

TRANSCONTINENTAL WILDERNESS SURVEY: COMPARING PERCEPTIONS BETWEEN WILDERNESS USERS IN THE EASTERN AND WESTERN UNITED STATES

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Abstract.—This study explores the differences in perceptions of wilderness between recreationists in the Eastern United States and those from the West, with a focus on definitions of wilderness areas and factors that may decrease enjoyment of the wilderness experience. The few studies performed on this comparison over the past 25 years have produced inconsistent results and there is a need for more research. We conducted a survey of recreationists at wilderness areas in the Allegheny National Forest in Pennsylvania, the Mt. Hood National Forest in Oregon, and through a snowball sample of Alaskan and Californian wilderness users. There were 102 respondents: 47 Eastern users and 55 Western users. Results indicate that there are few differences between Eastern and Western wilderness users in perceptions of wilderness, and that Eastern users actually have somewhat stricter interpretations of wilderness.

1.0 INTRODUCTION

Wilderness areas in the Eastern United States are generally different from those in the West. Eastern wilderness areas tend to be smaller, since the region is much more densely developed and much of the land is privately owned. Eastern wilderness areas also have

largely been disturbed in the past through farming or timber operations, while many in the West still retain much of their pristine state. Additionally, Eastern wilderness areas tend to be closer to population centers, are thus more accessible than many Western areas, and receive higher numbers of visitors as a result. High visitation rates in smaller areas may lead to congestion in Eastern wilderness areas (Roggenbuck & Watson, 1989).

As there are clearly differences in the size and physical features of Eastern and Western Wilderness areas, are there also differences in the visitation patterns and visitor perceptions? If Eastern wilderness areas are more congested than Western wilderness areas, are Eastern users more tolerant of encountering other people in the wilderness? Are visitors to Western wilderness areas more discerning about the pristine condition of the areas they visit? Some research has been examined these questions in the past, particularly in the late 1970s and early 80s, but it was largely inconclusive. Studies by Boteler (1981), Lucas (1980), and Roggenbuck (1980), found that there are few differences between users from the East and those from the West in terms of demographics such as age, income, and education. However, Donnelly et al. (1981), found that there were some differences in perceptions, motivations, and preferences, especially towards crowding. Little if any research has been performed on this topic since the early 1980s, and the lack of a consensus suggests a need for further study. Although demographic data can indeed be useful to wildland managers, understanding how visitors view wilderness and what might detract from their visits is arguably more useful in planning, and thus was the focus of this study. Findings from this study could help in the formation of management goals for wilderness areas based on the regional preferences of users in different parts of the nation.

The goal of this study was to determine the differences in wilderness perceptions (if any) between recreationists who use Eastern wilderness areas and those who use Western ones. The hypothesis of the research is that there will be a significant difference in wilderness perceptions and preferences between Eastern users and Western ones related to differences in the wilderness areas in the two regions. Western users are expected to have stricter interpretations of the definition of wilderness. They are also expected to prefer attributes of Western wilderness areas like less development, a pristine environment without any prior human disturbance, and fewer trails and signs. Eastern wilderness area users are expected to favor Congressional designation of wilderness areas as a way of officially designating them as “wild” and are expected to be stronger advocates for protection of wilderness areas than their Western counterparts.

2.0 METHODS

A survey was designed and administered in conjunction with the 2005 and 2006 National Visitor Use Monitoring (NVUM) Survey conducted by the U.S. Forest Service in the Allegheny National Forest. NVUM is administered every 5 years on each National Forest; it is designed to elicit information about visitor demographics, types of activities recreationists are doing in the forest, and lengths of their visits or stays. Respondents were intercepted at trailheads and canoe pull-outs as they were finishing their recreational experiences and preparing to leave the site. Survey days were randomly assigned to those locations by the Forest Service. Interviewees were self-identified wilderness users, and were further screened to ensure that they had indeed visited a wilderness area.

As Alaskan wilderness areas are far larger, more isolated, and experience more dispersed visitation, a snowball sample (Goodman, 1961) was used to gather responses from this area. The survey was first distributed to U.S. Forest Service personnel in the Tongass National Forest; 39 completed surveys were returned from wilderness users in Alaska, Washington, Oregon, and California.

2.1 Study Areas

The first part of this study was conducted at the wilderness areas in the Allegheny National Forest in north-central Pennsylvania in the summer of 2005. This forest was established in 1923 after most of the area had been denuded of trees, and as a result is comprised almost entirely of second-growth forest (Allegheny National Forest, 2005). One Congressionally designated wilderness area surveyed in the Allegheny was Hickory Creek. This area was designated in 1984 and includes 8,633 acres of previously clearcut land. Its borders are delineated by a paved state-maintained road and a gravel Forest Service road. It is adjacent to Heart’s Content Scenic Area, which also serves as a trailhead. Heart’s Content has proven in the past to be an effective location from which to study Hickory Creek Wilderness visitors (Graefe et al., 2000). However, for this study, additional screening became necessary when it was observed very early on that many visitors believed they had been in the designated wilderness area when in fact they been in an adjacent nonwilderness area.

The second wilderness area studied was the Allegheny Islands Wilderness Area. Like Hickory Creek, it too was established in 1984. It is made up of seven islands that stretch along 56 miles of the Allegheny National Wild and Scenic River. Some of these islands were formerly farmland, while others have always been wetlands. The total size of the islands is 368 acres, which makes this one of the smallest wilderness reserves in the United States (Allegheny National Forest, 2005). Numerous farms, roads, and towns lie west of the river near the islands. U.S. Route 62 parallels the river to the east, and traffic counts conducted as part of the NVUM survey indicated that an average of about 2000 vehicles, including many commercial trucks, use this highway each day. These reserves were of special interest in this study because of their small size and former use. They are quite different from the traditional Western wilderness area that covers tens or hundreds of thousands, or even millions, of acres of relatively pristine landscape, such as the Bob Marshall Wilderness in Montana, Frank Church-River of No Return Wilderness in Idaho, and

the Gates of the Arctic Wilderness in Alaska. These preserves are all several times larger than the entire Allegheny National Forest. There is no spot in the Allegheny Islands Wilderness where a visitor can see no development on either side of the river or at least hear the traffic on Route 62. Hickory Creek is quieter due its more secluded location and large size, but contains the remains of an old World War II-era artillery range and other signs of former use.

The second part of this study was conducted in the Mt. Hood National Forest in Oregon in 2006. Mt. Hood NF has 189,200 acres of wilderness distributed between five units, the smallest of which is approximately 24,000 acres. Mount Hood was chosen as a study site because of the size and extent of these wilderness areas which contrast greatly with the small areas in the Allegheny. Some of the wilderness in the Mt. Hood NF has been previously clearcut, while the rest is old growth forest or alpine terrain. There is also variation in the proximity to development and roads amongst the five wilderness areas, with some being relatively close to highways and towns while others are on more isolated tracts of the forest (Mt. Hood National Forest, 2007).

2.2 Survey Design

The first part of the survey contained six statements about wilderness areas. Respondents were asked to identify on a 5-point Likert-type scale – with 1 being strongly disagree, 3 being neutral, and 5 being strongly agree – how much they agreed with each in a series of statements. These statements were devised to reflect ideas codified in the Wilderness Act of 1964 (Wilderness Society, 2005), and to focus on some conditions of the features of Eastern wilderness areas that may be different from those in the West, such as visible prior development.

The second part of the survey was designed to determine how encountering certain situations in a wilderness area might detract from that user's experience. This was also measured on a Likert-type scale of 1 to 5, where 1 meant "no bother," 3 being neutral, and 5 being "major annoyance." Again, many of these situations were selected based on conditions

that may vary between East and West wilderness areas, such as congestion along trails (Roggenbuck and Watson, 1988) and distances from population centers. Many of these potentially detrimental conditions were also based on factors examined in previous studies, such as encountering campfire rings in the wilderness (Roggenbuck & Watson, 1993) and hearing noise from passing aircraft while in a wilderness (Fidell et al., 1996; Tarrant et al., 1995).

3.0 RESULTS

A total of 102 surveys were completed, 47 by Eastern wilderness users and 55 by Western users. Of the 17 items in the survey, independent samples t-tests showed only four with significant differences between Eastern and Western users. Easterners felt more strongly that wilderness areas need to be free of human disturbance, with a mean of 4.69 as opposed to 4.26 for Westerners (two-tailed significance of .002). They also felt that wilderness areas are places where nature is primarily in control, with a mean of 4.77 versus 4.21 for Westerners (two-tailed significance of .001), and that a wilderness area needs to be designated as such by the U.S. Congress for them to feel that it is indeed wilderness (mean of 2.85 as opposed to 2.37, two-tailed significance of .038). Easterners also showed a greater preference for trails than Westerners, with a mean score of 1.27 for the former group and 1.58 for the latter (two-tailed significance of .045). These results are summarized in Table 1.

Combined results from both Easterners and Westerners showed a general consensus on many items, but disagreement on others. Most users said that seeing items left behind by other people strongly detracted from their experience in wilderness areas (mean of 4.84 with a standard deviation of 0.482), while trails did not (mean of 1.46 with a std. dev. of 0.875). There was some disagreement about whether or not wilderness areas have to have always been free of human disturbance (SD=1.484), whether or not wilderness areas are dangerous places (SD=1.24), and whether or not hearing aircraft overhead (SD=1.417) and encountering dogs (SD=1.403) detracted from the wilderness experience. These results are summarized in Table 2.

Table 1.—Comparison of Eastern and Western wilderness user responses

Dimension	Mean ^a		2-tailed sig.
	East	West	
A wilderness area is one that is free of human disturbance	4.69	4.26	.002*
A wilderness area is one that has always been free of human disturbance	3.60	3.50	.064
A wilderness area is a place where nature is primarily in control	4.77	4.21	.001*
A wilderness area is a place that needs to be specifically designated as such by Congress	2.85	2.37	.038*
A wilderness area is a difficult place to access	2.93	2.71	.485
A wilderness area is a dangerous place	2.35	1.82	.338
Detriment of:			
Seeing other people	2.75	2.90	.436
Hearing other people	3.31	3.40	.518
Seeing development outside of the wilderness area from within	4.08	3.84	.584
Hearing sounds of development outside the wilderness area from within	4.40	4.30	.833
Seeing trails	1.27	1.58	.045*
Seeing fire pits	1.92	2.34	.080
Seeing items left behind by others	4.85	4.81	.879
Seeing aircraft overhead	2.56	2.37	.804
Hearing aircraft overhead	2.81	2.53	.771
Seeing dogs	2.04	2.61	.143
Seeing horses	2.15	2.34	.172

^a1 = strong disagreement/no detriment; 3 = neutral/no opinion; 5 = strong agreement/extreme detriment

*Significant at the .05 level.

Table 2.—Combined results of Eastern and Western Wilderness users.

Dimension	Mean ^a	Std. Dev.
A wilderness area is one that is free of human disturbance	4.37	0.954
A wilderness area is one that has always been free of human disturbance	3.32	1.484
A wilderness area is a place where nature is primarily in control	4.47	0.909
A wilderness area is a place that needs to be specifically designated as such by Congress	2.56	1.480
A wilderness area is a difficult place to access	2.89	1.151
A wilderness area is a dangerous place	2.26	1.240
Detriment of:		
Seeing other people	2.86	1.152
Hearing other people	3.42	1.164
Seeing development outside of the wilderness area from within	3.99	1.247
Hearing sounds of development outside the wilderness area from within	4.28	0.965
Seeing trails	1.46	0.875
Seeing fire pits	2.13	1.248
Seeing items left behind by others	4.84	0.482
Seeing aircraft overhead	2.59	1.308
Hearing aircraft overhead	2.86	1.417
Seeing dogs	2.28	1.403
Seeing horses	2.36	1.311

^a1 = strong disagreement/ no detriment; 3 = neutral/no opinion; 5 = strong agreement/extreme detriment

4.0 CONCLUSIONS

The findings largely did not support the hypotheses. There was little difference between Eastern and Western users with regard to most preferences about wilderness areas, and Eastern users actually preferred some more primitive and pristine conditions than their Western counterparts. The only hypotheses that were supported were that Eastern users would be more likely to favor designation by Congress for them to feel that an area is wilderness and that Western users prefer trails less than Eastern users.

There are several possible reasons for these results. First, the preference of Eastern users for stricter development-free attitudes toward wilderness may stem from the fact that Eastern users have less opportunity to experience such conditions and therefore come to value these qualities more. Instead of being more complacent in their acceptance of Eastern wilderness areas as being more disturbed, as was hypothesized, these users may be aware of the better qualities that can be found in the West and wish for those same qualities at Eastern areas. Likewise, it might be possible that Western users have come to be used to their more pristine wilderness areas and could be taking these qualities for granted.

There are several possible explanations for the general lack of differences between Eastern and Western wilderness users. First, those who prefer to recreate in wilderness areas may share a set of preferences and values that transcend geographic differences. Although not included in the formal study data, on-site conversations with respondents support this idea that key values are shared by wilderness users in different parts of the country. Many wilderness visitors in the East and West had similar clothing, demographics, and even vehicles. Second, analysis of zip codes showed that the vast majority of wilderness users surveyed in this study were from suburban areas. It is possible that suburban areas in different parts of the country offer similar experiences and encourage universal desires for wilderness “escape” experiences.

4.1 Implications

Managers of wilderness areas basically face the same perceptions of wilderness in different parts of the country despite the different attributes of the wilderness areas themselves. Eastern users want more wilderness areas to be designated, and there is more demand in eastern areas for some of the pristine qualities found in the West. Future wilderness designations or expansions should seek to include areas with such qualities in the East, if they can be found. Additionally, Eastern areas under wilderness designation study status should minimize usage that can cause appearances of disturbance. Additional research could help to make this study more robust by increasing the sample size of this survey and including more regions such as the Southeast and Southwest. Further research could also examine variables that were not in this study. Understanding visitors’ perceptions of additional characteristics of wilderness areas, such as size, distance from population centers and main roads, quality/abundance of trail markings, and requirements for wilderness permits, could prove to be useful.

5.0 CITATIONS

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