

COST CONSIDERATION AS A FACTOR AFFECTING RECREATION SITE DECISIONS

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Abstract: Because they are charged with providing opportunities for all potential site users, it is important that managers at public sites understand the characteristics and behaviors of different user groups. Recreationists who are sensitive to cost may be more sensitive to certain changes in policies, such as fees and other charges, than those who are not sensitive to costs.

Day users at six recreation sites in northwestern South Carolina were surveyed to determine use patterns and the factors that affect their outdoor recreation participation and site choice. Of particular interest is the effect of cost on their choice of sites and their levels of participation. Respondents were categorized based on whether they chose cost as the most important factor limiting their choice of outdoor activity locations. About 25% of the respondents chose cost as the most important factor. The mean annual household income of those choosing cost was almost \$15,000 less than that of those not choosing cost. Only 18% of those choosing cost had household incomes greater than \$60,000 versus 43% of those not choosing cost.

Respondents who chose cost appeared to spend more time at the sites at which they were sampled than those who did not choose costs. Both groups were similar in terms of number of individuals involved in each per visit, number of children at the sites, and ages of adults and children. Respondents choosing cost did not tend to avoid sites charging entrance or parking fees and, as a percentage of respondents, they outnumbered those not choosing cost on one of the three fee sites in the study. However, respondents choosing cost appear more likely than the others to be affected by fees.

Introduction

Fees for the use of public outdoor recreation areas can be a controversial issue for many reasons, including the fact that they raise questions concerning equity or fairness (Harris and Driver 1987, Warren and Rea 1998, Binkley and Mendelsohn 1987). Of concern is whether those who can least afford it

are affected the most by fees. Do fees cause recreationists to change their patterns of behavior by reducing their number of visits or by switching to different recreation sites? If so, are certain types of recreationists affected more than others? Public reaction to fees on public lands is of interest to public land managers as well as managers of recreation sites supplied by private firms (Chavez 1998, Lime et al, 1998). The U.S.D.A. Forest Service started its Recreation Fee Demonstration Program in 1996. This is a test project in which an entrance or parking fee is charged at selected recreation sites. Although numerous studies document entrance and use fees from many perspectives, the expansion of this practice on federal lands raises many questions concerning its influence on equity and site use.

This paper examines recreation participation and site choice decisions based on participants' perception of the relative importance of cost and time as factors limiting their choice of sites. Of particular concern is site switching in response to fees, and the role of substitute sites in that process. This paper focuses on identifying and comparing two groups of recreationists; those who are sensitive to costs and those who are not. These groups are profiled and compared in terms of demographics and recreation participation. The following questions are addressed:

What are the similarities between the groups?

How do they differ?

Does stated sensitivity to cost affect participation and site choice?

Is one group more likely to make changes in recreation participation because of fees?

If so, what type of action might be taken?

Study Area

The primary study area is the Andrew Pickens District of the Sumter National Forest in the mountains of northwestern South Carolina. Recreation sites in this part of the state are operated by the U. S. Forest Service; the South Carolina Department of Parks, Recreation, and Tourism; the Pendleton District Historical, Recreational, and Tourism Commission; the county (primarily Oconee County); the U.S. Army Corps of Engineers; and local municipalities such as the city of Walhalla. The South Carolina Department of Natural Resources operates a fish hatchery in the study area adjacent to one of the study sites. Clemson University maintains a locally popular site on the university forest and another at its botanical garden. Duke Energy Corporation operates a picnic area nearby at the site of a power plant and education center. The South Carolina Forestry Commission has a limited involvement in recreation use, but not primarily in the study area. A detailed description of the study area is given in Marsinko (2000).

Six primary sites and two roadside picnic areas were chosen for the study. The primary sites are; Yellow Branch (U.S. Forest Service), Stumphouse Tunnel Park (operated in 1998 by the Pendleton District Historical, Recreational, and Tourism Commission), Oconee State Park (South Carolina Department of Parks, Recreation, and Tourism), Chattooga

Picnic area and Fishing Pier (known to most local recreationists as the Fish Hatchery - U.S. Forest Service), High Falls County Park (Oconee County), and South Cove County Park (Oconee County). All of these sites provide day use opportunities.

Methods

A personal interview survey was conducted on the six primary sites (Yellow Branch, Stumphouse Tunnel Park, Oconee State Park, the Fish Hatchery, High Falls and South Cove County Parks) and two roadside picnic areas in northwestern South Carolina on weekends during the period July through October 1998. The focus was on day use, primarily picnicking and walking/hiking, activities that were common to all sites. Four of the sites and the two roadside picnic areas were along the same road and were thought to be substitutes for each other because of their relatively close proximity to each other and because they provided opportunities for similar activities. When the project was initiated, it was hypothesized that most users of these facilities would come from the nearby town of Walhalla or would come from areas east of Walhalla such as Seneca, Clemson, and Greenville, SC. During the first two weeks of the study, it became apparent that users did come from these areas, and two additional sites east of Walhalla were selected as possible substitutes, bringing the total study areas to six primary sites and two roadside picnic areas.

In the first phase of the study, 701 on-site interviews were attempted and 604 were completed. Of those that were not completed, 18 had been surveyed previously, 7 did not speak English, 14 were just leaving, and 58 refused for various reasons. We did not intend to resurvey previous respondents and were unable to survey the 7 who did not speak English. The response rate was 86% based on all observations and 89% calculated without the 18 who were previously surveyed and the 7 who did not speak English.

Respondents were split into groups that were and were not cost sensitive based on the following question in the survey. Which of the following is the most important factor limiting your choice of sites? Is it cost or time? The word 'fee' was not mentioned during the interview.

Results

Twenty five percent of the respondents were identified as cost sensitive. Of these, 17% cited cost only and 8% cited both cost and time as the most important factor limiting their choice of sites. The remainder cited time (70%), or said neither, or gave some other response. As a test of the classification criterion, responses from the following open ended questions were analyzed. What limits your choice of outdoor locations? Why don't you go farther from home? These questions were asked before the question used to split the dataset. Respondents classified as cost sensitive were significantly more likely to mention cost in the open ended questions, and those who were not cost sensitive were significantly more likely to mention time as limiting factors. Twenty two percent of cost sensitive respondents mentioned cost in the open ended questions while only 2 % of those who were not cost sensitive mentioned cost.

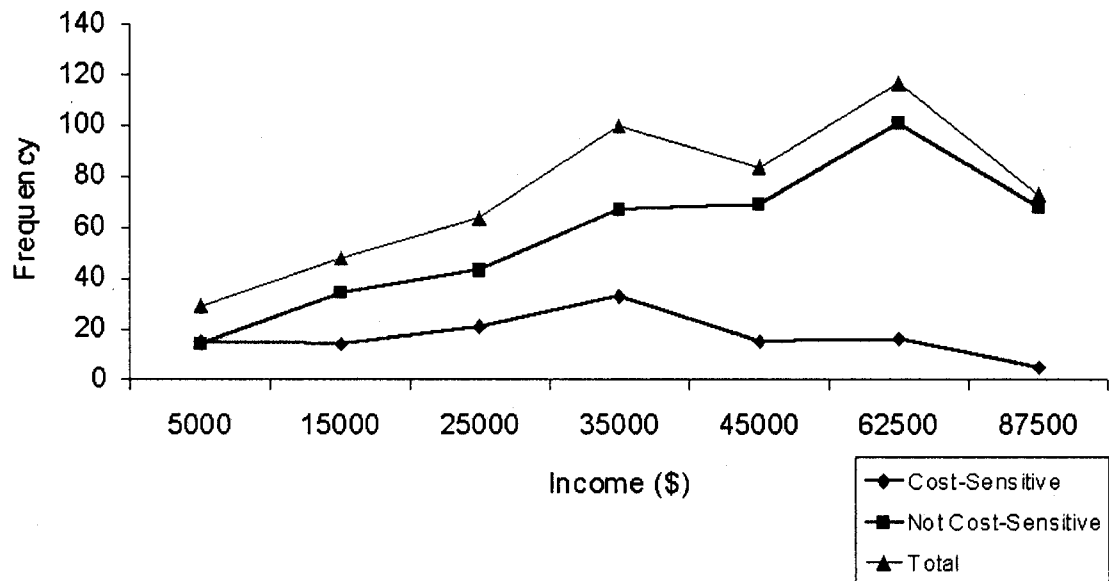
Cost sensitive respondents had significantly lower incomes than those who were not cost sensitive and they did not drive as far to the site on the day of the interview (Table 1). Cost sensitive respondents were significantly more likely to have children with their group at the time of the interview. There appeared to be slightly more racial/ethnic diversity among cost sensitive respondents. There are distinct differences in the frequency distributions of income between the two groups (Figure 1).

Table 1. General characteristics of respondents.

Characteristic	Cost-	Not Cost-
Income (\$) Mean*	34,146	48,970
Income (\$) Median	35,000	45,000
Miles driven one way (Mean)	29	36
Group size (Mean)	11	10
Children in group (%)*	78	68
Age of adults (yrs) Mean	41	40
Caucasian (%)	93	96

* significant at 0.05

Figure 1. Household Income



Respondents were asked how much they spent on their visit. If respondents asked the interviewer which categories of costs should be included, interviewers instructed respondents to include whatever they thought they spent. Respondents frequently discussed food, with many feeling that the cost of food should not be included because they would have to eat if they stayed home. The resulting responses are the respondents' perceptions of their costs. When all data are considered, cost sensitive respondents perceive that they spend more per trip and per adult (Table 2). When respondents who reported the top 10% of the costs are eliminated (dollar adjusted in Table 2), both groups spent the same average amounts. This indicates that more of the highest spending individuals occur among the cost sensitive respondents. When the top 10% of the group sizes are eliminated (group adjusted in Table 2), cost sensitive respondents appear to spend more per group. This indicates that more of the largest groups occur among the cost sensitive respondents. Of perhaps greater interest is cost sensitive respondents tendency to consider more costs. In an open ended question prior to the question just discussed, respondents were asked what types of costs they consider when they take this type of trip (but not specifically this trip). Cost sensitive respondents are likely to cite more costs, and are particularly more likely to cite food and gas (Table 3). They appear to have a greater awareness of a wide range of costs than those who are not cost sensitive. Both groups, however, are equally likely to cite entrance fees as costs they consider.

Table 2. Perceived Expenditures

Expenditure Category	Cost-Sensitive (Dollars)	Not Cost-Sensitive (Dollars)
Cost per trip	42	32
Cost per adult	10	8
Dollar Adjusted cost per	18	18
Dollar Adjusted cost per	6	6
Group Adjusted cost per	32	24
Group Adjusted cost per	11	8

Table 3. Types of costs cited by respondents in an open-ended question

Cost Type	Cost-Sensitive (percent citing)	Not Cost-Sensitive (percent citing)
Facility rental	7	9
Food	31	20
Gas	43	27
Lodging	19	14
Travel cost	2	2
Travel time	6	3
Activity fee	17	10
Camping fee	11	6
Entrance fee	28	28
Fee	3	6
Parking fee	11	6

Any fee type ¹	50	42
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¹Percent of respondents citing at least one type of fee

Cost sensitive and other respondents did not differ significantly in terms of years coming to the site at which they were interviewed, and visits to that site per year. However, cost sensitive respondents appeared to spend more time at the site. Three of the sites charged entrance fees. Contrary to our expectations, cost sensitive respondents did not favor the non fee sites (Table 4). Cost sensitive respondents were found at all sites and they were found at higher proportions than those who were not cost sensitive at one of the fee sites (High Falls County Park). Cost sensitive respondents may feel a greater attachment to the sites at which they were surveyed and/or feel they have fewer alternatives because 18% said they would stay home if the site were closed (vs. 12% of those who were not sensitive to costs).

Table 4. Location of respondents.

Location	Cost-Sensitive (percent surveyed at)	Not Cost-Sensitive (percent surveyed at)
Yellow Branch (USFS)	6	8
Fish Hatchery (USFS)	17	20
Oconee State Park (fee)	18	20
South Cove County Park (fee)	11	11
High Falls County Park (fee)	22	17
Stumphouse Tunnel Park	21	21

Cost sensitive and other respondents chose sites for similar reasons (Table 5), with safety for children and having scenery the most frequently cited reasons. Cost sensitive respondents were significantly more likely to consider lakes and drinking water to be important factors in selecting a site. This might explain the prevalence of the cost sensitive respondents in the fee sites as these were the only sites with lakes. This would suggest that cost sensitive respondents may be willing to pay a fee to be near a lake.

Most respondents, regardless of their cost sensitivity classification, had not experienced any changes that had caused them to change their patterns of activity (Table 6). Of those who did, the majority cited negative changes at sites that resulted in visiting less frequently. Cost sensitive respondents and respondents who were not sensitive to cost cited several reasons in similar proportions. Fees were the only reason for changing patterns of activity cited that differed significantly between the two groups, with cost sensitive respondents significantly more likely to cite fees as reasons for changing patterns of activity.

Table 5. Most important factors in choosing a site.

Criteria	Cost-Sensitive (percent citing)	Not Cost-Sensitive (percent citing)
Safe for children	60	52
Scenery	64	67
Mountain location	52	59
Close to home	49	49
Lake*	44	35
Few people	40	44
Able to get a picnic table	28	29
Maintenance	21	22
Drinking water**	13	8

* significant at 0.05 **significant at 0.10

Table 6. Reasons for changing patterns of activity.

Have You Seen Any Changes That Have Caused You to Change Your Patterns of Activity?		
Response	Cost-Sensitive (percent citing)	Not Cost-Sensitive (percent citing)
No	71	77
Yes	29	23

Please Describe		
Factors	Cost-Sensitive (percent citing)	Not Cost-Sensitive (percent citing)
Crowding	5	3
Rowdy Behavior	1	1
Maintenance	4	3
Fees*	8	3

* significant at 0.05

Likewise, most respondents, regardless of their cost sensitivity classification, have not stopped going to a site that they used to visit (Table 7). Of those who did, cost sensitive respondents and respondents who were not sensitive to cost cited several reasons in similar proportions. Again, fees were the only reason cited that differed significantly between the two groups, with cost sensitive respondents significantly more likely to cite fees. If tables 6 and 7 are combined and adjusted to eliminate double counting, a total of 11.4% of cost sensitive respondents and 3.6% of those who were not sensitive to cost have been affected by fees to the extent of reducing or eliminating their use of certain sites.

Table 7. Reasons respondents stopped going to sites.

Is There Any Place That You Used To Enjoy Visiting But No Longer Visit?		
Response	Cost-Sensitive (percent citing)	Not Cost-Sensitive (percent citing)
No	66	71
Yes	34	29

Please Describe		
Factors	Cost-Sensitive (percent citing)	Not Cost-Sensitive (percent citing)
Crowding	6	5
Rowdy Behavior	3	2
Maintenance	3	1
Fees*	6	1

* significant at 0.05

When asked what would cause them to go to a different site, cost sensitive and other respondents cited similar reasons (Table 8) and there were no significant differences between the two groups regarding any of the cited factors. Crowding is an important decision criterion for both groups (Tables 6, 7, and 8). It also appears that respondents may react to perceived unsafe conditions such as rowdy behavior by ceasing to visit a site rather than visit less frequently (Tables 6, 7, and 8). Respondents surveyed at fee sites cited fee increases as a reason to switch sites while those surveyed at sites without fees said they would switch if a fee were imposed (Table 8). When these responses are added, 8.2% of cost sensitive respondents and 4.8% of those who are not sensitive to costs cited fees as reasons that would cause them to switch sites.

Table 8. Factors that would cause respondents to go to a different site

What Would Cause You to go to a Different Location?

Factors	Cost-Sensitive (percent citing)	Not Cost-Sensitive (percent citing)
Crowding	20	20
Rowdy Behavior	9	6
Maintenance	7	7
Trees Cut	1	4
Nothing	12	12
Fee imposed	4.1	2.1
Fee increased	4.1	2.7
Fee imposed or increased ¹	8.2	4.8

¹Sum of the two preceding rows

Respondents were also asked what they disliked about the primary study sites and any other sites they went to. Respondents named all of the other sites they visited and told

what they disliked about each site. Cost sensitive respondents were significantly more likely to cite fees on the other sites and overall as factors that they disliked (Table 9). Table 9 contains information for all study sites except the site at which the interview was conducted, and for all other sites that respondents reported they visited.

Table 9. Fees as a problem with sites.

Site types	Cost-Sensitive (percent citing fees)	Not Cost-Sensitive (percent citing fees)
Study sites	2	1
Other sites**	8	4
Total*	10	5

* significant at 0.05 **significant at 0.10

Summary and Conclusions

Cost sensitive respondents have significantly lower incomes than those who are not sensitive. Cost sensitive respondents live up to their description and tend to consider more costs when they travel to recreation sites. By doing this, they might also be more accurate in their assessment of the total cost of their trip. Cost sensitive respondents are more likely to cite fees as costs and more likely to cite fees as a reason for changing their patterns of recreation activities (reducing or stopping visitation at a site or switching sites). Cost sensitive respondents appear more likely to be affected by fees, although they frequent fee sites. Both groups gave most of the same reasons for visiting sites, although cost sensitive respondents place more importance on lakes and the availability of drinking water, two factors often associated with fee sites. It is also possible that cost sensitive respondents feel a greater attachment to the sites at which they were surveyed and/or feel they have fewer alternatives because 18% said they would stay home if the site were closed (vs. 12% of those who were not sensitive to costs).

When asked what would cause them to go to another location, respondents chose reasons that paralleled those for the changes that they had already made. However, there appears to be an interesting difference between stated intentions and actions regarding fees for cost sensitive and other respondents. The stated intentions of respondents who were not sensitive to cost appeared to overstate their actions (4.8% stated they would stop visiting vs. 3.6% have stopped or reduced visits because of fees) while the stated intentions of cost sensitive respondents appeared to understate their actions (8.2% stated they would stop visiting vs. 11.4% have stopped or reduced visits). Although the study was not designed to measure the difference between stated intentions and actual behavior, it was also observed that respondents who openly complained about fees during interviews did not appear to be those who would fall into the cost sensitive category. Two cautionary notes for future research are in order. The complainers might not be the respondents who are sensitive to fees or likely to take action. Stated intentions might overestimate actions for those who are not sensitive to cost and underestimate actions for cost sensitive respondents. If

this is true and if it applies in general, using respondents stated intentions as a basis for management/policy decisions can provide an incorrect estimate of the implications of a fee increase, as well as the implications for equity. The opinions of those who are not likely to be affected by fees may be given too much weight while the opinions of those who are likely to be affected by fees may be given too little weight.

Although the proportion of respondents who have been affected by fees is not large, the fact that 11.4% of the cost sensitive respondents and 3.6% of those not sensitive to cost have been affected (stopped or reduced use) is important to managers and policy makers. The results show that cost sensitive respondents are significantly more likely to be affected, and because they have lower incomes, it raises concerns about equity. Only participants were surveyed. Considering the preference of cost sensitive respondents for sites with lakes, and the fact that only the fee sites in the study had lakes, an obvious question arises. How many people no longer participate at these sites because of fees? This was not addressed by this study and it would be a difficult question to answer. However, it would be an appropriate area for future inquiry.

Finally, the question about cost or time as the most important limiting factor, which was used to split the dataset, appeared to work well in this case. It proved to be a reasonably good approach to identifying cost sensitive individuals and it might be of value in other similar studies of outdoor recreation behavior.

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