 (28.4)	1.3	n.s.
Certifying users–anyone allowed	53.5 (49.8)	.87	n.s.
Risk-taking–safeguard	39.9 (32.5)	2.2	0.03
Saving wilderness for plant / animal use–saving wilderness for people to use	34.7 (34.1)	0.19	n.s.
Allowing wildfires to burn–putting wildfires out immediately	58.1 (47.2)	2.6	0.010
More wilderness designation–no more wilderness designation	21.4 (20.1)	0.43	n.s.
Scientific study–recreation use	53.3 (55.3)	0.65	n.s.

[a]Based on a 0–100 scale, with higher scores indicating closer agreement to the right-hand anchor. Mean of urban-proximate visitors and in parentheses, mean of urban-distant visitors.

Motivations for Visitation

It was hypothesized that there would be no differences between the visitors on motives for visitation (H_6). To test this hypothesis, 22 motivational items were developed for visitor response (Table 5). As before, a 10-cm line was anchored by the dichotomous phrases ''of no value'' and ''of great value.'' The higher the score, the more value the respondent placed on the specific motivational item.

Table 5 depicts significant differences in nine of the 22 motivational items, of which five are in the expected direction. As stated earlier, one would expect UP wilderness areas to be easier to get to, involve shorter driving distances, and require less financial expenditure. In addition, the data suggested that UP wilderness visitors viewed their trips more as preparation for future trips than do the UD users. Although the data do not provide any information on this perspective, UP users may view their outings as less ''serious'' than trips to more remote settings.

As in the case of wilderness preferences, while not achieving statistical significance, it may be worth noting the direction of many of the responses in key motivational items. Given the previous discussion it could be expected that UP users would place greater importance on cathartic responses such as ''to slow my mind down,'' ''escape the routine,'' ''freedom from rules,'' and ''tranquility.'' The data from these items suggested that this is the case.

Likewise, it might be expected that UP visitors would report lower levels of importance for a pristine setting, solitude, personal achievement, and opportunities to

Table 5. Mean scores of selected motivational attributes for visitation

Motivational item	Mean: Urban-proximate[a]	Mean: Urban-distant	*F*	*P*
Place easy to get to	52.5	33.4	9.9	0.002
Short driving distance	50.5	31.9	12.1	0.001
Low cost	63.7	40.6	4.0	0.046
Relatively free of rules	56.1	35.1	0.11	n.s.
Recreate with family and friends	75.1	56.9	2.1	n.s.
Pristine, clean area	86.9	97.9	2.3	n.s.
Beautiful scenery	88.9	93.4	4.4	0.037
Absence of man-made objects	82.6	71.0	5.4	0.021
Adventure	81.1	77.7	4.4	0.038
Close to nature	85.5	90.1	0.36	n.s.
Solitude	67.2	79.1	0.64	n.s.
Risk and challenge	66.7	40.5	12.07	0.001
Spiritual experience	59.6	32.6	1.1	n.s.
Slows my mind down	64.9	37.4	0.38	n.s.
Escape the routine	77.6	57.7	0.55	n.s.
Do something with others	66.3	44.8	4.25	0.040
Personal achievement	44.2	67.6	1.16	n.s.
Preparation for future trips	55.8	32.5	5.15	0.024
Personal growth	58.9	34.4	0.26	n.s.
Tranquility	79.7	63.2	0.09	n.s.
View the scenery	86.1	94.6	0.84	n.s.
Wildlife watching	75.0	59.9	1.07	n.s.

[a]Based on a scale of 0–100, with 0 = ''of no value'' and 100 = ''of great value.''

see wildlife. In these cases, the data were more mixed, with only partial support for this line of reasoning.

Discussion

One of the limitations of the earlier work by Ewert and Hood (1995) was a one-to-one comparison of UP and UD wilderness areas. This descriptive study sought to further develop that initial effort by refining the variables under study and expanding the number of wilderness areas utilized. To summarize the results, the data provided partial support for H_1 (demographics) and H_2 (wilderness experience). H_3 (wilderness trip) and H_4 (encounters) were supported by the data. For H_5 (wilderness preferences), three of the ten items generated significant differences, with the overall trend suggesting that visitors to UP wilderness areas generally supported a more anthropocentric use of wilderness as opposed to their UD counterparts. Relative to motivations for participation (H_6), nine of the 22 items resulted in significant differences (five of these nine in the expected direction). The findings provide partial support for the stated hypotheses of the study.

What, then, can be said about differences in user characteristics due to wilderness location? Differences between visitors have been noted in numerous studies beginning with earlier works such as Hendee and others (1968) and Knopf (1983). Moreover, some researchers believe that similarities between users are often more prevalent than the differences (Roggenbuck and Lucas 1987).

The data from this analysis suggest that there are some similarities and differences between visitors to the two sets of wilderness areas studied. Moreover, these similarities and differences are congruent with those identified in an earlier work by Ewert and Hood (1995). Although not specifically studied, it was suggested that expectations and subsequent normative standards (or as Higgins 1990 suggests ''points for comparisons with others'') may provide the basis of a partial explanation of the differences found among the variables investigated.

Within the framework of expectations and normative standards, of particular interest were the variables of ethnicity/cultural background (norms), wilderness experience (expectancies and norms), the wilderness trip, group size and encounters, and motivations for visitation. Overall, the data suggest that visitors to the UP wilderness areas were more culturally diverse; engaged in a shorter, less costly wilderness trip; were more tolerant of larger group sizes and numbers of encounters; and placed different levels of importance on motivations for participation. This study provides some empirical data on an area of wilderness and resource management that has not received a great deal of research attention, namely, UP wilderness areas.

Future Research

While the data suggest that UP visitors place different values on specific variables than their UD counterpart, a certain logic still has to be accepted. That is, visitors perceive the two wilderness locations as offering different experiences and a differing set of characteristics or attributes. To date, research, including this study, has not demonstrated that this perception actually exists. Moreover, this study only peripherally examined norms through variables such as acceptable group size, number of encounters, and management preferences. As such, these are expressions of norms but may not fully represent normative standards held by the individual. As stated elsewhere, other types of encounters, impacts, or actions, not identified in this study, may be viewed by an individual visitor as more important (Roggenbuck and others 1991, Hall and Shelby 1996, Whittaker 1992).

In addition, this study only examined visitors to the most heavily used access points. There may be a system-

atic bias in the sample based on the trailheads used. Moreover, this study looked at one parameter to determine classification, namely, visitation to a particular wilderness. Given the increasing urbanization of the country, it may be important to use level of urbanization as a discriminating variable in future studies. Moreover, future research perhaps should determine who an urban-proximate visitor actually is. A one-time study using visitation may be too simplistic a classification system.

Management Implications

This study does not suggest that wilderness management protocols should be changed at this time. What this study does suggest, particularly in view of the congruence of the findings between this work and the previous findings of Ewert and Hood (1995) and Cook and Borrie (1995), is that wilderness areas in close proximity to large urban settings are in need of further examination. If these areas are attracting more day use than overnight visitation, in addition to differing normative standards on group size, etc., perhaps it is time for a reexamination of how these particular lands can best serve an increasingly diverse society.

In addition, as suggested by Christensen (1993), perhaps affect and perception play more important roles in site selection and consequent expectations than actual characteristics (also see Zajonc 1980). If true, this implies that managers will need to determine the perceptions and attitudes people have regarding a particular site in addition to the actual attributes.

Finally, from a wilderness manager perspective, it may be worth noting the apparent diversity that is present in the wilderness system. This diversity suggests that the stereotype of the wilderness user of yesterday may be being replaced by a group of users that, while still valuing many of the attributes of the wilderness experience, may also be changing in several important parameters, some of which have been identified in this study. Without understanding this diversity issue, it may be easy to misread or misinterpret who contemporary wilderness visitors are and what they are looking for.

Conclusions

Does the 1964 Wilderness Act adequately deal with the needs of a contemporary society heading into the 21st century? The results of this study suggest that the answer is probably yes for now but the picture may be changing. As the population continues to diversify in terms of culture, ethnicity, age, and wealth, homogeneous management in which large numbers of areas are managed in essentially the same way may become an outmoded philosophy. While future work will be needed to provide a greater focus on this concept, what we know at this point is that visitors to urban-proximate sites tended to vary from their urban-distant counterparts on a number of important variables. The findings of this study have some important ramifications for future wilderness management. As Knopf (1988) eloquently points out, one of the essential components of policy making is determining the lost opportunities and who is not benefiting from a particular management dictum. This research suggests that there is the distinct possibility that, in a number of ways, urban-proximate wilderness areas are not viewed as being the same as urban-distant wilderness areas. As such, what opportunities are being lost to society by insisting that these lands be homogeneously managed as officially designated wilderness? This study does not provide an answer to ''what should be'' (see Shelby and others 1996). Rather, it suggests that these data may lead to a better understanding of what might be in terms of a more efficacious use of one type of natural resource in the next century.

Literature Cited

Bell, P., J. Fisher, and S. R. Loomis. 1978. Environmental psychology. Saunders, Philadelphia.

Brunswik, E. 1956. Perception and the representative design of psychological experiments. University of California Press, Berkeley.

Christensen, J. E. 1993. Affective choice in recreation with particular emphasis on the urban setting: A first approximation. Pages 3–6 *.in* P. H. Gobster (ed.), Managing urban and high-use recreation settings. Gen. Tech. Rep. NC-163. U S Department of Agriculture, Forest Service, North Central Forest Experiment Station, St. Paul, Minnesota, 142 pp.

Cook, B., and W. Borrie. 1995. Trends in recreation use and management of wilderness. *International Journal of Wilderness* 1(2):30–34.

Cox, H. 1965. The secular city: Secularization and urbanization in theological perspectives. Macmillan, New York.

Dickerhoof, H. E. and A. W. Ewert. 1993. Urban forestry research: The Forest Service perspective. *Journal of Arboriculture* 19(3):143–151.

Ewert, A. W., and D. Hood. 1995. Urban-proximate and urban-distant wilderness: An exploratory comparison between two ''types'' of wilderness. *Journal of Park and Recreation Administration* 13(2):73–85.

Hall, T., and B. Shelby. 1996. Who cares about encounters? Differences between those with and without norms. *Leisure Sciences* 18:7–22.

Hammitt, W. E., and W. M. Rutlin. 1995. Use encounter standards and curves for achieved privacy in wilderness. *Leisure Sciences* 17:245–262.

Hendee, J. C., W. R. Catton, L. D. Marlow, and C. F. Brockman. 1968. Wilderness users in the Pacific Northwest—their characteristics, values, and management preferences. USDA Forest Serv. Res. Pap. PNW-61, 92 pp., illus. Pacific Northwest Forest & Range Experiment Station, Portland, Oregon.

Higgins, E. T. 1990. Personality, social psychology, and person-situated relations: Standards and knowledge activation as a common language. Pages 301–338 *in* L. A. Pervin (ed.). Handbook of personality. Guiford, New York.

Higgins, E. T., and J. A. Bargh. 1987. Social cognition and social perception. *Annual Review of Psychology* 3:369–425.

Knopf, R. C. 1983. Recreational needs and behavior in natural settings. *In* I. I. Altman and J. F. Wohlwill (eds.), Human behavior and environment: Vol. 6, Behavior and the natural environment. Plenum Press, New York.

Krumpe, E., and G. Stokes. 1994. Application of the limits of acceptable change planning a process in USDA Forest Service Wilderness management. Pages 186–191 *in* J. Hendee and V. Martin (eds.), International wilderness allocation, management, and research. The WILD Foundation, Fort Collins, Colorado.

Lewis, M. S., D. W. Lime, and D. H. D. W. Anderson. 1996. Paddle canoeists' encounter norms in Minnesota's Boundary Waters Canoe Area Wilderness. *Leisure Sciences* 18:143–160.

Lucas, R. C. 1980. Use patterns and visitor characteristics, attitudes and preferences in nine wilderness and other roadless areas. Research Paper INT-253. USDA Forest Service, Intermountain Research Station, Ogden, Utah.

Majeske, C. 1993. Wilderness planning and management at the urban interface. Master's thesis. Colorado State University, Fort Collins, CO, 118 pp.

Marsh, H. W. 1993. Academic self-concept: theory, measurement, and research. Pages 1–26 *in* J. Suls (ed.), Psychological perspectives on the self, Vol. 4. Erlbaum, Hillsdale, New Jersey.

Mitchell, J. M. 1990. Do we really want wilderness management standards to be uniform? Pages 79–83 *in* B. Shelby, G. Stankey & B. Schindler (eds.), Defining wilderness quality: The role of standards in wilderness management—a workshop proceedings USDA Forest Service Technical Report, Portland, OR, PNW--GTR-305, 112 pp.

Miller, D. T., and D. A. Prentice. 1996. The construction of social norms and standards. Pages 799–829 *in* E. T. Higgins and A. W. Kruglanski (eds.), Social psychology: Handbook of basic principles Guilford Press, New York.

Olson, J. M., N. J. Roese, and M. P. Zanna. 1996. Expectancies. Pages 211–238 *in* E. T. Higgins and A. W. Kruglanski (eds.), social psychology: Handbook of basic principles Guilford Press, New York.

Pizzorno, A. 1991. On the individualistic theory of social order. Pages 209–231 *in* P. Bourdieu and J. Coleman (eds.), Social theory for a changing society. Westview Press, Boulder, Colorado.

Prud'Homme, R. 1989. New trends in the cities of the world. Pages 44–57 *in* R. Knight and G. Gappert (eds.), Cities in a global society. Sage Publications, Newbury Park, California.

Roese, N. J., and J. M. Olson (eds.). 1995. What might have been: The social psychology of counterfactual thinking. Erlbaum, Mahwah, New Jersey.

Roggenbuck, J. W., and R. C. Lucas. 1987. Wilderness use and user characteristics: A state-of-knowledge review. Pages 204–245 *in* R. Lucas (comp.). Proceedings—national wilderness research conference: Issues, state-of-knowledge, future directions. GTR-INT-220. USDA Forest Service, Intermountain Research Station. Ogden, UT.

Roggenbuck, J. W., D. R. Williams, S. P. Bange, and D. J. Dean. 1991. River float trip encounters norms: Questioning the use of the social norms concept. *Journal of Leisure Research* 23:133–153.

Rothbart, M., M. Evans, and S. Fulero. 1979. Recall for confirming events: Memory processes and the maintenance of social stereotyping. *Journal of Experimental Social Psychology* 15:343–355.

Shafer, C. S., and W. E. Hammitt. 1995. Congruency among experience dimensions, condition indicators, and coping behaviors in wilderness. *Leisure Sciences* 17:263–279.

Shelby, B., J. J. Vaske, and M. P. Donnelly. 1996. Norms, standards, and natural resources. *Leisure Sciences* 18:103–123.

Shin, W. S., and R. Jaakson. 1997. Wilderness quality and visitors' wilderness attitudes: Management Implications. *Environmental Management* 21:225–232.

Sparks, P., D. Hedderley, and R. Shepherd. 1991. Expectancy-value models of attitudes: A note on the relationship between theory and methodology. *European Journal of Social Psychology* 21:261–271.

Stankey, G. H. 1973. Visitor perception of wilderness carrying capacity. Research Paper INT-142. USDA Forest Service, Intermountain Research Station, Ogden, Utah.

Vaske, J., B. Shelby, A. Graefe, and T. Heberlein. 1986. Backcountry encounter norms: Theory, method and empirical evidence. *Journal of Leisure Research* 18:137–153.

Vaske, J. J., M. P. Donnelly, and J. P. Petruzzi. 1996. Country of origin, encounter norms, and crowding in a frontcountry setting. *Leisure Sciences* 18:161–176.

Whittaker, D. 1992. Selecting indicators: which impacts matter more? Pages 13–22 *in* B. Shelby, G. Stankey and B. Shindler (eds.), Defining wilderness quality: The role of standards in wilderness management—a workshop proceedings, 10–11 April 1990, Fort Collins, Colorado. PNW-GTR-305. USDA Forest Service, Pacific Northwest Research Station, Portland, Oregon.

Williams, D., J. Roggenbuck, M. Patterson, and A. Watson. 1992. The variability of user-based social impact standards for wilderness management. *Forest Science* 38:738–756.

Zajonc, R. B. 1980. Feeling and thinking: Preferences need no inference. *American Psychologist* 35:151–175.