

Beyond the Commodity Metaphor: Examining Emotional and Symbolic Attachment to Place

DANIEL R. WILLIAMS
MICHAEL E. PATTERSON
JOSEPH W. ROGGENBUCK

Department of Forestry
Virginia Polytechnic Institute and State University
Blacksburg, VA 24061

ALAN E. WATSON

USDA Forest Service
Intermountain Research Station

Abstract *In contrast to the dominant multiattribute commodity view of outdoor recreation settings, wilderness users are described as having emotional and symbolic ties to the setting that are manifested as attachment to the site and the wilderness concept. Data from four wilderness areas show stronger place and wilderness attachment to be associated with previous visits, rural residence, a setting (as opposed to activity or group) focus, visiting alone and on weekdays, hunting in the area, and sensitivity to site impacts and horse encounters. Place attachment is also associated with a lack of nonwilderness substitutes and lower income and education. Wilderness attachment is associated with membership in wilderness and conservation organizations, visits to more wilderness areas, a preference for longer visits, participation in nature study, and sensitivity to sight and sound intrusions and hiker encounters. The importance of understanding emotional and symbolic values of natural resources is discussed in relation to managing recreation user conflicts and public involvement in wildland resource planning.*

Keywords place attachment, meaning, wilderness, involvement

The setting is ubiquitous in outdoor recreation research. It is almost axiomatic that outdoor recreation research cannot advance without an understanding of the setting of recreational engagements (Schreyer, Knopf, & Williams, 1985). The setting is the context within which recreation takes place and it can facilitate or hinder not only the activities that occur but also the quality of the recreation experience (McCool, Stankey, & Clark, 1985). Despite its importance, theoretical characterization of the setting is a relatively undeveloped area of study (P. J. Brown, 1989; Knopf, 1987; Schreyer et al., 1985).

The prevailing approach to research on outdoor recreation settings has been to

This research was supported in part by funds provided by the U.S. Department of Agriculture, Forest Service, Intermountain Research Station.

identify the setting features necessary to support specific activities or desired experiences (Schreyer et al., 1985). Thus, much like consumer products, settings are most often represented as collections of features or attributes. For example, "It is the setting (described by its attributes) that recreationists seek, use and impact" (McCool et al., 1985, p. 2). Peterson, Stynes, Rosenthal, and Dwyer were even or explicit in their use of a commodity metaphor to describe recreation choice behavior: "Consumers use the [setting] attributes as input factors for a consumption technology that produces utility" (1985, p. 20). The result has been numerous empirical studies identifying the perceived utility of various setting attributes in satisfying recreation goals (e.g., Cooksey, Dickinson, & Loomis, 1982; Manfredo, Driver, & Brown, 1983).

The strength of the commodity metaphor is an engineering-like emphasis on the manipulation and control of tangible properties of natural resources to meet recreation needs. Moreover, handling recreation as a production process fits comfortably within the well-established utilitarian philosophy of natural resource managers (Wellman, 1987). Procedures for inventorying recreation resources (Driver, Brown, Stankey, & Gregoire, 1987), identifying recreation choices and substitutes (Peterson et al., 1985), and evaluating recreation satisfaction (Williams, 1989) have all advanced from this multiattribute view of recreation settings. For example, by emphasizing the role of setting attributes in decision-making, the problem of designing recreational settings is reduced to that of identifying the most valued and optimal combination of attributes for a given clientele (Peterson et al., 1985).

Though recreation research has clearly profited from this view of the setting, the concept is not without its limitations. These limitations can be traced to the emphasis that the commodity metaphor puts on settings as means rather than ends (Williams, 1989). Of particular concern is that recreation settings are very often one-of-a-kind places that cannot be designed or engineered like so many makes of automobiles. Similarly, P. J. Brown (1989) noted that nearly all studies that deal with recreation resource use and quality focus on specific resource attributes rather than "a more holistic characterization of place or experience" and called for more studies "which tend toward the gestalt, rather than the pieces" (pp. 415-416). The commodity view perpetuates the notion that recreation settings are theoretically interchangeable, even reproducible, given that the replacement provides a similar combination of attributes. More likely, the substitutability of a place is inversely proportional to its "meaningfulness"—a quality rarely reducible to tangible properties or the activities that occur within it. This notion is supported by studies on the meaning of home and community (Rivlin, 1982) and the effects of forced migration (Johnson & Burdge, 1974) and is even recognized in consumer behavior, in which the multiattribute view of products is being challenged by a more emotional and symbolic view of consumptive phenomena (Belk, 1988; Wallendorf & Arnould, 1988).

The purpose of this article is to contrast the multiattribute, commodity view of recreation places that has dominated recreation research with an emotional and symbolic view of places and objects emerging in environmental psychology and consumer behavior. A preliminary empirical approach to examining emotional and symbolic attachments to recreation places is developed and applied to wilderness settings. Specifically, the validity and usefulness of the emotional/symbolic view is examined through an analysis of the relationships between use history of the place, perceived substitutability, sociodemographic and trip characteristics, and sensitivity to wilderness impacts and levels of attachment.

Attachment and Sense of Place

Environmental writers have long attempted to describe what is often referred to as "sense of place" (Lynch, 1960; Relph, 1976; F. Steele, 1981; Tuan, 1974, 1977). For example, Russell and Ward (1982) defined sense of place as "the psychological or perceived unity of the geographical environment" (p. 654). Tuan (1974, 1977), a humanistic geographer, described place as a center of meaning constructed by experience. Physical space becomes place when we attach meaning to a particular geographic locale, be it a chair in the living room; one's home, neighborhood, city, or nation; or a variety of spaces in between. Thus, "what begins as undifferentiated space becomes place as we get to know it better and endow it with value" (Tuan, 1977, p. 6). Finally, F. Steele (1981) described sense of place as an experiential process "created by the setting combined with what a person brings to it. In other words, to some degree we create our own places, they do not exist independent of us" (p. 9).

Sense of place is often associated with an emotional or affective bond between an individual and a particular place; this bond may vary in intensity from immediate sensory delight to long-lasting and deeply rooted attachment (Tuan, 1974). Flourishing somewhat independently in human geography, environmental psychology, community sociology, and urban planning, analysis of place attachment has been associated largely with home, neighborhood, and community (Feldman, 1990). Though many models of place attachment have been proposed (Shumaker & Taylor, 1983), two primary conceptualizations have come to dominate the literature in environmental psychology: place-dependence and place-identity (B. B. Brown, 1987).

Place-Dependence

Stokols and Shumaker (1981) defined the concept of place-dependence as a form of attachment associated with the potential of a particular place to satisfy the needs and goals of an individual and the assessment of how the current place compares with other currently available settings that may satisfy the same set of needs (i.e., when the occupants of a setting perceive that it supports their behavioral goals better than any known alternative).

Concepts similar to place-dependence have appeared in recreation research. Resource specificity as described by Jacob and Schreyer (1980) refers to "the importance an individual attaches to the use of a particular recreation resource" (p. 373) and is strongly related to the perception that the setting possesses unique qualities. Schreyer and others described the functional meaning of a place as the tendency to see the environment as a collection of attributes that permit the pursuit of a focal activity (Schreyer, Jacob, and White, 1981; Schreyer & Roggenbuck, 1981). Specificity and functionality, like satisfaction, appear to base the value of a place on its "goodness" for hiking, camping, fishing, scenic enjoyment, and so forth. Though conceptually similar to the multiattribute view of settings, terms like *dependence* and *specificity* put more emphasis on the overall necessity attached to a specific place for enjoying a leisure pursuit than the suitability of setting attributes.

Place-Identity

A second view of place attachment has developed around Proshansky's (1978) concept of place-identity (see also Proshansky, Fabian, & Kaminoff, 1983). Place-identity refers

to "those dimensions of the self that define the individual's personal identity in relation to the physical environment" (Proshansky, 1978, p. 155). Providing detailed theoretical development of the concept, Korpela (1989) linked the concept of place-identity to a process of "environmental self-regulation." Korpela argued that the environment is not only a mediator in regulating social interaction (e.g., privacy regulation; Altman, 1976) but also a means of creating and maintaining one's self. In this sense the physical environment is "important in itself for the individual" (Korpela, 1989, p. 244). Thus, in addition to being a resource for satisfying explicitly felt behavioral or experiential goals, a place may be viewed as an essential part of one's self, resulting in strong emotional attachment to places.

The importance of the physical environment in maintaining self-identity is firmly established in the psychological literature (C. Steele, 1988) and is increasingly recognized as a motivation for participation in outdoor recreation (Haggard & Williams, in press; Scherl, 1989). Similarly, sociological research demonstrates that recreation places can be important for creating shared meaning or group identity (Lee, 1972). The role of places in maintaining cultural identity is a well-recognized rationale for environmental preservation (Wellman, 1987; Schreyer et al., 1981). Thus, place-identity may be based on personal emotional ties, as in a favorite childhood swimming hole, or on more abstract and symbolic meanings, as in the way national parks symbolize our heritage. For these types of meanings, a place's value is assigned by individuals, groups, or society, without necessarily involving a strong correspondence between the physical attributes of the place and its meaning.

An important consideration for measuring place attachment is the establishment of the geographic or conceptual terrain of interest in any particular study. For example, attachment to a place may be evident at a number of geographic levels, including site-specific (i.e., Jacks River Falls in the Cohutta Wilderness area), area-specific (the Cohutta Wilderness itself), or physiography-specific (the Southern Appalachian hardwood forest). Furthermore, Proshansky (1978) proposed that people may develop attachments that transcend bonds with a specific geographic area to include bonding with certain *types* of places. For example, Feldman (1990) recently extended the concept of place-identity to include psychological bonds with types of residential settings or what she refers to as "settlement-identity."

The present study has the potential for attachment to the category of wilderness places in addition to the specific study site. Emotional ties to certain management designations of landscape types might be thought of as a kind of recreational specialization usually associated with activity preferences (Williams, 1988a). Thus, in the case of wilderness areas it may be useful to identify two types of attachment: attachment to the specific area itself and attachment to the type of area it represents (e.g., wilderness).

Place Attachment and Recreation Behavior

If place attachment is to provide a theoretically useful characterization of the recreational setting, it should be strongly related to important people and place variables in recreation research, including use history and substitutability, concern for how the setting is used or managed, and other use (trip) and user characteristics.

The literature on attachment to home and community clearly indicates that emotional bonds are associated with long-term relationships to places. Consequently, variables that quantify the history of association between the person and the place are expected to be good predictors of place attachment. Similarly, community attachment and

forced migration literature suggests that strong emotional ties to recreation settings will reduce the willingness to substitute settings and increase the level of concern regarding how a place is used and managed.

Place attachment may also be reflected in different ways of interacting with the setting. Tuan (1977) suggested alternative ways or "modes" of experiencing place as ranging from direct (through the senses) to indirect (through cognitive/symbolic processes). For example, Jacob and Schreyer (1980) suggested that recreational conflict may depend on the degree to which the senses are directed toward a "detailed examination of the environment" versus a "broad, sweeping impression" of the landscape. Taking a somewhat different approach, Williams (1988b) suggested three primary modes of outdoor recreation experience: activities, companions, and settings. In this framework, the setting may be central to the experience for some, but only a backdrop for achieving particular social or activity goals for others. Thus, attachment is likely to be stronger among individuals who focus on the setting itself relative to other aspects of the recreational engagement.

A more conventional approach to describing modes of experience would be to examine "trip characteristics" variables (those that describe what the occupant does in a setting), which are widely employed in on-site visit studies. For example, such trip characteristics as choice of activities, length of stay, group size and composition, type of equipment employed, and mode of travel provide some description of how the place is experienced and may therefore be related to place attachment.

Study Design

The issue of place attachment was of particular interest in a study of use and user characteristics of four wilderness areas. Because these areas were not legally designated as wilderness until recently (1975 and later) many users may have well-established patterns of use predating wilderness classification. Thus, some long-time users may be very attached to a place, yet express little enthusiasm for wilderness. Others' interest in a place may pertain largely to its status as designated wilderness, with little attachment to the place itself. Identifying such varying relationships to a place may help wilderness managers understand conflicting public reactions to wilderness allocation, planning, and management decisions.

Study Areas

The data for this study came from four wilderness areas: three areas in the southeastern United States and one in Montana. The 37,000-acre Cohutta Wilderness in northern Georgia is one of the largest Forest Service wilderness areas in the east. Use levels are high, exceeding 70,000 recreation visitor days (RVDs) each year or about 1.99 visitor days per acre. Caney Creek is a 14,460-acre wilderness on the Ouachita National Forest in Arkansas. Visitation rates are moderate at 11,400 RVDs per year or 0.79 RVDs per acre. Upland Island, at 12,562 acres, is the largest Forest Service wilderness in Texas. The area is trail-less but contains old roads. Use is estimated at 2,500 RVDs (0.20 per acre). Hunting is the predominant activity. Finally, the 33,000-acre Rattlesnake Wilderness on the Lolo National Forest in Montana lies within the boundaries of the 61,000-acre Rattlesnake National Recreation Area. Use of the area is light at 18,000 RVDs (0.05 per acre), despite its proximity to Missoula, Montana.

Visitors were contacted at the Cohutta, Caney Creek, and Rattlesnake areas during

those months that together accounted for 90% of all use. Within the study period, two weekend (Friday–Sunday) and two weekday (Monday–Thursday) sampling clusters were randomly chosen each month. Within clusters, trailheads were randomly selected each day for visitor contact. Within a sample day, two or three four-hour use periods (8:00 a.m.–8:00 p.m.) were randomly chosen for sampling. During sampling, all parties entering or leaving the area were contacted, and a short interview was conducted to determine basic visitor use and user characteristics. In addition, the names and addresses of group members over the age of 15 (as many as nine persons per group) were obtained to send a 12-page mail-back questionnaire. Some of the visitors contacted at the Rattlesnake National Recreation Area did not enter the wilderness area; only data from those respondents indicating that they entered the designated wilderness area were analyzed for this paper.

Because Upland Island has no trailheads and is used mostly by hunters, including nighttime raccoon hunters, a different sampling strategy was used. One weekday and two weekend sampling clusters were selected each month. Daily sampling occurred from 7:00 a.m. until 10:00 p.m. During sampling periods, a field technician drove along roads surrounding the wilderness searching for parked vehicles. An attempt was made to contact all groups as they left or returned to their vehicles. If a group was spotted, members were interviewed as described for the other study areas. If no one was found at the vehicle during the sampling period, the technician left a mail-back postcard requesting basic trip information and the names and addresses of party members on the vehicle. Individuals returning postcards and those interviewed on-site were sent the mail-back questionnaire.

The sampling results are summarized in Table 1. Of the parties contacted for the on-site interview, only five groups (all from the Rattlesnake) refused to participate. Response rates were generally high: 67, 82, and 73% for Cohutta, Caney Creek, and Rattlesnake areas, respectively. Upland Island's response rate was only 47% and is likely a reflection of the high proportion of hunters and, for some, the lack of an on-site contact. As a check for nonresponse bias, respondents were compared to nonrespondents using questions from the on-site interview. Based on these comparisons, questionnaires were statistically somewhat more likely to be returned from overnight visitors to Caney Creek and Cohutta and from infrequent visitors to Upland Island.

Instruments

A review of place attachment literature did not reveal a standardized scale for measuring place attachment. Past empirical efforts have employed individualized methods suited to the specific study (B. B. Brown, 1987; Shumaker & Taylor, 1983). To develop Likert scales to assess both the degree of attachment to the study area and to the general concept of wilderness, a pilot study was conducted to identify and evaluate self-report response items that capture place-dependence and place-identity aspects of attachment.

On the basis of the review of the place attachment literature and research on recreation specialization (Wellman, Roggenbuck, & Smith, 1982), possible questionnaire items were generated for measuring both place attachment and wilderness attachment. Prospective items were reviewed, augmented, and edited by three researchers (other than the authors); this process resulted in 11 wilderness and 27 place attachment items. Items were further evaluated by asking 129 university students to rate each item with respect to any recently visited wilderness, roadless, or natural area. Based on analysis of this data (Williams & Roggenbuck, 1989), five wilderness attachment questions and 13 place attachment ques-

Table 1
Comparison of Survey Contacts and Response Across Study Areas

Survey Contacts	Study Area			
	Caney Creek	Cohutta	Rattlensake	Upland Island
Groups contacted	70	264	202	89
Total individuals	220	799	419	216
Surveys mailed	185	667	296	163
Surveys returned	152	444	220	76
Response rate (%)	82	67	74	47
Response bias	overnight visitors	overnight visitors	none	infrequent visitors

tions rated on a five-point Likert scale ranging from "strongly disagree" to "strongly agree" were included in the mail-back survey. The wilderness attachment scale included items such as "I find that a lot of my life is organized around wilderness use" and "I get greater satisfaction out of visiting wilderness than other recreation places." Examples of place attachment questions included "This place means a lot to me" and "I wouldn't substitute any other area for doing the type of things I did here."

The survey addressed four other areas of interest for this study: (a) previous use of wilderness and the study site and substitutability, (b) sociodemographic characteristics, (c) mode of experience and trip characteristics, and (d) sensitivity to various recreational impacts and wilderness conditions. Use history and sociodemographic and trip characteristics were measured using routine survey questions that need little elaboration.

Substitutability was determined by asking respondents to indicate what they would do if the area was temporarily closed. They were asked either to indicate that they would stay home (no substitute) or to supply the name of an alternate site and indicate the type of area (e.g., wilderness or state park).

Mode of experience was measured by asking respondents to indicate which of three modes was the most important reason for their visit. Respondents were asked to choose between "I came here because I enjoy this place itself" (place mode), "I came here because this is a good place to do the outdoor activities I enjoy" (activity mode), or "I came here because I wanted to spend more time with my companions" (group mode).

Finally, to address sensitivity to wilderness impacts, respondents were asked how influential each of 19 different indicators of social and physical resource conditions were in defining the quality of their wilderness experience (rated from 1 = not at all influential to 6 = extremely influential). These indicators were grouped into four categories based on factor analyses (see Roggenbuck, et al., in press), and scores calculated by taking the average across all the items in a given factor. The categories were labeled ecological impacts, sight and sound intrusions, horse encounters, and hiker encounters.

Analysis

The effects of use history, sociodemographic and trip characteristics, mode of experience, and impact sensitivity on place attachment and wilderness attachment were exam-

ined using analysis of variance (ANOVA) procedures. In total, 25 independent variables were examined for each type of attachment. A two-factor ANOVA model was employed to control for the effect of study area on place and wilderness attachment. Furthermore, because each design was unbalanced, the general linear model for ANOVA was used with main effects estimated using the partial-sums-of-squares method and mean comparisons evaluated using a least-squares-means procedure (SAS Institute, 1985). Where interactions were insignificant ($p > .05$), the interaction term was added to the error term in calculating F -ratios.

Results

The characteristics of the place attachment and wilderness attachment measures are compared across study sites (Table 2). The inter-item reliability coefficient for the 13-item place attachment scale is high (0.92 to 0.93) regardless of study site. With fewer items, the reliability coefficient for the 5-item wilderness attachment scale is naturally lower at 0.79 overall. Reliability is slightly lower for Caney Creek (0.76) and considerably higher for Rattlesnake (0.87).

Place attachment scores are not significantly different among Caney Creek, Cohutta, and Rattlesnake respondents; means were 3.32, 3.40, and 3.27 respectively. However, the mean place attachment score is significantly lower for Upland Island (3.10) compared with Caney Creek and Cohutta. The mean wilderness attachment score is nearly identical for Caney Creek (3.82) and Cohutta (3.83), with the mean for Rattlesnake significantly higher (4.13) and Upland Island significantly lower (3.36).

Place attachment and wilderness attachment are conceptualized as distinct relationships to the setting. However, correlations between the two measures indicate that high place attachment is associated with high wilderness attachment, particularly among Upland Island users (Table 2). Across the four areas the correlation is 0.49 ($p < .000$). The correlation is slightly lower among Rattlesnake users at 0.43 and considerably higher among Upland Island users at 0.71. Correlations in this range are not so high as to

Table 2

Means, Standard Deviations, Reliabilities, and Intercorrelations for Place and Wilderness Attachment by Study Area

Wilderness Area	Sample Size	Place Attachment			Wilderness Attachment			Correlation Between Place and Wilderness Attachment
		Mean ^a	SD	Alpha	Mean ^a	SD	Alpha	
Caney Creek	149	3.32 A	0.72	0.93	3.82 A	0.70	0.76	0.46
Cohutta	441	3.40 A	0.71	0.93	3.83 A	0.68	0.78	0.48
Rattlesnake	76 ^b	3.27 A,B	0.74	0.93	4.13 B	0.74	0.87	0.43
Upland Island	71	3.10 B	0.74	0.92	3.36 C	0.78	0.80	0.71
Total sample	737	3.34	0.72	0.93	3.81	0.72	0.79	0.49

^aMeans identified with the same letter are not significantly different at the $p < .05$ level.

^bIncludes only those respondents contacted at Rattlesnake National Recreation area who indicated that they had visited the wilderness portion of the national recreation area during their trip.

suggest that the two scales are measuring the same construct, but they do indicate that respondents are often attached to both place and wilderness.

Table 3 summarizes the two-factor ANOVA and least-squares-means test for the influence of use history and substitutability on attachment. Across the four study sites, individuals with more previous visits and more years since their first visit to the area are more attached to both place and wilderness. Similarly, respondents who have visited more wilderness areas are more attached to wilderness, but the number of wilderness areas visited is unrelated to place attachment.

Willingness to substitute is associated with lower place attachment scores across all four study sites. Those respondents indicating that no other site was an adequate substitute are more strongly attached to the place than those respondents identifying a non-wilderness substitute. The relationship of substitutability to wilderness attachment, however, depends on the study site. Wilderness attachment is significantly higher among Upland Island users indicating that no substitute site was available, compared with those identifying a nonwilderness substitute (no one indicated a wilderness substitute). At Caney Creek, those identifying a nonwilderness substitute are more attached to wilderness than are those indicating no substitute. (Because only four Caney Creek visitors indicated a wilderness substitute, they were eliminated from the means test.) The relationship between willingness to substitute and wilderness attachment is not significant at Cohutta and Rattlesnake.

The relationships between sociodemographic characteristics and place and wilderness attachment are presented in Table 4. Higher levels of place attachment are associated with lower education and income across all four study areas. Among Caney Creek, Cohutta, and Upland Island respondents, place attachment is consistently lower for those visitors who reside in urban areas of more than 100,000 people. The absence of this relationship among Rattlesnake users is partly due to geography, as that area's nearest urban center is more than 200 miles away (Spokane, Washington). Thus, none of the Rattlesnake wilderness users sampled live in large urban centers. Wilderness attachment is stronger for those respondents belonging to wilderness, conservation, or outdoor organizations and for those respondents who reside in rural areas. In addition, wilderness attachment is stronger among male Cohutta users. Place and wilderness attachment are unrelated to age and size of community in childhood at the $p < .05$ level.

Relationships between trip characteristics (including mode of experience) and attachment are presented in Table 5. As expected, place attachment is strongly related to mode of experience. Those visitors who are place focused have significantly higher mean place attachment scores (3.67) than do activity-focused (3.18) and social-focused (2.95) respondents. Wilderness attachment scores demonstrate a similar relationship. Place-focused visitors have significantly higher mean wilderness attachment scores (3.96) than do activity-focused (3.79) and social-focused (3.31) respondents.

Place attachment and wilderness attachment are significantly stronger among those who travel alone than among those in organized groups and are also stronger among those who indicate that they typically stay more than two nights. However, actual length of stay and camping in the area are unrelated to place and wilderness attachment at the $p < .05$ level. Respondents who indicate that they participated in hunting during their visit are also more attached to place and to wilderness. Wilderness attachment is stronger among those participating in nature study. Place attachment is stronger among hikers than among nonhikers only at Caney Creek and Upland Island, while wilderness attachment is stronger among hikers only at Upland Island. Place attachment is stronger among weekday visitors at Caney Creek and Cohutta but is significantly lower for

Table 3

The Effect of Use History and Substitutability on Place and Wilderness Attachment

Use History and Substitutability	<i>n</i>	Place Attachment			Wilderness Attachment		
		Mean ^a	<i>F</i> -Ratio	Significance	Mean ^a	<i>F</i> -Ratio	Significance
Previous visits							
Less than 3	366	3.00 A	166.71	.000	3.63 A	54.42	.000
3 or more	353	3.53 B			3.92 B		
Years since first visit							
Less than 3	243	3.21 A	34.02	.000	3.69 A	18.95	.000
3 or more	325	3.50 B			3.91 B		
Wilderness areas visited							
Less than 4	361	3.33 A	3.74	N.S.	3.62 A	46.07	.000
4 or more	331	3.22 A			4.06 B		
Availability of substitute							
All areas							
None	161	3.43 A	3.59	.029	significant	3.02 ^b	.011
Wilderness	55	3.30 AB			interaction		
Nonwilderness	432	3.26 B					
Caney Creek							
None	32	no interaction					
Wilderness	4				3.60 A	4.41	.038
Nonwilderness	104				3.25 ^c		
Upland Island					3.90 B		
None	7	no interaction			4.08 A	7.25	.011
Wilderness	0				—		
Nonwilderness	29				3.25 B		

^aMeans identified with the same letter are not significantly different at the $p < .05$ level based on least squares means (SAS Institute, 1985).^b*F*-ratio represents two-way interaction between study area and availability of substitute.^cNot tested because of small sample size.

Table 4

The Effect of Sociodemographic Variables on Place and Wilderness Attachment

Sociodemographic Characteristics	<i>n</i>	Place Attachment			Wilderness Attachment		
		Mean ^a	<i>F</i> -Ratio	Significance	Mean ^a	<i>F</i> -Ratio	Significance
Education							
Less than 12 years	51	3.61 A	8.62	.000	3.98 A	2.31	N.S.
12 years	154	3.41 AB			3.76 A		
13–15 years	162	3.30 B			3.85 A		
16 or more	365	3.16 C			3.74 A		
Income							
Less than \$20,000	130	3.42 A	3.88	.009	3.84 A	0.81	N.S.
\$20,000–\$34,999	230	3.34 AB			3.78 A		
\$35,000–\$49,999	146	3.21 BC			3.82 A		
\$50,000 or more	193	3.18 C			3.73 A		
Organizations							
Wilderness/conservation	128	3.27 A	1.15	N.S.	4.04 A	13.28	.000
Other outdoor	100	3.27 A			4.01 A		
None	476	3.28 A			3.68 B		
Youth groups	33	3.04 A			3.67 B		
Current residence							
All areas							
Rural	157	significant interaction	2.10 ^b	.027	3.96 A	6.51	.000
Less than 25,000	176				3.81 B		
25,000–100,000	165				3.80 B		
100,000 +	232				3.64 C		
Caney Creek							
Less than 25,000	19	3.68 A	2.98	.034	no interaction		
Rural	27	3.45 AB					
25,000–100,000	29	3.25 B					
100,000 +	72	3.18 B					
Gender							
All areas							
Male	520	3.31 A	1.03	N.S.	significant interaction	2.98	.031
Female	181	3.25 A					
Cohutta							
Male	328	no interaction			3.88 A	6.76	.010
Female	112				3.69 B		

^aMeans identified with the same letter are not significantly different at the $p < .05$ level based on least squares means (SAS Institute, 1985).

^b*F*-ratio represents two-way interaction between study area and availability of substitute.

weekday visitors at Upland Island. Similarly, wilderness attachment is significantly stronger among weekday Cohutta visitors but lower among weekday Upland Island visitors.

Finally, relationships between sensitivity to wilderness impacts and attachment are reported in Table 6. Place and wilderness attachment are significantly higher among those expressing greater concern for ecological impacts and horse encounters. In addition, wilderness attachment is significantly higher among those expressing more concern for sight and sound intrusions and hiker encounters.

Table 5
The Effect of Mode of Experience and Trip Characteristics on Place
and Wilderness Attachment

Trip Characteristics	<i>n</i>	Place Attachment			Wilderness Attachment		
		Mean ^a	<i>F</i> -Ratio	Significance	Mean ^a	<i>F</i> -Ratio	Significance
Mode of experience							
Place focus	209	3.67 A	51.21	.000	3.96 A	29.15	.000
Activity focus	422	3.18 B			3.79 B		
Group focus	87	2.94 C			3.31 C		
Group size							
Alone	58	3.48 A	2.39	.050	4.01 A	2.95	.020
3 People	93	3.43 A			3.85 AB		
2 People	232	3.25 B			3.81 ABC		
4 People	100	3.26 AB			3.73 BC		
5 or More	218	3.23 B			3.68 C		
Group type							
Alone	60	3.45 A	10.18	.000	3.99 A	4.04	.008
Friends/family & friends	325	3.34 A			3.80 AB		
Family	187	3.31 A			3.77 B		
Organized group	129	2.96 B			3.61 C		
Typical length of stay							
More than 2 nights	87	3.40 A	3.51	.015	4.07 A	11.86	.000
1–2 nights	383	3.23 B			3.85 B		
Full day	176	3.38 A			3.74 B		
Only a few hours	79	3.16 B			3.44 C		
Participation in hunting							
Yes	173	3.54 A	28.63	.001	3.94 A	9.82	.002
No	564	3.14 B			3.71 B		
Participation in nature study							
Yes	453	3.31 A	1.89	N.S.	3.93 A	17.84	.000
No	284	3.23 A			3.61 B		
Participation in hiking							
All areas		significant interaction	4.36 ^b	.005	significant interaction	4.11	.007
Upland Island							
Yes	22	3.39 A	5.05	.028	3.79 A	10.83	.002
No	49	2.97 B			3.17 B		
Day of week							
All areas		significant interaction	3.87	.009	significant interaction	3.85	.009
Caney Creek							
Weekend	119	3.27 A	6.60	.011	3.81 A	1.26	N.S.
Weekday	20	3.71 B			4.00 A		
Cohutta							
Weekend	351	3.34 A	11.19	.001	3.80 A	4.80	.029
Weekday	89	3.62 B			3.98 B		
Upland Island							
Weekend	21	3.41 A	4.72	.037	3.64 A	5.47	.026
Weekday	14	2.89 B			3.03 B		

^aMeans identified with the same letter are not significantly different at the $p < .05$ level based on least squares means (SAS Institute, 1985).

^b*F*-ratio represents two-way interaction between study area and availability of substitute.

Table 6
The Effect of Wilderness Impact Sensitivity on Place and Wilderness Attachment

Impact Sensitivity Indices	<i>n</i>	Place Attachment			Wilderness Attachment		
		Mean ^a	<i>F</i> -Ratio	Significance	Mean ^a	<i>F</i> -Ratio	Significance
Ecological impacts							
Less than 5.2	354	3.18 A	12.38	.000	3.61 A	50.84	.000
5.2 or more	378	3.37 B			3.97 B		
Sight & sound intrusions							
Less than 4.8	357	3.25 A	1.08	N.S.	3.63 A	41.09	.000
4.8 or more	371	3.31 A			3.96 B		
Horse encounters							
Less than 4.8	370	3.23 A	4.00	.046	3.69 A	16.31	.000
4.8 or more	357	3.33 B			3.90 B		
Hiker encounters							
Less than 4.2	348	3.24 A	1.19	N.S.	3.66 A	24.08	.000
4.2 or more	364	3.30 A			3.92 B		

^aMeans identified with the same letter are not significantly different at the $p < .05$ level based on least squares means (SAS Institute, 1985).

Discussion

The premise of this study was that people often develop strong emotional relationships to recreation places that are not easily captured by multiattribute concepts of recreational settings. The distinction between place attachment (valuing the setting as an end in itself) and wilderness attachment (valuing a setting as a member of a class of settings) appears generally valid. Despite a modest intercorrelation between place and wilderness attachment, the two measures differ on 9 out of 25 relationships examined. In particular, the influence of use history on place attachment appears to be limited to specific experience at the site. Wilderness attachment, on the other hand, is associated with both site-specific experience and general wilderness experience.

Substitution is another area in which differences were observed between place and wilderness attachment, but the implications are less clear. Though place attachment is linked to lack of substitutes, the link between substitutability and wilderness attachment depends on study area. Wilderness attachment is associated with the availability of non-wilderness substitutes at Caney Creek and no substitute at Upland Island. However, for these study sites wilderness substitutes were rarely identified, so the nature of the relationship is difficult to compare with place attachment. A general problem interpreting these results, however, is that the open-ended format of the question relied on the respondent to indicate whether a substitute was wilderness or nonwilderness. Thus, because of missing or incomplete information, the reliability of the responses is unknown.

Place attachment also differs from wilderness attachment in relationships to sociodemographic characteristics. Place attachment appears to be linked to lower socioeconomic background (education and income), whereas wilderness attachment appears to be linked more to lifestyle (organizational memberships). One possible explanation is that socialization may differentially influence each type of attachment. Wilderness attachment may be acquired more often from direct interaction with wilderness and conservation enthusiasts, whereas place attachment may have more to do with more informal interactions with friends, neighbors, and co-workers.

Similarities between place and wilderness attachment dominate the trip characteristics, with the exception of stronger wilderness attachment among nature study participants. Relationships between attachment and length of stay suggest that more attached respondents are engaged in "wishful thinking." Place and wilderness attachment are unrelated to actual length of stay (which should be a good indicator of involvement), yet clearly related to the perception of *typically* longer stays. If more attached respondents are not actually taking longer trips, either they are projecting a desire for longer trips or the reality that recent trips have become shorter eludes them.

The questions concerning sensitivity to setting conditions were specifically designed to identify indicators for wilderness quality. As expected then, wilderness attachment is more strongly linked to all four of the impact sensitivity indexes. Still, though place attachment is unrelated to sight and sound intrusions and hiker encounters—characteristics that should set wilderness apart from other outdoor recreation areas—higher place attachment is associated with sensitivity to ecological impacts and horse encounters. A person attached to any recreation place is likely to be sensitive to such site impacts as litter and vegetation loss but not necessarily to impacts on such features as solitude, which are the defining characteristics of wilderness.

Aside from interactive effects involving substitutability, current residence, gender, hiking, and weekday versus weekend visit, study area had a main effect on level of place and wilderness attachment. Respondents from Upland Island clearly stand out as less

attached to the place and to wilderness. Concerns about eastern areas lacking a true wilderness constituency among their users are not evident in the data from Caney Creek and Cohutta. Though the respondents from the western area (Rattlesnake) were more attached to wilderness than Caney Creek and Cohutta respondents, levels were nonetheless high for all three areas. In the case of Upland Island, the absence of a wilderness constituency as indicated by the lower wilderness attachment scores may be a problem. Unlike most wilderness areas, Upland Island has generally flat terrain, lacks conventional trails, and has a large number of short-stay hunters. The implication is not that Upland Island lacks wilderness characteristics, but that its clientele does not relate to it as wilderness. Instead the relationship may be primarily functional (i.e., as a place to hunt). Understanding this relationship should facilitate communication among varying constituencies (users, wilderness preservation interests, and agency personnel) in the process of developing a management plan for the area.

Geography may explain the more important interactions involving study site. In particular, the results show that only among Rattlesnake visitors are place and wilderness attachment unrelated to weekday versus weekend visits and place attachment unrelated to current residence. The Rattlesnake area is unique among the study sites in that it is both more isolated from large urban centers *and* more accessible to a local population (at the doorstep of Missoula, Montana). Its location has the effect of minimizing the number of respondents from large communities (associated with lower place attachment) and making visits by less attached visitors on weekdays more convenient.

Conclusions

The investigation of sense of place has its origins in phenomenological inquiry. One study cannot begin to capture the full range of meanings that may be associated with wildland places. The results presented here represent an exploratory step; much remains to be done to understand and measure the meaning of places.

We feel this approach holds particular promise for at least two areas of recreation research. The measurement of attachment may help to advance the conceptual work on linking recreational conflict to resource specificity and mode of experience (Jacob & Schreyer, 1980); this concept has so far received scant empirical evaluation (Watson, Williams, & Daigle, 1991). Second, place attachment analysis offers a way to apply concepts of activity specialization and involvement to recreational settings. Just as people may specialize in some leisure pursuits, some people may be place specialists with patterns of leisure focused on the experience of place (F. Steele, 1981). Notable examples of place-oriented outdoor enthusiasts include John Muir and Ed Abbey.

Resource managers are just beginning to recognize the importance and impact of emotional, symbolic, and even spiritual value of wildlands in multiple use planning and management (Salwasser, 1990). The significance of a place approach is that it captures the connections between people and geographic areas directly rather than establishing such connections indirectly in the form of use and user characteristics. This approach can enhance wildland planning for two reasons. First, resource planning has failed to satisfy the public, in part because the plans often do not indicate where proposed actions are to take place. Place attachment reminds resource managers that the public is involved with specific places under their jurisdiction, not just summary tables of acres to be allocated to various uses during a planning cycle. Second, resource planning fails to capture the full range of meaning associated with wildlands. Planning has emphasized the economic and, sometimes, ecological values, while ignoring the emotional, sym-

bolic, and spiritual value of wildlands. The place perspective reminds managers of what the commodity approach can only hint at: why people care so passionately about the management of a particular resource. It demonstrates that places are not just the sum of interchangeable attributes, but whole entities, valued in their entirety. It recognizes that resources are not only raw materials to be inventoried and molded into a recreation opportunity, but also, and more important, places with histories, places that people care about, places that for many people embody a sense of belonging and purpose that give meaning to life.

Acknowledgements

The authors wish to thank John Daigle of the Intermountain Research Station and Mark Young of the Southeast Forest Experiment Station for their assistance in conducting this research, and three anonymous reviewers for their comments on an earlier draft of the manuscript.

References

- Altman, I. (1976). Privacy: A conceptual analysis. *Environment and Behavior*, 8, 7-29.
- Belk, R. W. (1988). Possessions and the extended self. *Journal of Consumer Research*, 15, 139-168.
- Brown, B. B. (1987). Territoriality. In D. Stokols & I. Altman (Eds.), *Handbook of environmental psychology* (pp. 505-531). New York: John Wiley.
- Brown, P. J. (1989). Quality in recreation experience. In A. Watson (Compiler), *Outdoor Recreation Benchmark 1988: Proceedings of the National Outdoor Recreation Forum* (USDA Forest Service Gen. Tech. Rep. SE-52, pp. 412-421). Asheville, NC: Southeastern Forest Experiment Station.
- Cooksey, R. W., Dickinson, T. L., & Loomis, R. J. (1982). Preferences for recreational environments: Theoretical considerations and a comparison of models. *Leisure Sciences*, 5, 19-34.
- Driver, B. L., Brown, P. J., Stankey, G. H., & Gregoire, T. G. (1987). The ROS planning System: Evolution, basic concepts, and research needed. *Leisure Sciences*, 9, 201-212.
- Feldman, R. M. (1990). Settlement-identity: Psychological bonds with home places in a mobile society. *Environment and Behavior*, 22, 183-229.
- Haggard, L. M., & Williams, D. R. (1992). Identity affirmation through leisure activities. *Journal of Leisure Research*, 24, 1-18.
- Jacob, G. R., & Schreyer, R. (1980). Conflict in outdoor recreation: A theoretical perspective. *Journal of Leisure Research*, 12, 368-380.
- Johnson, S., & Burdge, R. J. (1974). An analysis of community and individual reactions to forced migration due to reservoir construction. In D. Field, J. Barron, & B. Long (Eds.), *Water and community development: social and economic perspectives* (pp. 169-188). Ann Arbor, MI: Ann Arbor Science.
- Knopf, R. C. (1987). Human behavior, cognition, and affect in the natural environment. In D. Stokols & I. Altman (Eds.), *Handbook of environmental psychology* (pp. 783-726). New York: John Wiley.
- Korpela, K. M. (1989). Place-identity as a product of environmental self-regulation. *Journal of Environmental Psychology*, 9, 241-256.
- Lee, R. G. (1972). The social definition of recreation places. In W. Burch, Jr., N. Cheek, Jr., & L. Taylor (Eds.), *Social behavior, natural resources and the environment* (pp. 68-84). New York: Harper & Row.
- Lynch, K. (1960). *The image of the city*. Cambridge, MA: MIT Press.
- Manfredo, M., Driver, B. L., & Brown, P. J. (1983). A test of concepts inherent in experience-

- based setting management for outdoor recreation areas. *Journal of Leisure Research*, 15, 263-283.
- McCool, S. F., Stankey, G. H., & Clark, R. N. (1985). Choosing recreation settings: Processes, findings, and research directions. In G. Stankey & S. McCool (Compilers), *Proceedings—Symposium on Recreation Choice Behavior* (USDA Forest Service Gen. Tech. Rep. INT-184, pp. 1-8). Ogden, UT: Intermountain Research Station.
- Peterson, G., Stynes, D., Rosenthal, D., & Dwyer, J. (1985). Substitution in recreation choice behavior. In G. Stankey & S. McCool (Compilers), *Proceedings—Symposium on Recreation Choice Behavior* (USDA Forest Service Gen. Tech. Rep. INT-184, p. 19-30). Ogden, UT: Intermountain Research Station.
- Proshansky, H. M. (1978). The city and self-identity. *Environment and Behavior*, 10, 147-169.
- Proshansky, H. M., Fabian, A. K., & Kaminoff, R. (1983). Place-identity: Physical world socialization of the self. *Journal of Environmental Psychology*, 3, 57-83.
- Relf, E. (1976). *Place and placelessness*. London: Pion Ltd.
- Rivlin, L. G. (1982). Group membership and place meanings in an urban neighborhood. *Journal of Social Issues*, 38(3), 75-93.
- Roggenbuck, J. W., Watson, A. E., Williams, D. R. (in press). Defining acceptable conditions in wilderness. *Environmental Management*.
- Russell, J. A., & Ward, L. M. (1982). Environmental psychology. *Annual Review of Psychology*, 33, 651-688.
- Salwasser, H. (1990). Gaining perspective: Forestry for the future. *Journal of Forestry*, 88(11), 35-38.
- SAS Institute Inc. (1985). *SAS user's guide: Statistics, version 5 edition*. Cary, NC: SAS Institute.
- Scherl, L. M. (1989). Self in wilderness: Understanding the psychological benefits of individual wilderness interaction through self-control. *Leisure Sciences*, 11, 123-135.
- Schreyer, R., Jacob, G., & White, R. (1981). Environmental meaning as a determinant of spatial behavior in recreation. In *Proceedings of the Applied Geography Conferences*, 4, 294-300.
- Schreyer, R., Knopf, R. C., & Williams, D. R. (1985). Reconceptualizing the motive/environment link in recreation choice behavior. In G. Stankey & S. McCool (Compilers), *Proceedings—Symposium on Recreation Choice Behavior* (USDA Forest Service Gen. Tech. Rep. INT-184, pp. 9-18). Ogden, UT: Intermountain Research Station.
- Schreyer, R., & Roggenbuck, J. W. (1981). Visitor images of national parks: The influence of social definitions of places on perceptions and behavior. In D. Lime & D. Field (Eds.), *Some recent products of river recreation research* (USDA Forest Service, Gen. Tech. Rep. NC-63, pp. 39-44). St. Paul, MN: North Central Forest Experiment Station.
- Shumaker, S. A., & Taylor, R. B. (1983). Toward a clarification of people-place relationships: A model of attachment to place. In N. Feimer & E. Geller (Eds.), *Environmental psychology: Directions and perspectives* (pp. 219-251). New York: Praeger.
- Steele, C. (1988). The psychology of self-affirmation: Sustaining the integrity of the self. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (pp. 262-302). New York: Academic Press.
- Steel, F. (1981). *The sense of place*. Boston: CBI Publishing.
- Stokols, D., & Shumaker, S. A. (1981). People in places: A transactional view of settings. In J. Harvey (Ed.), *Cognition, social behavior, and the environment* (pp. 441-488). Hillsdale, NJ: Erlbaum.
- Tuan, Y. (1974). *Topophilia: A study of environmental perception, attitudes, and values*. Englewood Cliffs, NJ: Prentice-Hall.
- Tuan, Y. (1977). *Space and place: The perspective of experience*. Minneapolis, MN: University of Minnesota Press.
- Wallendorf, M., & Arnould, D. J. (1988). "My favorite things": A cross-cultural inquiry into object attachment, possessiveness, and social linkage. *Journal of Consumer Research*, 14, 531-547.
- Watson, A. E., Williams, D. R., & Daigle, J. J. (1991). Sources of conflict between hikers and

- mountain bikes in the Rattlesnake National Recreation Area. *Journal of Park and Recreation Administration*, 9(3), 59-71.
- Wellman, J. D. (1987). *Wildland recreation policy*. New York: John Wiley.
- Wellman, J. D., Roggenbuck, J. W., & Smith, A. C. (1982). Recreation specialization and norms of depreciative behavior among canoeists. *Journal of Leisure Research*, 14, 323-340.
- Williams, D. R. (1988a). Recreational specialization: A complex issue for visitor management. *Western Wildlands*, 14(3), 21-26.
- Williams, D. R. (1988b). Measuring perceived similarity among outdoor recreation activities: A comparison of visual and verbal stimulus presentations. *Leisure Sciences*, 10, 153-166.
- Williams, D. R. (1989). Great expectations and the limits to satisfaction: A review of recreation and consumer satisfaction research. In A. Watson (Compiler), *Outdoor Recreation Benchmark 1988: Proceedings of the National Outdoor Recreation Forum* (USDA Forest Service Gen. Tech. Rep. SE-52, pp. 422-438). Asheville, NC: Southeastern Forest Experiment Station.
- Williams, D. R., & Roggenbuck, J. W. (1989, October). *Measuring place attachment: Some preliminary results*. Paper presented at the NRPA Symposium on Leisure Research, San Antonio, TX.