

MANAGEMENT PREFERENCES OF RECREATIONISTS IN A SCENIC CORRIDOR: OAK CREEK CANYON, ARIZONA

Deborah J. Allen, Assistant Professor,
Oregon State University,
Corvallis, Oregon,
B. L. Driver, Project Leader,
Rocky Mountain Forest and Range Experiment Station,
Fort Collins, Colorado,
and Richard Shiklar, Director,
Social Change Study Center,
Battelle - HARC,
Seattle, Washington

Public input has become a necessary part of public land management planning (Bettwy 1978). In recreation resource planning, information on user's preferences can be an important input (Driver and Brown 1978). This paper reports on 1977 and 1978 studies of the preferences of Oak Creek Canyon users. Those studies were requested by USDA Forest Service managers to assist them in developing a management plan for the Canyon. Of particular concern to management, was information on user preferences for recreation experiences and management actions.

Oak Creek Canyon is a scenic corridor that extends for 12 miles through the Mogollon Rim in north-central Arizona near Flagstaff. Because Oak Creek is a perennial stream and the Canyon crosscuts five vegetative zones, the area is a popular spot for swimming, fishing, hiking, camping, and picnicking in the summer and for sightseeing year-round. For example, an estimated 1 million people travelled through the canyon, primarily for recreation-related purposes, in 1977 and 1978. Similar to most public recreation areas, use in the Canyon has grown but the Canyon's narrow confines makes increasing number of visitors difficult to manage.

METHODS

Using a combination of roadside and on-site interviews and mail questionnaires, we collected information on the recreation and management preferences of area users during 1977 and 1978. Interviews were conducted on randomly selected days during the study period. Thirty-five interview days were selected from Memorial Day to Labor Day for the 1977 study, and 1,707 interviews were conducted. Forty-two interview days were selected from the middle of April to the middle of October for the 1978 study—20 days of interviewing occurred during the summer months, corresponding to the interviewing period for the 1977 study. A total of 1,218 interviews

were conducted for the 1978 study. Results of the 1977 study were used to improve the 1978 study.

Mail questionnaires were sent to interviewees who indicated that recreation was their primary purpose for visiting the Canyon. Three mailings were employed to increase response rates. Questionnaires were sent to 1,129 users in 1977, resulting in a 55 percent response rate (N=554) omitting incorrect addresses (N=103). In 1978, 908 questionnaires were mailed, resulting in a 61 percent response rate (N=551), omitting incorrect addresses (N=90). The mailback questionnaire asked respondents for demographic information, opinions of proposed management actions, and preferences for recreation experiences.

SELECTED RESULTS

The results of the 1977 and 1978 studies were generally in accord, in terms of what Oak Creek recreationists wanted from management and what they wanted from their recreation experiences. A few of these results are discussed below.

Land acquisition is important to the efficient management of recreation sites in the Canyon because of the checkerboard pattern of privately and publicly owned land. For example access to some of the more popular recreation sites is privately owned making it difficult to manage the sites. Managers were interested in users' opinions of different methods of acquiring land in the Canyon.

The mailback questionnaire asked users how much they favored or opposed different methods of land acquisition by the USDA Forest Service (table 1). Users of the Canyon do not oppose the USDA Forest Service acquiring land, however, they are not interested in a "land grab" either. Canyon users indicated that the most acceptable

Table 1.--1977 user opinions concerning possible ways for USDA Forest Service to purchase land in Oak Creek Canyon^{1/2/}

Possible action - land acquisition	Favor		Oppose		Neutral	
	Percent	N	Percent	N	Percent	N
Purchase as much private land in the Canyon as possible	63	320	21	100	16	82
Purchase only that land necessary to maintain facilities and operations	51	252	28	134	21	100
Purchase private land ^{3/} as it comes on the market ^{4/}	84	372	11	59	14	67
Acquire land through condemnation ^{4/}	23	111	56	265	22	104

^{1/}Row percentages may not equal 100 due to nonrespondents and roundings error.

^{2/}Question was asked differently in 1978. Respondents had to choose one of the options.

^{3/}Most preferred method in 1978 study.

^{4/}Least popular method in 1978 study.

was to acquire land is to purchase it as it comes on the market (84 percent favored this approach). Another acceptable method of acquiring land is purchasing only that land necessary for efficient USDA Forest Service operations (51 percent favored). Acquiring land through condemnation is not supported by users of the canyon (56 percent opposed this method).

Most Oak Creek Canyon users favor management actions that will increase their opportunities in the Canyon and oppose any actions that will limit these opportunities. This is apparent in user preferences for management alternatives for solving the traffic problem in the Canyon and maintaining the water quality in the creek (tables 2 and 3). Oak Creek Canyon's primary use by recreationists is as a scenic corridor. Most users are sightseers and spend only enough time in the Canyon to drive through it and make a couple of stops. Its popularity as a scenic drive may contribute to the strong opposition to any limitations on access to the Canyon. Measures limiting use are opposed by at least two-thirds of the users (table 2). However, expanding the facilities to accommodate more users is favored by about 60 percent of all respondents.

This pattern of opposing restrictions and favoring more opportunities is repeated to some extent in user responses to possible management alternatives for improving the water quality in Oak Creek (table 3). Users oppose the management alternative of doing nothing about the water quality (89 percent oppose), but they also oppose eliminating swimming (56 percent oppose) and moving the campgrounds away from the banks of the creek (47 percent oppose). Providing

additional swimming areas to disperse use from the already crowded swimming sites was strongly favored by users (71 percent favor). Limitations are not automatically opposed by users. Temporary restrictions on using the creek (occasional creek) closures and limitations on the number of people were favored by users as a means of improving water quality.

Users responded to a series of scales that have been developed to assess users' preferred types of recreation experiences. Information from these recreation experiences preference scales can help managers decide how a recreation area should be managed (Driver and Brown 1978, Haas *et al.* 1980).

The results of the recreation preference scales administered to Oak Creek Canyon users shows that several different types of experiences are highly valued by the area user (table 4). Enjoyment of scenery is the most important aspect of a trip to Oak Creek Canyon.

CONCLUSIONS

Information on user preferences for management actions is useful to the managers of Oak Creek Canyon because the narrow confines of the Canyon and land ownership patterns limit alternatives. The results of the Oak Creek Canyon studies show that users want more opportunities to enjoy the Canyon, not fewer. This is evident in their opposition to use restrictions and their support for more facilities in the Canyon. Users are willing to accept temporary restrictions on use, if the purpose is to improve water quality.

Table 2.--1977 user opinions concerning possible ways to solve traffic problems in
in Oak Creek Canyon^{1/2/}

Possible action	Favor ^{3/}		Oppose ^{3/}		Neutral	
	Percent	N	Percent	N	Percent	N
Expand present parking facilities in the Canyon	67	359	26	101	8	43
Move camping outside of the Canyon and allow day use only	22	117	66	352	13	69
Make the Canyon a scenic drive with only limited parking in the Canyon	27	141	66	351	8	43
Maintain parking lots outside the Canyon with access to the Canyon being by bus. Bus fare would not exceed \$2.00 per person	24	124	70	370	8	44
Expand camping facilities in the campgrounds	58	307	28	147	15	77

^{1/}Row percentages might not equal 100 due to rounding.

^{2/}This question was not asked on the 1978 mailback questionnaire.

^{3/}Responses were made to a 7-point format on whether the alternatives were strongly favored, moderately favored, slightly favored, neither favor or oppose, slightly oppose, moderately oppose, strongly oppose.

Table 3.--1978 Oak Creek Canyon user preferences for alternative ways to maintain
water quality in Oak Creek^{1/}

Possible action - land acquisition	Favor		Oppose		Neutral	
	Percent	N	Percent	N	Percent	N
Close the creek to swimming when water quality is low enough to be a health hazard ^{2/}	85	439	12	60	3	14
Allow fishing only (no swimming) in the creek ^{3/}	34	168	56	276	9	45
Limit the number of people who can use Grasshopper Point and Slide Rock swimming areas at any one time	59	310	27	134	14	68
Move campgrounds away from the banks of the creek	43	213	47	234	9	45
Do nothing to improve or maintain the water quality	6	26	89	428	5	24
Provide additional swimming areas to disperse use	71	346	18	86	10	50

^{1/}Percentages may not equal 100 due to rounding.

^{2/}Most favored alternative in 1977 pilot study.

^{3/}Second most opposed alternative in 1977 pilot study. The most opposed alternative in 1977 was "Reduce number of campgrounds," which was not an alternative offered in the 1978 study.

^{4/}Responses were made to a 7-point response format on whether the alternatives were strongly favored, moderately favored, slightly favored, neither favor or oppose, slightly oppose, moderately oppose, strongly oppose.

Table 4.--Means and standard deviations for the 10 most desired types of recreation experiences in the 1977 and 1978 Oak Creek Canyon studies^{1/}

Desired outcome scale	1977		1978	
	Mean	Std. Dev.	Mean	Std. Dev.
Scenery	8.6	1.7	8.4	1.1
Tranquility	8.1	1.2	8.3	1.3
Escape	8.1	1.1	7.5	1.7
General nature experience	8.0	1.0	8.0	1.2
Seek open space	8.0	1.3	8.1	1.7
Family togetherness	7.9	1.4	7.6	2.0
Tension release	7.8	1.1	---	---
Exploration	7.5	1.2	7.5	1.6
Physical rest	7.5	1.2	---	---
Exercise	7.1	1.3	7.4	1.7
Learn about nature	---	---	7.6	1.5
Temperature climate	---	---	7.8	1.6

^{1/}Mean scores based on a 9-point response format that indicated whether each recreation experience preference scale "most strongly adds" (9) or "most strongly detracts" (1) the recreation satisfaction realized with "neither adds or detracts" coded 5.

The results of the Oak Creek Canyon study are not suprising. The Canyon contains a perennial stream in a desert environment. The variety of vegetation zones and the red rock canyon walls make it a very scenic environment. It is also one of the few places in the region where people can drive through the bottom of a canyon. Because the highway through Oak Creek Canyon parallels a major interstate highway, Oak Creek becomes an alternative scenic route.

Overall, it seems that the most important feature of Oak Creek Canyon is its scenery. Therefore, developments considered by management should be made only if they do not diminish the physical beauty of the area.

LITERATURE CITED

- Bettwy, A.L. 1978. Resource inventories and agency decisions. In Proceedings of Integrated Renewable Resource Inventories Workshop. USDA For. Serv. Gen. Tech. Rep. RM-55: 1-3. Rocky Mt. For. and Range Exp. Stn., Fort Collins, Colorado.
- Driver, B.L., and P.J. Brown. 1978. The opportunity spectrum concept of outdoor recreation supply inventories: an overview. In Proceedings of Integrated Renewable Resource Inventories Workshop. USDA For. Serv. Gen. Tech. Rep. RM-55: 24-31. Rocky Mt. For. and Range Exp. Stn., Fort Collins, Colorado.
- Haas, G.E., D.J. Allen, and M.J. Manfredo. 1980. Some dispersed recreation experiences and the resource settings in which they occur. In Assessing Amenity Resource Values. USDA For. Serv. Gen. Tech. Rep. RM-68: 21-26. Rocky Mt. For. and Range Exp. Stn., Fort Collins, Colorado.