



6-1982

Landowners, Recreationists, and Government: Cooperation and Conflict in Red River Gorge

Digital Object Identifier: <https://doi.org/10.13023/kwrri.rr.134>

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LANDOWNERS, RECREATIONISTS, AND GOVERNMENT:
COOPERATION AND CONFLICT IN RED RIVER GORGE

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Project Number: A-079-KY (Completion Report)
Agreement Numbers: 14-34-0001-9019 (FY 1979)
14-34-0001-0119 (FY 1980)
14-34-0001-1119 (FY 1981)
Period of Project: June 1979 - May 1982

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The work upon which this report is based was supported in part by funds provided by the Office of Water Research and Technology, United States Department of the Interior, Washington, D.C., as authorized by the Water Research and Development Act of 1978. Public Law 95-467.

June 1982

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Abstract

The research reported is based on a holistic sociocultural study of a popular regional recreation site in Eastern Kentucky, the Red River Gorge. Our research with over 3200 recreational visitors to the Gorge, 395 members of four recreation/conservation groups, 44 local landowners, and with a large number of management personnel from various governmental agencies permits us to provide an especially comprehensive overview of the problems and prospects of this popular area. Our general purpose is to provide descriptive and analytic information that will allow managers to more effectively understand and cope with their work in Red River Gorge.

In addition to this overall goal, our research provides an example of the use of some innovative ideas and techniques for the study of recreationists. Among our study tools was the construction of density tolerance curves for our recreationists. This method of assessing visitors' tolerance for other recreationists was borrowed from the work of Heberlein (1977) though we know of no other instance in which it has been used so extensively. Density tolerance is an important component of the measurement of social

carrying capacity of areas such as Red River Gorge.

Perhaps the most important contribution of this research is the positing of the idea of recreational niches. Our work demonstrates that recreational areas like the Red River Gorge may contain many different recreational niches that are used in very different ways from other recreational sites within the same general setting. In addition, characteristics of the visitors who use any niche may be quite different from the characteristics of visitors using other sites. The recognition of the existence of recreational niches is vital to future recreational research which has management implications. The presence of recreational niches in an area may bias the data collection unless data are collected in all types of niches. Using only one niche as representative of the entire recreating populace can lead to erroneous predictions of visitor characteristics and preferences, and may lead to inappropriate management. The niche concept can also be used positively: managers may wish to encourage or discourage certain types of users, and knowledge of niche variety may contribute to this goal.

DESCRIPTORS: Recreation Facilities; Recreation Demand; Wild Rivers; Tourism; Management Planning

IDENTIFIERS: River Recreation Management; Density Tolerance; Social Carrying Capacity; Recreational Niches; Private Landownership in National Forests, Visitor Preferences

Introduction and Acknowledgements

"Landowners, Recreationists, and Government: Cooperation and Conflict in Red River Gorge" is based on materials collected as part of the project, "Two Kentucky Wild Rivers: Present and Anticipated Demand, Public Preferences and Social Carrying Capacity" (OWRT Project No. A-079-KY) which was sponsored by the Kentucky Water Resources Institute and supported in part by funds provided by the United States Department of the Interior as authorized by the Water Resources Research Act of 1964, Public Law 88-379. The duration of the project was from June, 1979 to September, 1981.

Many individuals contributed to this project besides the principal investigators. Mary Beebe was our first research assistant, and her Masters thesis, Recreational Management in the Red River Gorge: The Local Perspective (Beebe, 1982) based on the landowner data, is a significant contribution not only to recreational literature, but to Appalachian ethnography. Mary is also the source of the name "Marysville," one of our sampling sites to be discussed in the following chapters, and a rather unpleasant place in many ways. This name stems from an incident occurring during our earliest days of participant observation in the Gorge. Mary on her own took a dog and a bedroll up the trail from the 715 concrete bridge to camp out overnight: on the weekend of July 4. The first exploding firecracker sent

the terrified dog fleeing, and a good portion of the night was spent trying to find the dog and pry it from underneath bushes in the black night. The rest of the night was spent trying to avoid encountering the several dozen drunken and drug stupified young men staggering around the area. It was not exactly a restful night in the beautiful and serene Red River Gorge.... In "reward" for her experiences, we christened the trail-campground area, "Marysville".

Sara Alexander replaced Mary Beebe as our chief research assistant in 1980, and did an excellent job supervising the multitudes of fieldworkers we hired to sample recreationists. Her Masters thesis, The Red River Gorge: The Existence of "Recreational Niches" and Their Management Implications (Alexander, 1982) provides a wealth of information on visitor characteristics and should be consulted for further detail. Elizabeth Adelski worked on the analysis of the materials presented in Chapter 5, and wrote portions of that chapter. She was also a tireless field worker for the duration of the project, and we are grateful for her endurance, and also for Doobie.

Other students who worked on the project are Cathy Atkins, Benjamin K. Crew, Sharon Mitchell, Kenneth Robinson, Ellen Dugan, Eric Gibson, Robert Tincher, Deborah Donnellan, Kathrine Beach, and Cheryl Last. We thank them, and also Dr. Michael Brooks, for his field assistance.

The research would not have been successful without the guidance of the Water Resources Institute director, Robert B. Grieves, and especially his assistant, Ralph R. Huffsey. The fiscal wisdom of Edward Winkle, of the Program for Cultural Resources Assessment was also invaluable. Several Forest Service personnel were generous with their time and advice, and we are very grateful to them: Clarence Moore and Don Figg of the Stanton District Headquarters, and Robert Strosneider. Robert A. Gunkler of the Department for Natural Resources and Environmental Protection was very helpful during the early days of our project when we were refining our goals. Another state official, Austin Rice, a game warden in the Gorge region, provided considerable information and useful insights into the behavior of recreationists. We also appreciated the fact that he frequently checked up on the safety of our students when they were living in the Gorge.

Many local people were generous of their time, advice, hospitality, and even room and board to us or members of the research team. We are grateful for not only the assistance but also the friendship of Mr. and Mrs. Shirley Roberts, Mr. and Mrs. Arthur Sexton, Bruce and Angie Many, and Ben and Xenia Culbertson.

Eugenie C. Scott

Billie R. DeWalt

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CHAPTER 1

RECREATIONAL USE OF THE RED RIVER GORGE

Introduction

The Red River Gorge in central Kentucky lies approximately fifty miles southeast of Lexington. It is a place of remarkable scenic beauty characterized by extremely rugged topography. Bold cliffs and high sandstone bluffs overlook the winding, boulder-strewn river fed by numerous tributaries and springs. The steep, wooded ridges and the narrow hollows are filled with shelters, caves and geological formations. Over one hundred natural arches and countless rock shelters have been identified in the area. Trickling waterfalls, lush dense vegetation and a diversity of animal and bird populations give the Gorge an edenic-like quality.

Until the late 1960's, the Red River Gorge was merely one the more beautiful parts of the Daniel Boone National Forest. At this time however, the Army Corps of Engineers submitted a proposal to dam the river for flood control, water supply, and recreation purposes. The project was to be located just below the Gorge proper, and would have resulted in turning the scenic river into a slack water lake, flooding the land, and forcing the relocation of fifty-five families. Intense resistance to the dam developed from local landowners and local and national

conservation groups. In 1968, Justice William O. Douglas made a highly-publicized visit to the Gorge to indicate his opposition to the project, helping to generate publicity for the area. In 1975, Kentucky Governor Julian Carroll withdrew his support for the project forcing the Corps of Engineers to put the dam on inactive status.

As a result of the publicity, the Gorge area itself experienced a substantial increase in visitation -- from a little over 50,000 visitor days in 1969 to close to 300,000 visitor days in 1975 at the height of the controversy (See Table III-1). This increase has resulted not only in severe environmental degradation of portions of the Gorge, but also in the overcrowding of recreationists in some areas during certain portions of the year. These trends presently overtax the management capabilities of the United States Forest Service, the agency primarily responsible for protecting the area.

The most pressing problem in the Red River Gorge has come to be how to effectively manage this popular recreation area in such a way as to preserve both its ecological and social attractiveness. Some efforts along these lines have been made. There are portions of the Gorge that have either received some type of wilderness designation or that are currently being proposed for such status. The pieces of legislation establishing these various types of wilderness preservation/recreation areas however, oftentimes contain

within themselves contradictory goals. For instance, in 1972, a 9.1-mile stretch of the river was designated part of the Kentucky State Wild Rivers system. The intent of the statutes establishing this system are stated as being to

afford the citizens...an opportunity to enjoy natural streams, to attract out-of-state visitors, assure the well-being of (the) tourist industry (and) to preserve for future generations the beauty of certain areas untrammelled by man (KRS 146.200-146.350 1976).

To offer wilderness recreation for a large number of people as is suggested by the desire "to attract out-of-state visitors" and at the same time to mandate preservation of the lands to the extent of their being "untrammelled by man" may be conflicting goals, requiring carefully devised management policies.

Contributing to this same dilemma are the similar statutes included in the Wilderness Act (1964). Part of the region is presently being proposed for inclusion in the National Wilderness Preservation system, making Wilderness Act provisions applicable. Inclusion protects the area so it does not lose its

primeval character and influence, without permanent improvements or human habitation, and which is protected and managed so as to preserve its natural condition and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (and) (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation...(Public Law 88-577: Section 2-c).

This act, like the Kentucky Wild Rivers act, similarly proposes possibly conflicting goals: recreational

opportunities juxtaposed with preservation. Managing agencies need effective policies for coping with these potentially contradictory directives.

In 1978, the Red River was proposed for designation as a National Wild and Scenic River. Like the legislation concerning wilderness lands, the Wild and Scenic Rivers Act (1968) also stipulates the desire both for wilderness protection and for recreation opportunities. The act states:

certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and...they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations (Public Law 90-542: Section 1-b).

These potentially conflicting stipulations exist as such primarily because the demands for wilderness lands are increasing at a faster rate than new allotments in amount of acreage are being made. Hence, wilderness lands are being called upon to serve a variety of purposes. The disparate goals of the various legislative acts, as well as the high visitation rates the Red River Gorge has had and is presently experiencing, substantiate the need for some type of comprehensive planning for the area, including not only the physical environment but the human one as well. These human actors include recreational users, local residents, and even other agencies concerned with management

responsibility. If competent management policies are not formulated, then these paradoxical and conflicting goals of preserving natural areas and making them available for viewing and enjoyment by the general public may lead to a problem recognized by Leopold in 1949. He predicted that "all conservation of wildness is self-defeating, for to cherish we must see and fondle and when enough have seen and fondled, there is not wildness left to cherish" (Leopold, 1949:101).

A number of studies have been made on these different components. Christopherson (1972) and Carlson (1974) studied the opinions of landowners toward various river recreation management policies. Carlson found water resources to be very important to the landowner, including for psychological reasons such as happiness, satisfaction, and pride (1974:38-41). Christopherson dealt more specifically with opinions regarding the National Wild and Scenic Rivers legislation. He found that most landowners were strongly opposed to the designation of the St. Joe River as a Wild River, primarily because it would give the federal government control over the private landowner's right to do with his land what he wishes. A similar conflict has arisen among the private landowners in the Red River Gorge area, some of whom have voiced strong opposition to the proposal for the Red River to be designated as part of the National Wild and Scenic Rivers system.

Relatively few studies have been made of the manager's perception of a river recreation situation. Peckfelder (1973) offers a comparison of visitor characteristics to the manager's perception of these same characteristics. The managers make highly accurate predictions as to user characteristics and preferences. We interviewed managers in this research to elicit data of a somewhat different nature. Perceptions regarding critical management issues facing the Gorge, existing conflicts among users, residents and managers of the area, and the preferences for development of the region were all topics covered in our conversations and interviews.

Management recommendations based on the viewpoints of recreationists, residents, and managers, should prove to be more useful than suggestions based on the perspective of only one interest group. Branch and Fay (1977) have advocated a similar strategy. The general consensus of those directly involved in managing the Gorge has been that current management policies for the area are no longer adequate. Because of recent increases in visitation, effective management has become an important issue, not only as an effort to provide the visitor with a high-quality recreation experience, but also as an effort to maintain the landowner's right to his land as well as to advocate preservation of the land itself.

The primary aim of our research project is to provide

such a data base for the Red River Gorge. In outdoor recreation management, one must consider not only biological parameters but social factors as well. An integrated approach that examines the basic characteristics, preferences, perceptions, and attitudes of those affected -- namely the recreationists, local landowners, and managers -- is needed in order to gather relevant data for the formulation and implementation of adequate management goals and procedures. Countess et al (1977) have shown that conflicts do indeed exist among these three groups of people and that an understanding of the situation from all standpoints must be achieved.

Our general objective in this study was to provide answers to several descriptive questions which policy makers need to answer when formulating management plans for this recreation area. More specific objectives were:

1. To describe the sociodemographic characteristics of recreationists.

There are presently two general groups of users: (1) those persons who travel to the areas mainly for recreation (the "visitors") and (2) those persons who live in the areas, and for whom recreation may be one of several uses. This assessment will include a determination of the users' socio-demographic characteristics, and will provide baseline data for other aspects of this project as well as future projects.

2. To determine the expectations of the various user groups regarding the "proper" use of the recreation area -- the level of development desired by visitors, residents, and managers, and the various groups' perceptions of use conflicts.

Evaluating the expectations and preferences of these different interest groups can identify potential sources of conflict, and establish goals that managers should try to achieve.

3. To assess the social carrying capacity of the Red River Gorge recreation area, by determining the density tolerance of visitors.

A major issue of public policy is to retain, as far as possible, the quality of the recreation experience. Standards of quality vary between those of the purist, and those of the least discriminating. The limiting condition for the use of wild rivers areas should be when human use interferes with the goal of preserving beauty for future generations. Assuming that this limit is not reached, considerations of when the user feels crowded becomes relevant to managers.

Methodology

To meet these objectives, data were collected from several sources, using a variety of data collection techniques. Visitor recreationists, of course, comprise the

largest portion of our sample. We surveyed people who came to the Gorge for recreation, and we also surveyed members of conservation and recreation organizations in the Central Kentucky area. The purpose for sampling this subgroup was to obtain reactions of potential users (as members of such groups would be) who do not use the Gorge for recreation.

Because local people also use the area for recreation, and because so much of the territory is in private rather than public ownership, we surveyed the landowners of the Gorge as well. The third entity studied was State and Federal management. Their understanding of the area as well as their institutional expectations are naturally important to any management decisions regarding the Gorge.

Our objectives required the collection of many different types of data, both quantitative and subjective. As such, we utilized a variety of techniques. Surveys in which self administered questionnaires were distributed to individuals and groups were appropriate for the collection of quantitative data on visitor recreationists. We mailed a questionnaire to the members of recreation and conservation groups. Both instruments made provision for some open ended responses, though in general they were designed for quantitative analysis (See Appendices I and II).

Because a wider range of information was required of them, each landowner was individually interviewed by one or more members of the research team. We used a more detailed

and more open ended interview schedule for these interviews, and also for the interviews of the managers (see Appendices III and IV). Due to the subjective nature of much of the information we had to collect, we emphasized participant observation of both the recreationists and the landowners. The time spent living in the Gorge and interacting with these various types of users was especially useful in helping us define the problems and devise our questions to answer them.

In succeeding chapters we present results of the analyses of visitors, landowners, recreation group members, and managers. Because each subsample required different analysis methods, the specific techniques of analysis, numerical or otherwise, are presented in each of these chapters.

Current management problems in Red River Gorge must be seen in a historical context. People have been using and trying to manage the resources of the region for at least 8000 years (see Wyss and Wyss, 1977). We now turn to a brief consideration of this history.

The Red River Gorge: Nature and History

The Red River and its watershed are on the Western escarpment of the Appalachian Plateau and lie on the Northwest portion of the mountains of Eastern Kentucky. The rugged topography has produced in a relatively small area "...a marvelous collection of palisades, rock promontories, solitary pinacles and spires, numerous natural arches and a multitude of cascading mountain streams" (Ruchhoft, 1976:1). Geologically the area has numerous unique features, including rock shelters, windows, lighthouses, and arches produced by differential weathering of the various layers of shale, limestone, sandstone, and conglomerate. Several of the more spectacular arches can be reached by following Forest Service trails, and are popular attractions for the hardier recreationist. Recognizing the geological uniqueness of the area, the Forest Service has established the Red River Gorge Geological Area.

The waters of the Red River have carved deep channels through the rocks, producing a range of ecological microenvironments. A Forest Service information plaque at one of the popular arches, Sky Bridge, notes that because of the differences in elevation, the Red River Gorge contains the same range of ecological environments found from Newfoundland to Georgia. As a result of this geological diversity, the variety of plants and animals is great. The region is a favorite of wildflower seekers and birdwatchers,

containing more variety within a small territory than any other place in the Southeast.

Hunting and fishing also occur in the Gorge. Ruffed grouse and deer are hunted, as are raccoon, muskrat, and squirrel. Catfish, some trout, panfish, and an occasional pike are caught in the river. The river gets its name from its color, which is caused by a fairly heavy sediment load after rainstorms. Between rains, most of the silt settles and the river takes on a translucent greenish hue. The suspended solid count is high, but not above standards set for maintenance of fish populations. Other measures of water quality, including pH, minerals, fecal coliform, and dissolved solids, are within acceptable ranges for human and other animal contact, according to Forest Service data.

The first human contact with the Red River Gorge region occurred when American Indians hunted and camped there at least 8000 years ago (Wyss and Wyss, 1977). These Indians of the Archaic tradition collected nuts and other plant life and hunted white tailed deer and other animals. Later Indians of the Woodland tradition occupied the Gorge from around 1000 BC, and were more settled than their predecessors. Woodland peoples made pottery and engaged in horticulture, though still exploiting wild game and plants. Woodland people were succeeded in the Gorge by members of the Fort Ancient tradition, settled agriculturalists growing corn, bean, and squash, who lived there after 1000 BC until

white contact in the 1700's.

Early settlers mined ore and saltpeter by the late 1700's, and in 1840 the state was third in the nation in iron production. During the Civil War, it is believed, the nitrate deposits in the Gorge rock shelters were extensively mined. Despite early industry, settlement of the area was slow and scattered. Logging of the area began in the 1880's and oil and gas were found in the early 1900's. Early logging efforts were hampered by a poor transportation system and rugged terrain. Eventually railroads were constructed which greatly improved the efficiency of the logging operations.

The early railroad industry recognized the recreation potential of the area and developed Natural Bridge as a resort. Special excursion trains ran every Sunday from Cincinnati, Lexington, and other cities. During the late 1920's the timber resources of the area were depleted and the local economy suffered a serious decline. In 1941 the railroad service ceased and the rails were taken up and sold for scrap. In 1934, the U.S. Forest Service began to purchase tracts of land in what is now the Daniel Boone National Forest (DBNF).

Since the establishment of the DBNF, the land has gradually passed into public ownership, until at present the Gorge area is about 40% in U.S. government ownership. Government activities have significantly affected the recent

history of the Gorge. In 1962, Congress authorized the Corps of Engineers to build Red River Lake, a flood control, recreation, and water supply reservoir. Local landowners, aided by regional and national conservation organizations, objected strenuously to the flooding of the Gorge, and managed to bring sufficient pressure to stop the dam. In 1975, Kentucky Governor Julian Carrol withdrew his support for the dam, thus halting any further negotiations. The dam, however, has never been deauthorized, and the continuing potential for its construction is a source of concern to recreationists and landowners alike.

State as well as Federal legislation has affected the Gorge in recent years. In 1972, the Kentucky General Assembly passed legislation designating portions of certain Kentucky rivers as State Wild Rivers. A 9.1 mile section of the Red from where Kentucky highway 746 crosses it to the mouth of Swift Camp Creek, was one of those rivers. The Red River Gorge and five sites within it, Indian Arch, Sargent's Branch rock House, Indian Stairway, Snow Arch and Double Deer Arch were also designated as Kentucky landmarks. (The Landmark Certificate program, administered by the Kentucky Heritage Commission, represents an inventory of Kentucky's resources of historic buildings, sites, structures, and other landmarks.)

Most of the regulations, decrees, and pieces of legislation affecting the Gorge, however, have come from

Federal agencies. In 1974, the Forest Service designated 25,663 acres of National Forest land as the Red River Gorge Geological Area. In 1976, this same area received status as a National Natural Landmark. Within the Geological Area, a section of 13,700 acres was recommended to Congress in 1978 for approval as the Clifty Wilderness Area. Also in 1978, the Red River was proposed for study to determine whether it qualified as a National Wild and Scenic River. The portion of the river proposed for study was:

"the segment from Highway No. 746 (also known as Spradlin Bridge) in Wolfe County, Kentucky, downstream to the point where the river descends below seven hundred feet above sea level (in its normal flow) which point is at the Menifee and Powell County line just downstream of the iron bridge where Kentucky Highway No. 77 passes over the river" (Public Law 95-625, November, 1978)

All of these designations and proposed designations have meant that the Red River Gorge has and will continue to remain in the spotlight for some time to come. The many different programs affecting the Gorge have created considerable anxiety among the landowners and residents who will be affected. There regularly are new designations being proposed for the Red River Gorge, and each carries with it the threat of land condemnation. The managers of the Daniel Boone National Forest have consistently advocated that the land within Red River Gorge be acquired to facilitate efficient and effective management of resources (United States Forest Service, 1977). To this end, a condemnation plan was submitted, approved and implemented

for part of the Gorge in 1975. Another plan to acquire more of the private land was submitted soon after but was not approved.

From the point of view of the recreationists who visit the Red River Gorge, the various designations reinforce their conception of the area as a natural wonderland. The publicity generated by the controversy over the dam and the publicity that will be sure to accompany any new national designation given to the Gorge will only serve to make more people aware of this attractive natural area. But the hundreds of thousands of visitors to the Gorge already overtax the scarce resources of the U.S. Forest Service and other management agencies.

It was in this context that we began this study in 1979. We felt that before an adequate management plan for Red River Gorge could be established and implemented, there had to be an understanding of the current conditions. We wanted to comprehensively study the landowners, the recreationists, and the managers.

The results presented here summarize the information gathered in this research. Chapter Two presents the data on the landowners of the Red River Gorge (See Beebe 1982). Chapters Three and Four present part of the data collected in our study of over 2600 visitors to the Gorge (See also Alexander, 1982). Chapter Five discusses the reactions of members of conservation and recreation groups to our

questions. Our conclusions and recommendations follow in Chapter Six.

We should make clear that these management recommendations also take into account the thoughts and constraints of the managers. One of us (DeWalt) was the principal author of the draft study report and environmental impact statement written about the proposed National Wild and Scenic river designation for the Red. DeWalt worked for the U.S. Forest Service for approximately two years as a consultant on the Wild and Scenic River project.

CHAPTER 2

RED RIVER GORGE LANDOWNERS

Introduction

The Red River flows through a changing terrain, and consequently shows a different character in different portions of the study area (Figure II-1). The Upper Gorge, that part of the Red from where highway 746 crosses it downstream to the mouth of Swift Camp Creek, is one of the most scenic areas in the state of Kentucky. Steep sandstone cliffs rise sharply from the water's edge, leaving little or no shore along most stretches. These narrows compress the flow of the Red, causing the river to rush rapidly -- even torrentially after spring rains raise the water levels. Room size boulders strew the river corridor, further constricting the water's flow and producing Class III and IV rapids to the delight of experienced paddlers. There are a few broader stretches of the river, where the water quiets and forms sunlit pools reflecting the ascending cliffsides. Only in these areas is direct access by land possible; the majority of the river can be experienced only with watercraft.

When the Red reaches the Middle Gorge, from Swift Camp Creek to Schoolhouse Branch, it flows through a countryside characterized by cliffsides considerably less steep than those of the Upper Gorge. The less compressed river shows

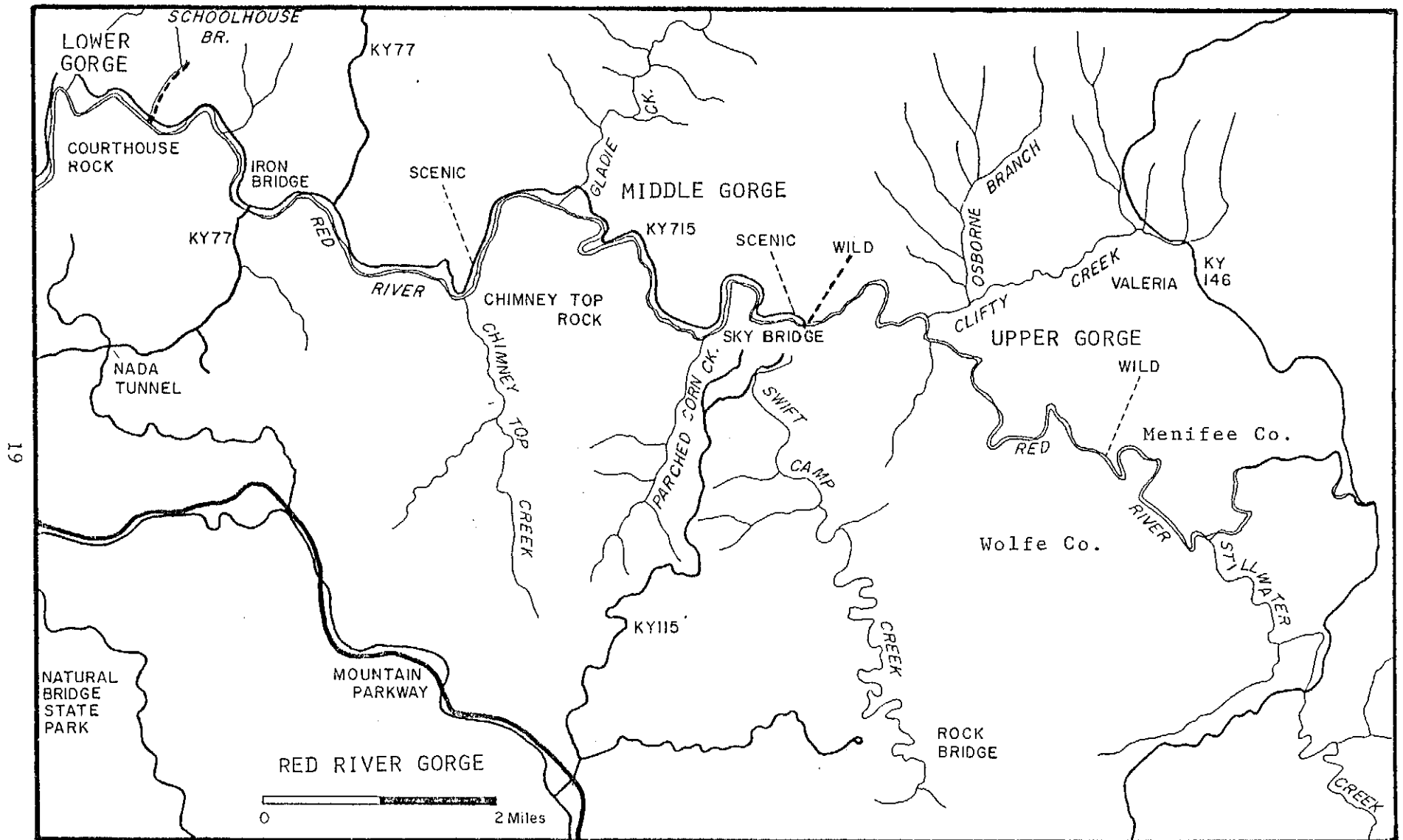


Fig. II-1. Upper, Middle and Lower Divisions of the Red River Gorge.

much less rush and exuberance in the Middle Gorge, and is safe for even the beginning paddler except when in flood stage. Whereas no shoreline supports agriculture in the Upper Gorge, many areas adjacent to the river in the Middle Gorge are level bottomlands which currently are or in the past have been farmed.

The Lower Gorge begins below Schoolhouse Branch, where the Red continues its evolution from a wild and almost inaccessible river to a sedate Southern stream. The occasional bottomlands of the Middle Gorge are replaced by almost continuous stretches of rich farmland, extending widely along both sides of the river. In the Lower Gorge the river does not dominate as it does in the two upper sections; rather, the eye is swept laterally from the river to the rich, prosperous agricultural fields, instead of being brought back to focus on the greenish ribbon winding between the steep cliff walls and giant boulders.

As the terrain has shaped the river, so also has it affected the people living on the Red's shores. Residents of the Upper, Middle, and Lower Gorge interact differently with the river and the land around it, and have been historically affected by its presence in different ways. Because of this, this chapter will look at the characteristics and histories of the landowners separately for each of the three areas. Before doing this, however, we describe the methods by which our landowner data were

collected .

Methodology

Among the objectives of the Wild Rivers project were (1) to assess landowner economic and recreational use of the river and its environs; (2) to analyze the relationships between recreationists and landowners; and (3) to assess landowners' opinions concerning the future of the Red River Gorge region. Any State or Federal policies affecting the Red River Gorge must consider the rights and responsibilities of the landowners. The relationships landowners have with the river figure importantly in these matters.

Data were collected on landowners through a variety of procedures. Members of the study team lived for varying periods of time in the Middle Gorge, and spent much time in informal interaction with residents in all three parts of the region. This "participant observation" gave us many leads as to what questions we should ask in a formal interview situation and was also the source of much of the historical information collected. It was also essential for identifying and locating landowners, as public records were rarely complete or up-to-date.

The first year of our project coincided with a Forest Service feasibility study of designating the Upper and Middle portions of the Red a National Wild and Scenic River.

The Forest Service held public hearings in Wolfe, Meniffee, and Powell counties, the three counties which envelop the Gorge. Numerous people attended these meetings, and were quite outspoken. We found the public meetings indicated many issues of concern of landowners and residents of the Gorge, which we were able to pursue in our subsequent informal exchanges, and also in formal interviews with them.

We utilized structured interviews for more systematic data collection. The questions were of course based on matters of concern to us as well as matters of concern to the landowner. Because we were interested in the landowners' recreational use of the Red River, we asked some of the same questions of them that we asked of the visitor recreationists.¹ The landowner survey took place during the first year of the project. The interview instrument was pretested on two landowners from the Lower Gorge, and few modifications were made in the final form (See Appendix 3).

Most of the interviews were arranged through personal contact, using networks established while we were resident in the area. Others who were not personally known to us

¹ The visitor survey questionnaire was modified after the first year, and some questions asked of first year visitors and landowners were omitted in the subsequent questionnaire. This was because of low variance in the responses to these questions. As a result, the numbers of visitor responses to some questions are much lower than the total number of visitors surveyed. Close to 600 visitors were sampled in this first year of the project, however, which is an adequate sample for comparative purposes.

were mailed a letter explaining the project and asking for permission to interview the recipient. A telephone call followed up this letter, arranging an interview time at the convenience of the landowner. All interviews included a statement guaranteeing the anonymity of the respondent, and explaining the purpose of the study and the uses to which the data would be put. Questions were encouraged.

Questions about the study and the researchers were common and provided means by which the interviewer and respondents could establish a friendly rapport. Considerable additional information was collected during these sessions, information extremely useful in interpreting responses and understanding more fully the ethnographic components of the study. As a consequence, the interviews generally took as many as several hours to complete.

It should be understood that the participant observation data greatly supplemented the formal interview information. To extract the maximum information from the study situation, it was necessary to conduct an ethnography as much as a survey, and this is what the following analysis presents. The relationship of the landowners to the river, the visitor-recreationists, and the State and Federal management agencies could not be fully understood without this general ethnographic context.

A total of 44 households comprise the landowner sample. The interviewee was the legal landowner. Many times this

person preferred the interview to be conducted with other household members present. Many of the responses may therefore be considered consensus responses of a household rather than separate answers from individuals. For purposes of analysis and discussion, we will speak of "the landowner" as if only one individual spoke for the household.

In the next section of this chapter, we will discuss a brief history of landownership in the three divisions of the Gorge and describe the current landowners and their holdings and economic relationships to the river. Relationships to the Forest service and other managers will also be discussed here, because these relationships vary along the different sections of the Gorge.

Landowner Characteristics

Upper Gorge. The steepness of the cliffs directly abutting the river edge make timbering difficult and agriculture impossible. The 21 landowners in the Upper Gorge are therefore generally restricted to the cliff-top ridges for farming and other land related economic activities. Most of the landholdings are small, from 40 to 600 acres (See Table II-1) with most clustered in the lower portion of this range. Close to 60% of the holdings are of fewer than 200 acres, with fully a third being fewer than 100 acres.

Table II-1 --Landowners and Acreage

| ACRES | NUMBER OF LANDOWNERS | % OF LANDOWNERS |
|----------------|-------------------------|-----------------|
| 600 + | 2 | 5.1% |
| 500 - 600 | 2 | 5.1% |
| 300 - 500 | 4 | 10.2% |
| 200 - 300 | 8 | 20.5% |
| 100 - 200 | 9 | 23.0% |
| fewer than 100 | 14 | 35.8% |

Although there is some absentee ownership (7/21), most of the owners live on the land. Absentee owners are generally people originating in the local area who have moved away for economic reasons. Wolfe County, the location of the Upper Gorge, is a rural, economically depressed area with relatively few job opportunities outside of agriculture. There is no industry, and nonagricultural jobs such as highway maintenance, teaching, federal and county services, and jobs in small service oriented businesses are few. Absentee owners give the lack of economic opportunity as the reason for not living in the Upper Gorge. These owners expressed strong feelings for the land, but were unable to make a living there. Many landowners currently resident in the Upper Gorge have at one time or another migrated outside of the area to make money, and have moved back when economically able. In some cases, return migration occurred when enough money was earned outside the area to purchase land "back home".

Although no data were collected on the income of specific individuals in this study, census data indicate a low per capita income for the region. The resident landowners depend upon this land for both cash and subsistence. The most important cash crop is tobacco, with cattle, corn, hay, and timber also providing income. Large gardens and livestock (chickens and pigs) contribute substantially to the household economies.

The land figures importantly in the lives of the Upper Gorge residents, both because of economic dependence upon it as well as historical traditions of long time residency. Much of the people's subsistence comes directly from the land, and cash needs are also satisfied through use of their property. The majority of the landowners have owned their land for longer than 25 years; some land has remained in the same families for over 75 years. Kinship networks are extensive among landowners, whether resident or absentee. These factors contribute towards a sense of community and produce strong feelings toward the land. The river itself is less important to them than the property along its banks, but activities such as recreational development that affect the river also affect the land, and therefore take on importance to the Upper Gorge landowners.

Most of the Upper Gorge is outside the proclamation boundary of the Daniel Boone National Forest (DBNF), but much anxiety is expressed over activities or suspected

activities of "the government", either State or Federal. Because of proximity to a state dam and reservoir development, Cave Run Lake, Upper Gorge landowners are sensitized to what can occur when powerful interests exert their influence in local areas. Much resentment was expressed by Upper Gorge residents over alleged shoddy treatment of neighboring Morgan County landowners "forced out" and supposedly improperly remunerated by "the government" when Cave Run Lake was built. Even though only a part of the Upper Gorge is designated for eventual purchase, and the Forest Service lacks eminent domain, the once burned Upper Gorge landowners are twice cautious about activities of the Forest Service which they see as potentially causing them to lose their land. Recall that the Upper Gorge consists largely of small resident owners, with strong economic and emotional ties to their lands. They are fearful of losing their homes, though thus far there has not been any direct threat such as the Red River Dam that threatened their downstream neighbors.

The Upper Gorge residents are not merely paranoid; the Forest Service has been very active in the region. A Forest Service proposal to establish the Clifty Wilderness Area alarmed some Upper Gorge landowners whose land fell within the proclamation area map. During the study period, the Forest Service bought land from an elderly widow. The land was partly outside the DBNF proclamation area, but within the proposed Clifty Wilderness Area. Many landowners

expressed fears that this was a Forest Service attempt to establish a toehold outside the proclamation boundary to eventually absorb their farms and homes.

On the other hand, the Commonwealth's designation of the Upper Red as a Kentucky Wild River causes little controversy. Because the Kentucky Wild Rivers Act does not provide for land purchase or much of any other interference, it was not viewed with the same mistrust as many Federal proposals which are seen as "land grabs." Some objections were made by one individual to the State Wild Rivers Act because its clear water provisions would impede strip mining in the Red's watershed. However, the terrain adjacent to the river makes strip mining problematic in the best of circumstances. As will be discussed later, few Upper Gorge respondents stated a desire to strip mine their land, making this view a clear minority position.

In general, the attitude toward managers of the recreational area is one of suspicion because of the threat of removal from the land. In the Upper Gorge there is not much concern with management of recreational activities, because the area, lacking roads and trails, is only lightly visited by recreationists. As will be discussed in the next section, this contrasts sharply with the situation in the Middle Gorge.

Middle Gorge. The Middle Gorge, characterized by less awesome natural topography, has been economically more

exploitable than the Upper Gorge. The presence of more extensive bottomlands means farming could and did take place along many parts of the river itself. A turn of the century timber boom resulted in the cutting of extensive sections of the sloping cliffsides. However, historical patterns of landownership have produced a different pattern of land use than that which prevails in the Upper Gorge.

Although the land on the ridgetops surrounding the Middle Gorge area have been in the hands of many landowners, the lands and the cliffs adjacent to the river were principally owned by two families. An original pioneer family and its descendents owned a major portion of the Middle Gorge, and a timber baron who bought up large portions of the area during the early part of the century controlled most of the rest. The timber boom, bringing with it a railroad and new migrants to the area, brought temporary prosperity for approximately the first third of the century, but this was not succeeded by any continuing long term development of the area. The Depression hit the area hard, and many of the migrants to the area, broke and landless, drifted away to less inhospitable parts of the county or to urban areas. The boom left behind not only human, but ecological devastation, as shown by photos of hillsides denuded of the hardwoods and pines. Old timers report that "there wasn't much left", and that the two major landowners were willing to sell the exhausted slopeland to the "government" when the Daniel Boone National Forest was being established in the

thirties. The rich bottomlands were largely retained; the "worthless" cliff-sides were sold --albeit for a low price per acre -- during a depressed economy when cash was difficult to come by.

Much of the land in the Middle Gorge was sold to the Forest Service during the late thirties, and the two large landholdings were further divided when large portions were subsequently sold to a succession of private individuals. Land has changed hands many times since the turn of the century, making the complexion of landownership in the Middle Gorge quite different from that of the Upper Gorge. Descendants of the original pioneer family still live on a large (500 + acres) part of the original holding, but the majority of that as well as the timber baron's land is now held by numerous other owners.

At the time of the study, there were 21 Middle Gorge landowners, but only three lived on the land. The 18 absentee owners fall into two groups: "local absentee" (8), and "outside absentee" owners (10). The "local absentee" owners are people with family ties to the region, who have lived in the immediate Red River Gorge area at some time. The "outside absentee" owners are ones who are not from the area. Four of these 18 absentee owners are urban professionals who hold their land for second home vacation or recreation purposes. Three of these have owned their land for 10 years or more, and have attitudes toward the

land similar to the "local absentees."

The three resident landowners use the land for subsistence activity, but all are dependent on some outside economic income, whether salary, pensions, or social security. Two resident landowner households lease tobacco allotments which also brings in cash. Three "local absentee" landowners were growing crops on their land, or leasing the land for agricultural purposes, during the time of the study. Two landowners had timbered or contracted for timbering parts of their land a few years before the study. Some landowners in the Middle Gorge, therefore, have an economic stake in the land, although the economic relationship is not as extensive as that between the Upper Gorge landowners and their land.

Because of the history of considerable absentee ownership, the Lower Gorge lacks the community feeling found in the more inhabited Upper Gorge. Also, the fight against the Red River Dam was divisive, as some landowners sought the dam and others fought it.

This checkered history of land ownership in the Middle Gorge has produced more complex relationships with the Forest Service and other managers than those found in the Upper Gorge. The Middle Gorge has the largest amount of visitation of any of the three areas, and indeed, is "the Gorge" to most outsiders. Two blacktop state highways, and several dirt roads bring recreationists to the bank of the

river itself, and give ready access to numerous Forest Service hiking trails along the river, cliffs, and ridges. The DBNF, established in 1937, included the Middle Gorge in its first designated area. As mentioned, the first wave of purchase focused on the timbered slopes, with bottomlands along the river generally remaining in private hands. Even today, hillsides and cliffs are largely publically owned, and many bottomlands are privately held. There is no unambiguous way for visitors to distinguish between public and private land, and in fact, a high percentage of visitors were suprised to learn that over one half the Middle Gorge is still privately owned. As a result, many visitor recreationists trespass knowingly and unknowingly on private land, in some areas degrading and littering the landscape, to the dismay of the landowners.

The Forest Service claims an inability to control recreational use of the private lands, for which it is criticized by the landowners. They are also unhappy with Forest Service control of government property, feeling that there is not sufficient presence (patrols, etc.) of the Forest Service to control the drinking, drug use and general carousing which landowners see occurring regularly in the Gorge.

The Middle Gorge falls into a crack between county managers as well. Menifee, Wolfe, and Powell counties intersect in the Middle Gorge. Counties are extremely

important political entities in rural Kentucky, and the lack of a single county focus for the Middle Gorge region causes major management problems. Ostensibly, the three county sheriffs cooperate with the Forest Service in managing the Middle Gorge, but population demographics draw the sheriffs of Powell and Menifee counties away from the Gorge: major population centers to which the sheriffs are politically responsible are located in other parts of the counties. The Wolfe County sheriff makes his presence known more frequently, probably because his constituents live closer to and are more concerned with what happens in the Gorge. However, he is limited in authority to his own county.

State Fish and Game personnel have difficulty making regular rounds because their districts, like the counties, cross-cut different sections of the Gorge. To reach portions of the Gorge located in one district may require a drive of up to 100 miles, due to the road locations. This same portion may be geographically closer to another district, but that district's warden cannot patrol the area because of lack of jurisdiction. No strong opinions were expressed towards the state authorities, who were generally felt to be doing a competent job. Middle Gorge landowners felt the Forest Service should have major authority in the area, and were frustrated by the management vacuum.

Attitudes towards the land acquisition policy of the Forest Service resembled those of the landowners of the

Upper Gorge in some respects, but there was much more variation among Middle Gorge respondents. The few landowner-residents were all hostile to the notion of selling out to the Forest Service, and were fearful of the Forest Service's seeking of eminent domain to "squeeze them out." The absentee owners, however, were not uniform in their attitudes towards the Forest Service. "Local absentees" generally held attitudes similar to residents: suspicion of being forced off their land, and unwillingness to relinquish it. Even though they were not economically dependent on the land, the emotional ties were strong. Similar feelings of affection for the land were also shown by certain urban dwelling owners, however, so the issue is not simply "local absentee" vs "outside absentee". It was within the latter category, however, that willing sellers were more likely to be found, and where the attitude that "the government can best protect the land" could be heard.

Lower Gorge. The Lower Gorge extends downstream from Schoolhouse Branch. This area is actually outside the study area, and is included only because of ecological and cultural continuity with the Upper and Middle portions of the Gorge. The landowners are resident, and most make their living as active farmers. There are strong community and kinship ties of long standing, reflected especially well in the vigorous fight against the Red River Dam during the mid seventies. Lower Gorge landowners were most active in forming an organization called "Save Our Red River", which

with assistance from regional and national conservation organizations, managed to stop the Corps of Engineers attempt to dam the Red River. Only two formal interviews were conducted among the Lower Gorge landowners, because this area is peripheral to our study area. A more complete survey of these landowners may be found in Johnson, Burge, and Schweri (1974).

Landowner Recreation

The data collected on the interview schedules report that landowners make extensive use of the river and the river corridor for recreation. All of the landowners reported that the river area was or had been a place of recreation for themselves and/or members of their households. Some of the elderly or infirm no longer engage in natural site recreation. Of those who currently use the river, most use it regularly (Table II-2).

Table II-2 --Frequency of Landowner Recreational Use of the River Corridor

| | |
|-----------|----|
| Once/year | 2 |
| 1-2/year | 6 |
| 1-2/Month | 10 |
| 1-2/Week | 6 |
| Daily | 2 |
| | -- |
| Total | 31 |

Whereas visitor recreationists are concentrated in the Middle Gorge, landowners tend to be more widely dispersed throughout the river corridor during their recreational activities. In fact, landowners tend to avoid the Middle

Gorge. The most common site where landowner recreation occurs is "right here", or on their own land. Other places cited were the Upper Gorge, Tight Hollow (adjacent to the Gorge proper), and Indian Creek (in the Lower Gorge). The avoidance of the more easily accessible Middle Gorge may be a relatively recent phenomenon. Local residents still discuss the merits of nice picnic areas or "good fishing holes" in the Middle Gorge, but do not seem to venture there often. When asked, some landowners replied that they didn't like fighting the tourist traffic. The general feeling conveyed was that the density of visitors to the Gorge was too high, and interfered with the landowners' recreational experiences.

Landowners engaged in essentially the same recreational activities as visitors. (Table II-3)

Table II-3 --Landowner/Visitor Recreation Type Frequencies

Percent of Total in Category Naming Activity as One Pursued in the River Corridor

| | <u>LANDOWNERS</u> | <u>VISITORS</u> |
|---------------------------|-------------------|-----------------|
| | N = 31 | N = 2253 |
| Canoeing | 29 | 11.8 |
| Fishing | 80 | 12.3 |
| Hiking | 70 | 85.7 |
| Camping | 19 | 59.9 |
| Swimming | 77 | 32.6 |
| Rock Climbing | 3 | 41.5 |
| Picnicking | 25 | 46.4 |
| Birdwatching | 16 | 9.5 |
| Partying | 0 | 28.2 |
| "4 Wheeling", Off The | | |
| Road Vehicle (ORV) Riding | 0 | 4.4 |
| Hunting | 58 | 2.2 |

Landowners were more likely to fish and hunt than visitors, reflecting both the rural orientation of the landowners (the majority of visitors are urban) as well as their greater familiarity with the area. Few people would travel far to fish in the Red; catfish are the most commonly caught fish. An occasional muskelunge is caught, but the river is not well known for game fish. Knowing the best "holes", the local landowners are more likely to fish than are urban visitors.

Similarly, because they live in the vicinity, landowners are not especially likely to camp, though they do picnic occasionally. They are more likely to swim than visitors, again probably reflecting residence differences: many of the visitors are just driving through on the "scenic drive" along highway 715, or were sampled at Sky Bridge, and would not be likely to stop and swim. This decreases the overall frequency of swimmers among the visitors. The other notable difference between the landowners and the visitors is in "partying". As will be discussed in Chapter 3, a significant activity of the visitors to some parts of the Gorge is drinking and carousing; the landowners tend to avoid these areas and to not engage in these activities. The only activities mentioned by landowners that were not also mentioned by visitors were ginseng hunting and honey collecting ("bee hunting").

Landowners as well as visitors were asked about the

importance of certain characteristics of recreation in natural settings, such as "being away from the rush of civilization", "observing and being part of nature", and so on. The responses on these items showed a similar pattern for both the landowners and the visitors (Table II-4)

Both groups of recreationists showed a strong appreciation of what can be referred to as the "esthetics" of the natural recreation site experience. Solitude, being with family and friends, appreciating the plants, animals, and geological uniqueness of the Gorge, being part of nature, and personal enrichment were considered very important by both visitors and landowners. The opportunity to camp was not as important to the landowners as to the visitors, which was not unexpected given activity differences between the two groups.

Visitors and landowners were also similar in their responses to negative (litter) and possibly negative (seeing manmade features such as billboards) experiences in the Gorge (Table II-5) They were more tolerant of auditory intrusions of civilization than visitors, and more tolerant of encountering armed people in the Gorge. This last point should not be overstated, because the question asked the landowners did not directly parallel that asked the visitors. The urban backgrounds of the investigators became apparent when we became aware during the course of the study that there was a clear distinction in many people's minds

Table II-4 --Landowner and Visitor Responses to Characteristics of Natural Site Recreation

| | <u>LANDOWNERS</u> | | <u>VISITORS</u> | |
|--|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|
| | N = 34 | | N = 595 | |
| | VERY IMPORTANT OR IMPORTANT | NO OPINION OR UNIMPORTANT | VERY IMPORTANT OR IMPORTANT | NO OPINION OR UNIMPORTANT |
| Solitude,...Being Away From The Rush Of Civilization | 94.1 | 5.8 | 92.7 | 5.2 |
| Camping Opportunity | 62.8 | 37.1 | 89.4 | 8.3 |
| Being With Family and Friends | 91.1 | 8.8 | 85.2 | 11.6 |
| Ggeological Uniqueness | 85.2 | 14.7 | 87.7 | 10.3 |
| Uniqueness of Plants and animals | 82.3 | 17.6 | 84.3 | 12.6 |
| Being In One Of The State's Wild River Areas | 50.0 | 50.0 | 83.2 | 14.3 |
| Observing And Being Part Of Nature | 91.4 | 8.5 | 93.4 | 4.3 |
| Personal Enrichment | 84.8 | 15.1 | 89.6 | 8.7 |
| Physical Exercise | 76.4 | 23.5 | 87.3 | 9.6 |

TABLE II-5 --

LANDOWNER and VISITOR REACTIONS to POTENTIALLY NEGATIVE NATURAL RECREATION SITE SITUATIONS

| | <u>LANDOWNERS</u> | | | <u>VISITORS</u> | | |
|---|-------------------|----------------|----------------|-----------------|----------------|----------------|
| | <u>Enjoy</u> | <u>Neutral</u> | <u>Dislike</u> | <u>Enjoy</u> | <u>Neutral</u> | <u>Dislike</u> |
| Finding litter along river or campsites | -- | -- | 100 | 1.0 | 1.2 | 95.7 |
| Camping with no sanitary facilities or developed areas | 36.8 | 28.9 | 34.2 | 33.6 | 37.3 | 15.0 |
| Meeting other groups of people | 41.6 | 33.3 | 25.0 | 48.7 | 36.1 | 11.3 |
| Seeing manmade features (billboards, etc.) while hiking, canoeing or climbing | 5.1 | 15.3 | 79.4 | 3.8 | 8.7 | 84.9 |
| Camping where several other groups are camped | 7.8 | 34.2 | 57.8 | 12.8 | 34.6 | 49.2 |
| Noise from aircraft, construction, or other man-caused sources | 15.3 | 28.2 | 56.4 | 2.8 | 7.6 | 86.3 |
| Seeing group of nude swimmers | 5.1 | 20.5 | 74.3 | 39.0 | 38.0 | 19.3 |
| Seeing group of drunk, noisy people | -- | 5.1 | 94.8 | 11.1 | 28.4 | 57.2 |
| Seeing people with firearms (landowners) or handguns (visitors) | 5.1 | 41.0 | 53.8 | 2.2 | 15.8 | 79.0 |

between "firearms" as a general category and "handguns". Hunters use "firearms", which are not objectionable to most of the landowners, many of whom hunt.

When we asked several of them after these data had been collected whether they would object to seeing individuals with handguns, a number of them reacted negatively. In the visitor questionnaire, we had modified the question to "handguns", which produced the reported highly negative result. Nonetheless, it is our opinion that visitors are less tolerant of firearms of all kinds, and do not usually make the discrimination between handguns and other firearms made by the landowners. In other words, landowners may tolerate hunting rifles but not handguns, and visitors are intolerant of both. This statement is based on several conversations with visitors, and comments many of them volunteered. Many of the visitor recreationists were very opposed to hunting taking place in the National Forest, although we have no quantified data on this point.

Another difference that occurred in these data is the landowner and visitor response to seeing nude bathers in the Gorge. The largely rural landowner sample is, we suspect, genuinely more conservative than the visitor population in its tolerance of "skinny dipping." Toleration of drunken, noisy people is not high in either group, but the visitors -- some of whom came to party -- are less upset by the practice than the landowners.

Landowner - Visitor Relationships

The material on landowner-visitor relationships here has been accumulated largely through participant observation of the landowners, though some tabular data on visitor attitudes towards landowners is available. Visitors have few negative experiences with local people, a category which includes landowners as well as others. Sixty-five percent of 2559 visitors reported not having had contact with local people at all; 30% reported having had positive contact, and only 3% reported negative contact. Positive contact experiences included friendliness and helpfulness when visitors sought directions or other assistance, or when dealing with the proprietors of the canoe liveries or the country stores. The few negative experiences included some over-enthusiastic (in the visitors' opinions) law enforcement activities of the Wolfe County sheriff ("we were just camping and they woke us up and arrested us"), as well as a few encounters with some local people who were drunk and/or disorderly in their behavior. The number of visitors is so high, and the number of local people proportionately so small, it is not unlikely that 2/3 of the visitors have no contact with locals.

Even though several of the resident landowners complained about traffic levels, especially in the Middle Gorge and around Sky Bridge, there was a remarkably uncurmudgeonly attitude toward visitors. Landowners discriminate between

two classes of visitors: those who cause no problems (thought to be the majority) and those who behave in an undesirable fashion.

"Undesirable" behavior of visitors includes those behaviors that are infrequent in the rural environment of the Gorge: drug taking, and public drunkenness and loud behavior. Particularly in the Upper Gorge, where ironically the visitor density is lowest, there is a lot of talk about "the hippies in the Gorge". Middle Gorge landowners occasionally comment on some long haired young people, but by no means do they perceive of the Gorge visitor generally as a hippie. Middle Gorge residents see too many "Sunday drivers", families, church groups, and other "non hippie" visitors to make such generalizations. Members of the research team were repeatedly struck, on the other hand, by the "hippie hysteria" among those who live in the relatively untrammelled Upper Gorge.

Middle Gorge landowners are especially worried about vandalism of their property but they readily admit that they do not suspect the culprits as coming from among the large influx of visitor recreationists. Most theft and vandalism occurring in the Gorge is directed toward the visitors: tents and camping equipment are stolen, cars are broken into, and so on. Many of the absentee landowners have had their property broken into and items stolen, but the nature of the items stolen suggests regional residents rather than

visitor recreationists. Visitors, for example, would be unlikely to take pots and pans, utensils, pillows, or light fixtures. Landowners told us privately that "no account" people from a neighboring community were suspected of the thefts. The large number of current visitors does provide a "screen" for the vandals' activities, however. In that sense, the presence of the horde of recreationists contributes to the problem of theft and vandalism in the Gorge.

Trespassing is not considered a major problem by landowners, only one of whom posted his land. They are upset when fences are cut, or if any crops are trampled by visitors. They prefer to be asked for permission to cross or use the land but were not unwilling to have visitors present, as long as the visitors "treat us right".

Public nudity is generally offensive to landowners, and is felt to be "not proper". Visitors who come to carouse meet with disapproval, and there is uniform concern over those youngsters who consume drugs and/or alcohol and wander off from their campsites. Because many accidents occur under these conditions, drug and alcohol use by visitor recreationists is condemned by landowners. Eyebrows are also raised about actual or suspected sexual activity among young, obviously unmarried people who come to the Gorge in mixed groups. Some indignation was expressed over youths who come to the Gorge for "group sex and that sort of

stuff."

In general, though, landowners are very tolerant of the majority of Gorge visitors, who after all, are there to appreciate and not abuse the surroundings. Some landowners said that they "wished everyone could come and see this place", because it is one of the "wonders of God". Their tolerance is almost surprising, in view of the grounds they could have for objecting to the presence of the visitor recreationists, who trespass, make noise, clog the roads, trample crops, cut fences, drink and carouse, and generally disrupt the solitude and harmony of life in the Gorge. Furthermore, the high visibility of the Gorge as a recreation area could increase the pressure for Forest Service acquisition, and loss of land is the most important concern voiced by the landowners.

Discussion

In summary, the local landowners utilize the Gorge in many of the same ways as the visitors, with allowances made for residential and cultural background differences. What is particularly significant is the high incidence of "environmental ethic" among not just the visitors, in whom it would be anticipated, but also among the landowners. The Gorge is appreciated for many of the same reasons by both groups. In addition, the landowners have economic, historical, and social ties to the area that few visitors would have, which makes them as likely or even more likely

than the visitors to treat the land with respect, preserving and conserving the natural setting. It is sometimes erroneously thought that there is a dichotomy between the "preservationist" or "purist" recreational visitor of a natural area and the "exploitative" or "unconcerned" local users, supposedly indifferent to the preservationist goals of the urbanites (see Beebe, 1982, for further discussion of this idea.) This is especially a problem in Appalachia, whose local people have suffered "bad press" from stereotypic portrayals from "Lil' Abner" to the movie, Deliverance. This analysis demonstrates that in this natural recreation area, there is considerable homogeneity of attitude toward the land, regardless of the origin of the recreational user (i.e., local person or visitor). In fact, the conflicts that occur between visitors and landowners are largely in those situations where some visitors abuse the area: littering, destroying the peace and quiet, vandalism, and destructive trespassing. The landowners are perhaps unrecognized allies of the visitor recreationalist.

CHAPTER 3

RECREATIONAL VISITORS TO THE RED RIVER GORGE

Introduction

In this chapter we examine the visitors' socio-demographic characteristics, the recreational activities in which they engage while in the Red River Gorge, and their preferences for management and development of the area. Numerous studies have been directed toward collecting this type of visitor data but most are descriptive accounts that only briefly discuss implications for management (see Christopherson 1973; Driver and Basset 1977; Hendee et al. 1968; Lucas 1964; Peckfelder 1973; and Shelby and Colvin 1979). In this research our goal has been to provide not only descriptive information but also to look at the visitors' density tolerance and to examine some of the reasons why individuals seek out particular locations within the Gorge for their recreation activities. We will then use the information about recreationists and the "niches" which they choose to outline the varying kinds of management problems related to visitors that must be addressed in managing the Red River Gorge.

As we have stated earlier, it was not until the 1960's that recreational demand began to grow in the Red River Gorge. To be sure, Sky Bridge attracted a number of visitors and a fairly sizable number of people went to the

area to hike, fish, or picnic. But the Gorge received little publicity, especially in comparison with the nearby Natural Bridge State Park, and recreational use was not intense. In 1962, however, the Red River Lake project was authorized as part of the Flood Control Plan for the Kentucky River Basin. The subsequent publicity generated by the fight against the dam drew considerable regional and national attention to the area and visitation grew rapidly.

Table III-1 shows the trends in recreation use for the Red River Gorge Geological area from 1965-1977. Although these data are compiled from only rough estimates by Forest Service personnel, they are fairly representative of the general trend in visitation.

Table III-1 -- Trends in Recreation Use
In the Red River Gorge Geological Area

| <u>Year</u> | <u>Visitor-Days</u> |
|-------------|---------------------|
| 1965 | 74,700 |
| 1966 | 82,300 |
| 1967 | 59,100 |
| 1968 | 97,700 |
| 1969 | 108,100 |
| 1970 | 147,900 |
| 1971 | 164,400 |
| 1972 | 220,500 |
| 1973 | 264,400 |
| 1974 | 251,900 |
| 1975 | 238,600 |
| 1976 | 146,700 |
| 1977 | 208,700 |

As is indicated in the chart, visitation rates grew fairly steadily throughout the period during which the controversy over the dam swirled. After Governor Julian Carroll withdrew his support for the dam in 1975, effectively

killing the proposal for the time being, visitation declined slightly although it remained well above the rates of earlier years. Thus, a continuing problem for the managers of Red River Gorge has been how to keep the recreationists who come to the area to revel in its beauty from killing it with their love.

Methodology

A mix of qualitative and quantitative methods was used in the research on visitors. Early in the first research summer of 1979, participant observation was used extensively to gather information in the Gorge on campground activities, river and hiking trail use, as well as areas of more marginal recreation use. Members of our research team hiked on the trails, camped in the camping areas, canoed the river, and engaged in other similar activities to get a feel for recreation in the area. At this stage, we were able to not only note what recreationists were doing and where it was being done, but we were also to talk to the visitors to get a better idea of their perceptions and, as the research progressed, to elicit some opinions which were not specifically asked for in the visitor survey. Field notes were kept on these observations and used as qualitative data for comparison to the quantitative data of the survey.

During this period of reconnaissance, we began to put together a preliminary interview schedule. This was done by utilizing ideas from other research that had been done among

recreationists (see for example Christopherson, 1973; Hendee et al, 1968; Lucas, 1964; Peckfelder, 1973; Shelby and Colvin, 1979; Lime, 1977) as well as by attempting to address issues important to and peculiar to the situation in the Red River Gorge. We pretested an instrument on a group of about 30 recreationists before we extensively revised it. Then, during the summer of 1979, we did a more extensive pre-test of the instrument with a sample of 595 recreationists. Because several questions produced little variance when we analyzed this first year's survey, we omitted some of them. On many questions, respondents showed a high degree of agreement, either all positive or all negative. Eliminating these questions allowed us to streamline our instrument and ask questions which were important while not taking too much of the respondents' time in answering them. This final questionnaire is found in Appendix I.

The respondent could complete the questionnaire in about 15-20 minutes. We decided to use a questionnaire because recreationists frequently travel in groups and with a self-administered instrument it was possible to get responses from several people at one time. There was always a researcher present to answer questions.

After becoming acquainted with both the geography and the kinds of visitors found throughout the area, fifteen locations were chosen as survey sites in 1980. Surveying in

locations allowed us to obtain what we felt was an adequate representation of types of recreationists in the Gorge, which was more important to us in terms of the goals of our research than obtaining a random sample. After dividing the Gorge area into sublocations, a nonprobability sampling technique was used to survey the recreationists at each location (Pelto and Pelto, 1978:132; Peckfelder, 1973:11-12; Kish, 1965:75).

We sampled at each location for an equal number of days over a period of three months (June through August, 1980). We sought to maximize the sample, so we sampled during the daylight hours when visitors were most active. During this initial sampling period, 1696 surveys were completed. Some week-end surveying was done during the rest of the year (September through May 1981) in order to obtain comparative seasonal data. During January and February, when density of visitation is extremely low, we asked anyone found recreating in the Gorge to fill out a survey form. During the non-summer months, 916 cases were completed making a total sample of 2612 cases for the recreationist survey.

The research assistants administering the instrument used the nonprobability approach to administer as many surveys as possible during the sampling period. Not all the recreationists at any particular location were surveyed. During the week when there were not as many people in the area, there was a greater chance that all or most of the

people encountered at a sampling site would be asked to fill out a form. On the week-ends, however, there were far too many visitors for all of them to be surveyed.

Recreationists were quite willing to take the time from their activities to respond to the questionnaire. Many actually welcomed the opportunity to make their views known. In obtaining over 2600 responses, we faced fewer than a dozen refusals.

Survey Locations

In order to give the reader some idea of the kinds of locations in which we surveyed recreationists, we will describe each of these areas. Chapter 4 will discuss the kinds of activities and the types of recreationists using each of the sites.

Although suffering some of the worst environmental degradation, Marysville (see Figure III-1) is perhaps one of the most beautiful spots in the Gorge. Most visitors who camp or hike there do so somewhere within the first mile (from the 715 bridge) of the north bank. Moonshiner's Arch, one of the most beautiful and interesting sites in the Gorge, is found in this location. This area suffers greatly from soil compaction, eroded river banks, litter, cut living trees and campfire scars. It appears as if the recreationists who go there have little respect for the land. And as one of the county sheriffs put it: "There is

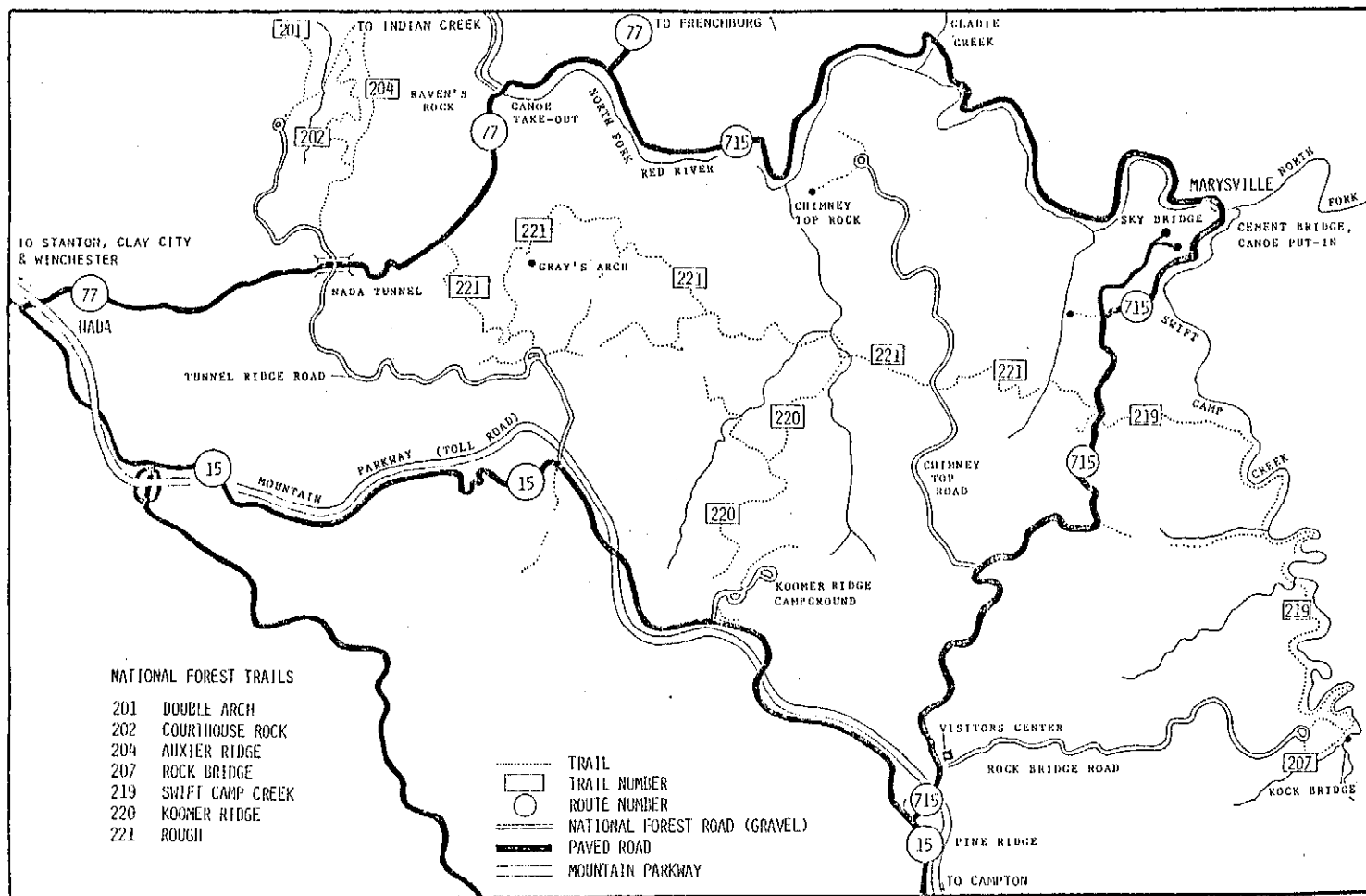


Fig. III-1. Survey Locations

a certain class of people -- real nice people -- who do come in. And then there's a few -- the hippies -- they also pick up the trash. It's the halfbreeds that cause problems." The area has an appearance of being totally degraded. It should be noted that this particular section of land is privately-owned. The landowner does not monitor the property.

Yet if one hikes up the trail another couple of miles, some of the most beautiful places in the Gorge can be found -- waterfalls, large boulders in the river, deep, cool swimming holes, and the mouths of shallow, babbling brooks. The land further up river has received little of the abuse such as has that at the entrance -- the rhododendron becomes very dense, moss covers many rocks, and boulders, with large tree roots clinging to every side, give the visitor a sense of being in the deep wilderness. The more abusive camper at Marysville is not willing to carry camping gear and alcohol too far up the trail; while the trail at the beginning of Marysville is three or four feet wide, it gradually narrows and finally ends where Clifty Creek empties into the Red River.

The 715 turnouts are located on the north bank of the Red River along the 9.8-mile stretch of road between the Highway 77 and 715 bridges. In 1975, camping was restricted in this area by the Forest Service because the natural environment was being severely threatened. Soil compaction was obvious

and destruction of some plant populations was increasing. There has been some recovery since the area has been closed off to camping. Regardless of these restrictions, some people still camp at the turnouts, although occasionally they are caught, cited for camping illegally and forced to abandon their campsite. Many people stop along the road to swim or picnic on the riverbanks.

Sky Bridge is probably the most frequented spot in the entire Gorge area and is used by a great diversity of people. Access by automobile is convenient. The road leading from Highway 715 to the bridge is wide and newly paved. There is a large parking lot, which sometimes on Sunday afternoons will be full or overflowing. There is also a designated picnic area with grills making it a pleasant place to relax and enjoy the view. The trail to Sky Bridge is asphalted and short -- about 300 yards. It is longer if one wants to hike down under the arch. The trail is fairly safe in that there are fences where the drop-off is particularly steep. However, there is no protection when one is standing on top of the arch. One woman died in a fall during the summer of 1980.

Rock Bridge is located at the southeast corner of the Gorge on Swift Camp Creek. One has to travel about three miles down a narrow gravel road to reach this area. From the picnic area, the recreationist has access to the one-mile trail to the arch and to trail #219 which is one of the

longer, more rugged trails in the area. Rock Bridge is the only arch in the Gorge area that still has water flowing underneath it. Although somewhat isolated, Rock Bridge is usually heavily congested on the week-ends. Oftentimes, the parking space provided is inadequate and people park their cars up the gravel entrance road.

Grays Arch is somewhat similar to Rock Bridge in that it offers a picnic area and at the same time, serves as the access point to both the trail to the arch and to Rugged Trail #221. The trail to the arch is located approximately one mile down Tunnel Ridge road off of Highway 15. The arch itself ranks as one of the most spectacular in the Gorge area. It is fifty feet in height and its eighty-foot span is the longest in the area. It is also the only one of the large ridge-top arches that has good-sized trees growing on top of its span. Part of the trail is quite steep and somewhat rugged; there is a small gorge directly under the side of the arch. A very steep cliff is opposite the approach to the arch. Because it is not marked in any way, accidents happen frequently in this area. Some visitors take rapelling equipment into this area to climb down these cliffs.

Chimney Top offers one of the most impressive scenic views in the entire Gorge area. The gravel road leading to the area is about five miles long from Highway 715. The trail to the overlook is asphalted, about two-thirds of a

mile long and extends to the cliff top. Chimney Top Rock is about 200 feet high and 600 feet above the Red River. It is actually a joint fracture that has broken away from the cliff face and is about 3 1/2 feet from it. Despite the guard rails which the Forest Service has put up on top of the rock, fatal accidents still occur. In April 1982, a young boy under the influence of drugs fell from this overlook and was killed.

Another safety problem exists at Chimney Rock. Although climbing is prohibited on the week-ends and during the summer months when visitation rates are high, climbers are nonetheless subject to potential injury from people on top of the rock even during periods of low visitor attendance. One day members of the research team witnessed two climbers ascending the last section of the cliff. When they got to the top they expressed outrage at some youngsters who had been throwing rocks over the cliff. The youngsters did not know the climbers were there, and the climbers had been struck by debris. Precisely for this reason, climbers do not climb on the week-ends. One said, "The chance of getting seriously hurt is too great, not from a climbing accident, but from the inconsiderate nincompoops above. There are just too many people."

Koomer Ridge is the one official campground in the area. Facilities include latrines, water, electricity, and marked-off gravel areas for sixty campsites (tents and trailers)

and latrines for another ten to fifteen tent sites. There is not an office at the campground; people are expected to register and leave the fee in a small box at the entrance. The area is cleaned during the week by high-school age job conservation corps workers. Other maintenance requirements are met by the Forest Service. The campground serves a diverse public. Family groups tend more to use Koomer Ridge than to use primitive camping sites, though backpackers and other primitive campers also camp at Koomer, using it as a staging area for excursions into the outback. During the week-ends, the demand is sometimes so high that not all people can be accommodated.

There are several very short trails in the immediate area of the campground. Rugged Trail #220 also starts at Koomer, follows the ridge and then descends down to Chimney Top Creek. While some take advantage of these various trail systems, others drive elsewhere to hike the short trails, while others relax at their campsites.

Raven Rock is a large solitary rock that protrudes from the top of a hill along Highway 77. It is on privately-owned land and people are required to pay a fee (\$1.00 for adults and \$.50 for children) to enter the unreliable road that leads to the overview. After heavy rains, the people who collect the fees recommend that the visitor not try to go up the rock unless he/she has a four-wheel drive vehicle. Only part of the road is paved and even this portion is in

bad need of repair. The rest of the road is gravel with ruts which may be up to two feet deep, making the sharp, hairpin turns especially dangerous. Once one ascends to the top, the view is spectacular. The rock sits on top of the hill so there is a view from all four sides. Farms lie directly beneath, while Chimney Top and Tower Rock can be seen in the distance.

The sampling site we called Indian Creek is a series of locations along the banks of the Red River tributary of the same name. Although not formally designated as such, Indian Creek is a de facto campground. Many individuals simply pull off the road and set up their tents in one of the many flat spots that exist along the river banks and the road. Swimming, fishing, and horseback riding (people bring their own horses) are frequent activities of people who use this area.

The canoe put-in and take-out points are located at the Highway 715 and 77 bridges. This section of the river provides fairly easy canoeing, so most paddlers interviewed were not the white-water enthusiasts who prefer the Upper Red. Due to low rainfall during 1980-81, the river was usually too low to canoe and we surveyed very few white-water paddlers. We did survey beginner and intermediate

1 At the time of this writing (1982) Raven Rock, the road, and the surrounding land had been purchased by the Forest Service and was closed to tourist traffic. Its future status as a tourist attraction had not been decided.

canoeists, the paddling equivalent of the "Sunday Driver." Because of the unusually low water level, few recreationists attempted to canoe even the Middle Red during this summer. Those that did came for the most part with large social groups (clubs, church groups, etc) who undoubtedly planned the outing far in advance and were going to canoe the river regardless of conditions. Our sample thus includes fewer canoeists that we might have encountered in a time of more "normal" rainfall. Because of the small number of people interviewed, this site is excluded from some analyses in Chapter 4.

Most of the hikers found along the longer, more rugged trails were serious backpackers with large packs, bedrolls, tents and heavy-duty boots. Fewer people with day packs were hiking these trails. Some of the packers hike all day, set up camp for one night and hike again the next day, while others hike deep into the woods, set up camp for two to three days and then hike back out. Our interviews with people using the trails took place as we hiked along several of the many trails in Red River Gorge.

General Visitor Characteristics

Descriptive information concerning the social and demographic characteristics of the visitors is among the most important baseline information needed by managers. Our research was designed to yield such a profile of the recreationists in the Red River Gorge. As shown in Table

III-2, the mean age of our respondents was 28 years.

Table III-2 -- Age Distribution of the Red River Gorge Recreationists

| AGE | FREQUENCY | PERCENTAGE |
|---------|-------------|--------------|
| 16 - 20 | 546 | 21.7 |
| 21 - 30 | 1257 | 50.0 |
| 21 - 25 | 817 | 32.4 |
| 26-30 | 440 | 17.6 |
| 31 - 40 | 407 | 16.2 |
| 41 - 50 | 175 | 6.9 |
| 51 - 60 | 77 | 3.1 |
| 60 + | 49 | 1.9 |
| | <u>2511</u> | <u>100.0</u> |

Mean Age = 28.1

Over seventy percent of the individuals we encountered in the Gorge were under 30 years of age. This is not surprising given the fact that it is primarily young people who participate in outdoor wilderness recreation. The age span of the visitors (16-79) is quite impressive, yet as will become evident later in this chapter, the older people were found primarily in those places offering the most conveniences, primarily the more "tourist-y" spots. Few older people use the rugged trails, camp deep in the woods or canoe the river. Because the area offers more of this type of wilderness recreation, younger people are more likely to be found in the Gorge.²

² Many children are brought to the Gorge. They are not represented in our data because we asked only those visitors 16 and older to fill out the questionnaire.

About sixty percent of our respondents were male and forty percent were female. Most of the females in the Gorge either came with males or with a family group. Few females go to the Gorge alone. The higher percentage of males is probably due to the fact that the area caters to fairly rugged, wilderness-type recreation. Some places in the Gorge area also cater to "hard-core partyers" and therefore have a reputation of being somewhat dangerous, a problem that may negatively influence the use of the area by females.

The recreationists who visit Red River Gorge are quite a well educated population. Sixty-seven percent have had some post-high school education, clearly higher than the American population as a whole (Table III-3). The range, however, is representative of all education levels.

Table III-3 -- Highest Level of Education Achieved by Red River Gorge Recreationists

| EDUCATION | FREQUENCY | PERCENTAGE |
|-----------------------------------|-------------|-------------------|
| Grades 0-8 | 59 | 2.3 |
| Grades 9-11 | 218 | 8.7 |
| High School Diploma | 545 | 21.8 |
| Some College/Additional Schooling | 915 | 36.6 |
| Bachelors Degree | 312 | 12.5 |
| Some Graduate Work | 197 | 7.9 |
| Graduate Degree | 312 | 10.2 |
| | <u>2558</u> | <u> </u> |

Most of the recreationists are either from Cincinnati, Louisville or Lexington (Table III-4), cities which are geographically close to the Gorge. Cincinnati is approximately 130 miles from the Gorge, Louisville is about 135 miles, while Lexington is only 60 miles away. A large number of the visitors come from other cities in Kentucky as well as from other places in Ohio. There is a significant number of people who come from northern states, most from southern Indiana. The pattern of visitation thus indicates that Red River Gorge is primarily a recreational area for a regional populace. Well over eighty percent of the visitors are from the immediate region (i.e., Kentucky and Cincinnati), only a few hours drive from the Gorge.

Table III-4 -- Residences of the Red River Gorge Recreationists

| RESIDENCE | FREQUENCY | PERCENTAGE |
|------------------|-------------|------------|
| Cincinnati | 511 | 19.6 |
| Louisville | 311 | 11.9 |
| Lexington | 417 | 16.0 |
| Other Kentucky * | 827 | 31.8 |
| Other Ohio * | 279 | 10.7 |
| Northeast ** | 35 | 1.3 |
| East ** | 17 | 0.7 |
| North ** | 110 | 4.2 |
| Central ** | 34 | 1.3 |
| South ** | 26 | 1.0 |
| Southwest ** | 2 | 0.1 |
| Northcentral ** | 6 | 0.2 |
| West ** | 14 | 0.6 |
| Northwest ** | 3 | 0.5 |
| Out-of-Country | 12 | 0.5 |
| | <u>2604</u> | |

* "Other Kentucky" denotes all places in Kentucky excluding Lexington and Louisville.

"Other Ohio" denotes all places in Ohio other than Cincinnati.

** "Northeast" refers to the states of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey and Pennsylvania.

"East" refers to the states of Maryland, Delaware, Virginia and West Virginia.

"North" refers to the states of Indiana and Michigan.

"Central" refers to the states of Illinois, Iowa, Missouri, Nebraska and Kansas.

"South" refers to the states of Tennessee, North Carolina, South Carolina, Florida, Georgia, Alabama, Mississippi, Louisiana and Arkansas.

"Southwest" refers to the states of Texas, Oklahoma, New Mexico and Arizona.

"Northcentral" refers to the states of Wisconsin, Minnesota, North Dakota and South Dakota.

"West" refers to the states of California, Utah, Colorado, Nevada and Hawaii.

"Northwest" refers to the states of Washington, Oregon, Idaho, Montana, Wyoming and Alaska.

Table III-5 shows the broad occupational categories in which the visitors in our sample are engaged in their everyday lives. As befits the well-educated nature of members of our sample and their relative youth, it is not surprising that the largest numbers of recreationists are in the "Professional" and "Student" categories. There are,

however, a substantial number of individuals who fall into the clerical workers, craftsmen, service workers, and homemakers categories.

Table III-5 -- Occupations of the Red River Gorge Recreationists

| OCCUPATION CATEGORIES | FREQUENCY | PERCENTAGE |
|-----------------------|-------------|--------------|
| Professional | 579 | 23.3 |
| Managerial | 122 | 4.9 |
| Sales | 101 | 4.1 |
| Clerical | 265 | 10.6 |
| Craftsmen | 267 | 10.7 |
| Operatives | 116 | 4.7 |
| Transport | 15 | 0.6 |
| Laborers | 96 | 3.9 |
| Farmers | 21 | 0.8 |
| Service | 222 | 8.9 |
| ----- | | |
| Student | 448 | 17.9 |
| Unemployed | 38 | 1.5 |
| Retired | 30 | 1.2 |
| Armed Services | 10 | 0.4 |
| Homemaker | 141 | 5.7 |
| Self-employed | 19 | 0.8 |
| | <u>2490</u> | <u>100.0</u> |

In summary, the characteristics of recreationists in Red River Gorge indicate the following. They are a relatively young, well-educated group of people. The majority of them come from areas within a few hours drive of Red River Gorge, especially from the nearby urban areas of Lexington, Louisville, and Cincinnati. The occupations of these individuals indicates that they are a relatively wealthy group of people -- few of them listed their occupations in what are probably the lowest paid jobs such as sales,

laborers, farmers, or transport workers. About 10% of them belong to a conservation or recreation organization.

Motivations for Visiting Red River Gorge

Each visitor surveyed was asked to give his/her reasons for coming to the Gorge. Nine choices were provided and the recreationist was asked to choose all those that applied (Appendix I: Question A-14). As seen in Table III-6, an overwhelming seventy-nine percent of the visitors go to the Gorge "to experience the natural beauty."

Table III-6 -- Trip Motives of the Red River Gorge Recreationists

| MOTIVE | FREQUENCY | PERCENTAGE* |
|-----------------------|-------------|--------------|
| Natural beauty | 2019 | 79.1 |
| Away from routine | 1584 | 62.1 |
| Peacefulness | 1451 | 56.8 |
| Friends/Family | 1422 | 55.7 |
| Outdoor exercise | 1403 | 54.9 |
| Take it easy | 1120 | 43.9 |
| Rugged life | 828 | 32.5 |
| Party | 815 | 31.9 |
| Communion with God | 575 | 22.5 |
| other | 37 | 1.7 |
| | <u>2552</u> | <u>100.0</u> |

Other popular motives include getting away from everyday routine, experiencing the peacefulness, being with friends or family and getting outdoor exercise. Less important but still frequently chosen reasons for going to the Gorge are taking it easy, partying and having a good time, and

experiencing the rugged life.

The recreationists were asked to indicate from a list of activities all in which they would engage during that particular visit to the Gorge (Appendix I: Questions B-1,2). They were then asked to indicate their main activity. Approximately eighty-six percent of the visitors hike while they are in the Gorge (Table III-7). Almost sixty percent also camp. Picnicking, rock climbing, swimming and partying are also very popular activities. "Rock climbing" did not necessarily connote what we intended. Many respondents, we learned after we were well into our surveying, thought of "rock climbing" not as scaling rock walls with ropes and special equipment, but merely as scrambling up and down the slopes, many of which were rocky. We are not implying that there were almost as many hardy, booted and bestrapped rock climbers as there were picnickers! There is obvious noise in the "rock climbing" data. This becomes clearer when "primary activities while in the Gorge" are examined, as will be done in the next table. There were fewer responses to canoeing, fishing and birdwatching, and even fewer to hunting and 4-wheeling (defined here as the use of off-the-road vehicles). Included in the "other" category are activities such as photography, sightseeing and general relaxation.

Table III-7 -- Activities of the Red River Gorge
Recreationists

| ACTIVITY | FREQUENCY | PERCENTAGE* |
|---------------|-------------|-------------|
| Hiking | 2187 | 85.7 |
| Camping | 1519 | 59.9 |
| Picnicking | 1185 | 46.4 |
| Rock climbing | 1059 | 41.5 |
| Swimming | 831 | 32.6 |
| Partying | 720 | 28.2 |
| Fishing | 314 | 12.3 |
| Canoeing | 301 | 11.8 |
| Birdwatching | 242 | 9.5 |
| 4-wheeling | 113 | 4.4 |
| Hunting | 56 | 2.2 |
| Other | 471 | |
| | <u>2553</u> | |

We were also interested in the primary activity for which recreationists visited Red River Gorge. The primary activity gives an indication of what the main attractions are for people to visit the area. As is seen in Table III-8, hiking the many marked, Forest Service constructed trails and the innumerable paths blazed by other visitors is by far the most frequent activity attracting people to the Gorge. Camping is also quite popular and many individuals enjoy this activity in the beautiful, forested environment offered by the Gorge. Together, hiking and camping were the primary activity listed by almost 70% of the respondents. All of the other major activities were chosen by fewer than 5% of the visitors. Partying, rock climbing, picnicking, canoeing, and fishing were the most frequently chosen other alternatives. The small number of people who came here specifically for rock climbing reinforces the conclusion

that this question was misunderstood by the general Gorge visitor.

Table III-8 -- Main Activity of the Red River Gorge Recreationists

| MAIN ACTIVITY | FREQUENCY | PERCENTAGE |
|---------------|-------------|--------------|
| Hiking | 979 | 40.1 |
| Camping | 701 | 28.7 |
| Partying | 122 | 4.9 |
| Rock climbing | 89 | 3.7 |
| Picnicking | 85 | 3.5 |
| Canoeing | 68 | 2.8 |
| Fishing | 42 | 1.7 |
| Swimming | 22 | 0.9 |
| 4-wheeling | 17 | 0.7 |
| Hunting | 9 | 0.4 |
| Birdwatching | 3 | 0.1 |
| Other | 304 | 12.5 |
| | <u>2441</u> | <u>100.0</u> |

Table III-9 summarizes all of the above characteristics of the Gorge recreationists and portrays the most typical kinds of visitors to the area. Generally speaking, a recreationist in the Gorge is male, in his late twenties and is either enrolled in college or a young professional. He is most likely from Cincinnati, Louisville or Lexington and has come to the Gorge primarily "to experience the natural beauty" while either hiking or camping.

Table III-9 -- The Typical Red River Gorge Recreationist

| <u>CHARACTERISTICS</u> | <u>PERCENTAGES</u> | <u>CHARACTERISTICS</u> | <u>PERCENTAGES</u> |
|------------------------|--------------------|----------------------------------|--------------------|
| <u>AGE</u> | | <u>OCCUPATION</u> | |
| 19-30 years | | Professional | 23.3 |
| Mean 28.1 | | Student | 17.9 |
| <u>SEX</u> | | <u>TRIP MOTIVES</u> | |
| Male | 60 | Natural | |
| Female | 40 | Beauty | 79.1 |
| | | Away from Everyday Routine | 62.1 |
| <u>EDUCATION</u> | | <u>ACTIVITIES</u> | |
| Post High School | | Hiking | 85.7 |
| Formal | | Camping | 59.5 |
| Education | 67.2 | Picnicking | 46.4 |
| <u>RESIDENCE</u> | | <u>MAIN ACTIVITY</u> | |
| Cincinnati | 19.6 | Hiking | 40.1 |
| Louisville | 11.9 | Camping | 28.7 |
| Lexington | 16.0 | | |
| Other Kentucky | 31.8 | | |
| Other Ohio | 10.7% | | |

Although this descriptive information provides some of the data necessary for managers, we were also interested in other aspects relating to recreationists. Accordingly, we collected data relating to the social carrying capacity of the area.

Social Carrying Capacity and Density Tolerance

Biologists have used the concept of carrying capacity to better understand the relations between organisms and the environment. Carrying capacity is reached when the optimum number of organisms is supported in the environment without degrading the ability of the environment to support them. Social carrying capacity is a related concept, and occurs

when the optimum number of individuals using an area is reached. There are two components to social carrying capacity: the ecological and the perceptual. Ecologically, the environment can support only so many human visitors, just as it can support only so many faunal or floral organisms. Some environments have a higher social carrying capacity than other: deciduous woodlands can tolerate heavier visitor use than coastal dunelands.

The ecological social carrying capacity may not be identical with what users feel is the optimum human use of the area, however, so another consideration of social carrying capacity must be the perceptual. "Purist" recreationists are likely to feel the quality of their natural site recreation experience is devalued even when the density of human use is quite low: even below that which the environment can absorb without degradation. Some recreationists on the contrary may feel comfortable with and seek a higher level of human use of an area than the ecology can stand without destruction. Management needs to be aware both of the ecological and the perceptual components of social carrying capacity for sound management.

In our research we did not collect data on biological phenomena, so we cannot say with certainty whether the Red River Gorge or any portion of it has reached its social carrying capacity in terms of environmental degradation. We have noticed in our travels in the area, places which to the

untrained eye appear to be overused, and our reflections are supported by similar comments from visitors. We did, however, collect information on the perceptual component of social carrying capacity, in the form of visitor density tolerance.

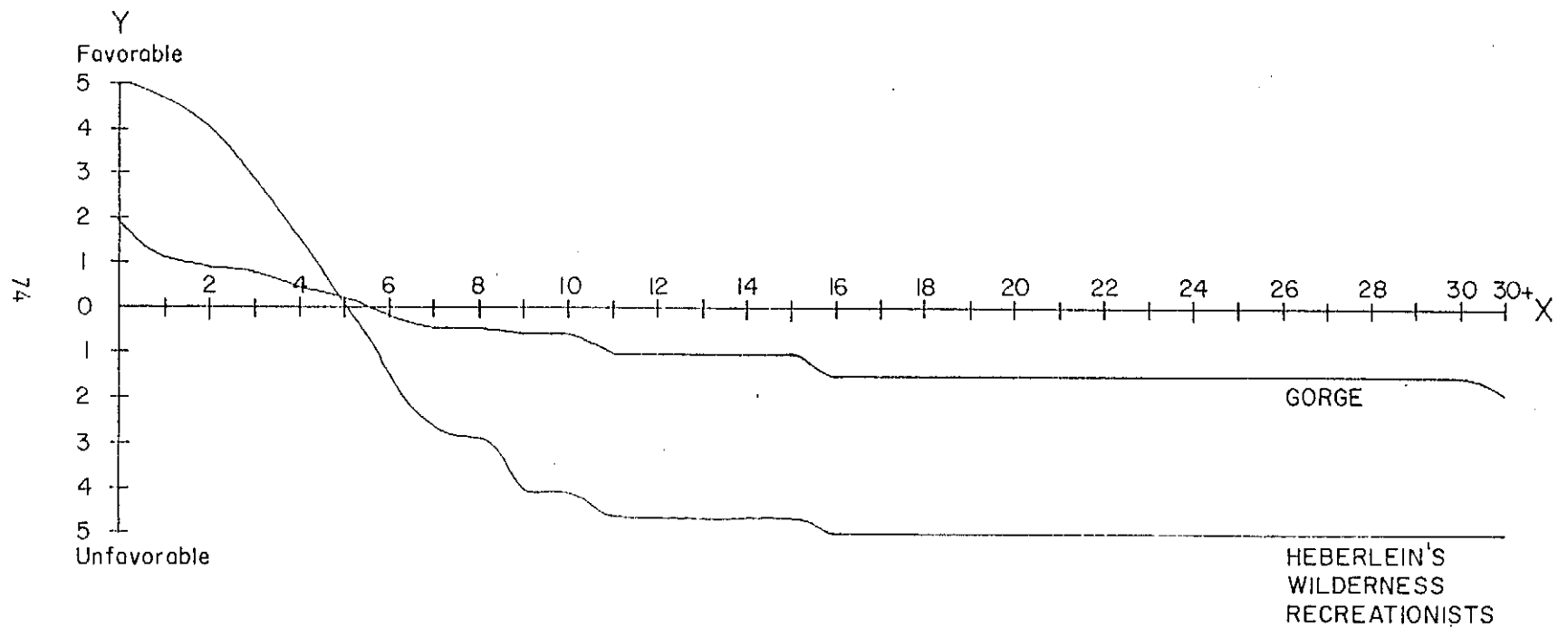
Density tolerance refers to how many people or interactions a recreationist will tolerate before he/she feels the recreation experience has been degraded. Previous research on density tolerance has used such indicators as user satisfaction, perception of crowding, and numbers of encounters (Fisher and Krutilla, 1972; Godfrey and Peckfelder, 1972; Hendee, 1968, Lucas, 1964; Shelby and Colwin, 1979; Stankey, 1971; 1972; 1973).

The numbers of encounters may not reflect tolerance or intolerance unless there is a subjective component to the question asked; perceptions of crowding and user satisfaction, though more clearly getting at the question of density tolerance, also are not unambiguous. The main problem with data based on questions of user satisfaction is that little variance in satisfaction is reported by visitors to a given recreation area. They have come there for recreation, a pleasant experience, and by and large are "satisfied customers". Our experience parallels those of other studies of recreation: if you ask the people who are there if they are satisfied, there will be an overwhelming majority who will answer in the affirmative. However, this

does not mean that some other constellation of features in the recreational site might not be even more pleasing to the recreationist. Furthermore, people for whom the area is already overcrowded and who avoid that area for their recreation will be missed in samples taken at the site.

One cannot establish density tolerance, therefore, by asking people if their experiences at a site are satisfactory. We chose to use a more indirect method, combining two different sources of information. First we established the hypothetical density tolerance, and then we asked other questions concerning the number of actual encounters the visitor had while at the site. This, rather than the usual question of "has your visit been satisfactory" allows us to compare preferences with actual experiences, and measure density satisfaction more accurately.

The method used to establish hypothetical density tolerance was modeled upon Heberlein's "return potential model" (Heberlein, 1977). We asked the respondents to react to encountering 0, 1, 2, 3...to several other people while engaged in the major activity for which they came to the Gorge (See Appendix 1). We then plotted the recreationists' average responses for seeing no other people, one other person, two other people, and so forth, and connected the points. Figure III-2 presents these data from the Red River Gorge analysis as well as a comparison curve from an



XAXIS NUMBER OF PEOPLE ENCOUNTERED
 YAXIS REACTION

Fig. III-2. Density Tolerance Curves of Total Visitor/Recreationists.

analysis by Heberlein of wilderness ("purist") recreationists. The numbers on the X axis indicate numbers of people potentially encountered, and the numbers on the Y axis, the visitors' average reaction from highly favorable (+5) to highly unfavorable (-5). The zero, or "neutral" point on the Y axis indicates where the visitor opinion changes from tolerant to intolerant.

Both the average Red River Gorge recreationist and Heberlein's wilderness recreationist "cross the line" to intolerance at about 5. Members of both groups, in other words, would prefer to encounter 5 or fewer other people while recreating. The shape of the curves, however, is also significant, and indicates that the Gorge recreationist is generally more tolerant of numbers than the purist. The wilderness recreationist considers any numbers beyond 10 or so to be highly unfavorable, whereas the curve for the Gorge visitors flattens out within the "unfavorable" range but does not reach as negative a level. Interestingly, Gorge recreationists are also not as favorable toward seeing few people; the overall curve in the positive range (+1.0 - +4.0) is flatter than that for wilderness recreationists.

When we asked the Gorge visitors to report on the number of people (outside their own group) actually seen, about 50% had encountered 9 or fewer other people (Table III-10).

Table III-10: Number of People Actually Seen

| Number of People Seen | Frequency | Percentage | Cumulative % |
|--------------------------|-----------|------------|--------------|
| 1 | 111 | 4.6 | 4.6 |
| 2 | 36 | 1.5 | 6.1 |
| 3 | 101 | 4.1 | 10.2 |
| 4 | 87 | 3.6 | 13.8 |
| 5 | 99 | 4.1 | 17.9 |
| 6 | 132 | 5.5 | 23.4 |
| 7 | 161 | 6.6 | 30.0 |
| 8 | 199 | 8.2 | 38.2 |
| 9 | 258 | 10.7 | 48.9 |
| 10 | 361 | 14.9 | 63.8 |
| 11 | 346 | 14.3 | 78.1 |
| 12 | 531 | 21.9 | 100.0 |
| | 2422 | | |

Similarly, about half replied that they had encountered "just (the) right" number of people while in the gorge (Table III-11). A substantial minority, however (about 1/3), reported that they had seen "too many" people, while about 10% would have liked to have seen more people.

Table III-11: Feelings About Number of People Seen

| Feelings | Frequency | Percentage |
|------------------|-----------|------------|
| -2: "Too many" | 405 | 16.8 |
| -1: | 471 | 19.5 |
| 0: "Just right" | 1293 | 53.5 |
| +1: | 134 | 5.5 |
| +2: "not enough" | 114 | 4.7 |
| | 2417 | |

Summary

The descriptive data included in this chapter give us a good glimpse of who the recreationists are and in which activities they engage while in Red River Gorge. As we have shown, the recreationists tend to be younger, well-educated individuals. Many have professional occupations or are students.

Red River Gorge is a regional recreational site. It does not attract many people from distant states, nor does it serve as a location in which people spend a great deal of time. Most visitors are from nearby urban centers and adjacent parts of surrounding states. These individuals go for a few days to get away from their daily routine, and to experience the natural beauty and peacefulness. Hiking and camping are their main activities.

These recreationists are more density tolerant than people who use wilderness areas. Red River Gorge visitors do, however, express a preference for seeing fewer visitors than they actually encounter. This suggests that people do feel some degree of over-crowding while pursuing their recreational activities. On the other hand, this does not seriously hamper their expectations because, like recreationists almost everywhere, they report a high level of satisfaction.

We began to suspect that there were subsamples in our

data which were not being reflected in the analysis of the entire visitor sample. There is a wide range of visitors which use the Gorge, though modal tendencies of age, sex, and occupation can be established. There are also, even within these categories, variations in how the individuals use the recreational resources, and in which areas they use them. We became aware during our study of a number of recreational subdivisions of the Gorge, and to understand not only density tolerance but to fully understand the nature of recreation in the Gorge, we analyzed our data in terms of these subdivisions. We call the subdivisions, "recreational niches", and discuss them in Chapter 4.

CHAPTER 4

RECREATIONAL NICHES

Introduction

Our idea that there were recreational sublocations in the Gorge led us to the concept of niche as it has been used in biological and ecological research and occasionally in sociocultural anthropology. Odum defines "ecological niche" as "the physical space occupied by an organism" and "its functional role in the community" (1971:234). Fredrik Barth added an element of conflict to Odum's definition as he defined "niche" to also include a group's "relation to resources and competitors." He studied several ethnic groups and maintained that these groups were defined not only by their surrounding natural conditions, but also by the presence and activities of other ethnic groups. Each group exploits only a portion of the total environment leaving the rest to be utilized by any remaining groups (1956:1079). Following both Odum and Barth, "recreational niches" can be defined as locations within recreational areas that are occupied by visitors who are pursuing different kinds of leisure time activities and who potentially may come into conflict with one another. The individuals utilizing these niches do so according to: 1) the location's resources, i.e., the particular types of recreational activities offered by the location, and 2) the

presence of other recreationists, specifically with regard to their characteristics and the activities in which they engage.

Some examples of how recreational niches become established might include such settings as winter resorts in which both skiers and snowmobilers use the same type of environment. Due to the nature of these types of recreation, the participants in each cannot easily coexist in the same setting. Similarly, in a lake area, sailors may be offended by those driving motorboats. Sailors normally seek a natural, peaceful experience while operators of motorboats do not. Because of conflicting motives as in the lake area or incompatible activities as in the winter resort case, certain "recreational niches" come to exist in various recreation areas. Different locations within the same environment may become established for different activities, to avoid the potential for conflict.

In some natural recreation sites, users determine the niches, and in others, niches are created by the environment or management policies. The environment should be viewed as a limiting, rather than determining factor in the establishment of recreational niches.

Recognizing the existence of these patterns is necessary in order to ensure that ecologically sound and recreationally relevant opportunities are offered in various locations of a site. In developing these areas in

accordance with the characteristics of the existing "niches," managers can more effectively address the visitors' desires and behaviors to provide high-quality recreation experiences without degradation of the physical environment and to avoid conflict among types of recreationists whose "niches" are incompatible.

Visitors were surveyed at each of the sites described in Chapter 3. Our participant observation suggested that these locations seemed to be recreational niches and when we analyzed the data, we found differences in visitor characteristics, expectations, and activities.¹

Table IV-1 summarizes data on the demographic characteristics of the visitors at each location, the trip motives, and the activities in which these individuals engage. There are differences in these attributes in the responses of the recreationists interviewed at each location. We will not elaborate on these differences now, but present this and other tables and discuss them later in the chapter.

¹ Alexander (1982) presents a much expanded discussion of the recreational niche analysis.

Table IV-1 -- Typical Red River Gorge Recreationist by Location

| <u>LOCATION</u> | <u>DESCRIPTION</u> | | | |
|-----------------|--------------------|------------------------|--------------------------|-------------------------|
| | <u>Age</u> | <u>Education*</u> | <u>Occupation*</u> | <u>Residence*</u> |
| Marysville | 23.6 | high school college | professional student | Cincinnati Kentucky |
| 715 Turnouts | 28.6 | high school college | professional student | Lexington Kentucky |
| Sky Bridge | 29.3 | high school college | professional student | Cincinnati Kentucky |
| Rock Bridge | 31.7 | college graduate | professional student | Cincinnati Kentucky |
| Chimney Top | 31.7 | college graduate | professional student | Lexington Louisville |
| Koomer Ridge | 32.2 | college graduate | professional student | Cincinnati Kentucky |
| Grays Arch | 27.2 | college graduate | professional student | Cincinnati Kentucky |
| Raven Rock | 27.8 | high school college | professional clercial | Kentucky Lexington |
| Indian Creek | 25.2 | high school college | clercial craftsmen | Kentucky Cincinnati |
| Trails | 25.4 | high school college | student professional | Cincinnati Kentucky |

LOCATIONDESCRIPTION

| | <u>Trip Motives*</u> | <u>Activities*</u> | <u>Main Activity*</u> |
|--------------|---|---|-------------------------------|
| Marysville | natural beauty, away from routine, take it easy, party | hiking, camping, swimming, climbing, partying | camping, hiking |
| 715 Turnouts | natural beauty, away from routine, peacefulness, take it easy | hiking, camping, swimming, picnicking, climbing | hiking, camping |
| Sky Bridge | natural beauty, away from routine, friends/family, peacefulness | hiking, picnicking, camping, climbing, swimming | hiking, camping |
| Rock Bridge | natural beauty, away from routine, exersize, peacefulness | hiking, picnicking, camping, climbing, swimming | hiking, camping |
| Chimney Top | natural beauty, away from routine, peacefulness, friends/family | hiking, climbing, swimming | hiking, camping, picnicking |
| Koomer Ridge | natural beauty, away from routine, peacefulness, friends/family | hiking, climbing | camping, swimming, picnicking |
| Grays Arch | natural beauty, exersize, peacefulness, friends/family | hiking, camping, climbing, picnicking, swimming | hiking, camping |
| Raven Rock | beauty, away from routine, friends/family, peacefulness | hiking, picnicking, camping, partying, swimming, climbing | hiking, camping |
| Indian Creek | beauty, away from routine, take it easy, peacefulness | camping, swimming, hiking, partying, picnicking | camping, hiking partying |
| Trails | beauty, exersize, away from routine, peacefulness | hiking, camping, climbing, swimming, partying | camping, hiking |

* Two or more characteristics listed in a single category indicate a high frequency of each.
All are listed in order of frequency occurrence

In addition to characteristics of the users at each site, we wanted to see if certain activities and development preferences were associated with one another. Factor analysis is a procedure for reducing the number of variables in data, and indicates whether there are clusters of activities and/or attitudes among the visitor-recreationist of Red River Gorge. We factor analyzed the 18 activity and preference variables listed in Table IV-2, and found six factors explaining 51.4% of the variance.²

Table IV-2 presents the factor loadings of the variables analyzed. Those variables with a loading of .35 are boxed and may be taken as indicators of the "meaning" of the factor.

² The method of factoring used was principal factors with iteration, using oblique rotation. The oblique rotation allows the factors to be correlated if these relationships exist in the data. The delta for the oblique rotation was set equal to -1.00. (See Nie et al, 1975).

Table IV-2 -- Factor Loadings from Visitor Data for Activity Variables

| # | Variable | F ₁ | F ₂ | F ₃ | F ₄ | F ₅ | F ₆ |
|----|--------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1 | Canoeing | -.01 | .01 | .31 | -.21 | .02 | .08 |
| 2 | Fishing | -.10 | .02 | <u>.44</u> | <u>-.38</u> | .05 | -.01 |
| 3 | Hiking | -.03 | -.02 | .13 | <u>.38</u> | .11 | .31 |
| 4 | Camping | .13 | -.03 | <u>.45</u> | .13 | .14 | .08 |
| 5 | Swimming | .17 | -.02 | <u>.54</u> | .01 | -.01 | -.02 |
| 6 | R. Climbing | .29 | -.08 | .21 | .12 | .03 | .19 |
| 7 | Picknicking | .09 | .10 | .17 | .02 | -.27 | .30 |
| 8 | Birdwatching | -.01 | -.05 | -.06 | -.10 | .03 | <u>.42</u> |
| 9 | Partying | <u>.63</u> | .05 | .18 | -.04 | -.17 | .05 |
| 10 | 4-Wheeling | .07 | .02 | .04 | <u>-.36</u> | -.05 | .07 |
| 11 | Hunting | -.02 | -.01 | .07 | -.26 | .01 | .11 |
| 12 | More Services | .13 | <u>.58</u> | -.06 | -.07 | -.05 | -.18 |
| 13 | Campsites- no facilities | .01 | .01 | .06 | .01 | <u>.36</u> | .03 |
| 14 | More infor- mation | -.06 | <u>.59</u> | -.05 | .08 | .05 | .07 |
| 15 | More public campgrounds | -.02 | <u>.75</u> | -.01 | -.05 | -.05 | -.02 |
| 16 | Seeing nude swimmers | <u>.49</u> | -.03 | -.03 | -.01 | <u>.41</u> | .03 |
| 17 | Seeing drunk people | <u>.73</u> | .03 | -.06 | -.15 | .20 | -.11 |
| 18 | Seeing people with handguns | .10 | .01 | -.01 | <u>-.36</u> | .17 | -.04 |

These loadings reflect the correlation of the variable with the factor. The factors may be interpreted as follows:

Factor One: "Partyers." Factor one is a composite of variables 9 ("partying"), 16 ("seeing nude swimming"), and 17 ("seeing drunk people") that load highly on the factor.

Factor Two: "Tourist-y Types" Factor two is composed of three variables, numbers 12 ("having more services available"), 14 ("having more information available"), and 15 ("having more public and private campgrounds").

Factor Three: "River Dwellers" Factor three is composed of three variables -- 2 ("fishing"), 4 ("camping") and 5 ("swimming"). Variable 1 ("canoeing") also has a fairly high loading on this factor.

Factor Four: "Day Hikers". Factor four is positively loaded on variable 3 ("hiking") and negatively loaded on 2 ("fishing"), 10 ("4-wheeling") and 18 ("seeing people with handguns"). Minor negative loadings occurred with variables 1 ("canoeing") and 11 ("hunting").

Factor Five: "Back to Nature Types". Factor five is composed of variables 13 ("having campsites with no sanitary facilities") and 16 ("seeing nude swimmers"). Variable 7 ("picnicking") received a fairly high negative loading.

Factor Six: "Bird-Watchers". Factor six is composed primarily of variable 8 ("birdwatching") yet variables 3 ("hiking") and 7 ("picnicking") also received fairly high loadings.

These "types" of recreationists produced by the factor analysis of our data generally correspond to categories established on the basis of our observations. The

"partyers" are those whom we saw frequently in certain locations, but not universally throughout the Gorge. As several of them told us, they visited the Gorge to "get wild and crazy." Drug use (alcohol and/or other drugs), carousing, and making lots of noise were characteristic of these recreationists. The "tourist-y types" were those individuals who often were just driving through the area on a short visit. They would often complain to us about the lack of facilities in the Gorge and most were not at all interested in "roughing it". The "river dwellers" saw the main attractions of the area in the water-based recreational opportunities rather than in the cliffs, arches, rock shelters, and hiking trails. "Day-hikers" describes the many people who were out in the Gorge to wander around on the trails. The "back to nature" types are likely a different kind of hiker, but were more accustomed to "roughing it." The "bird-watchers" are those individuals who were more likely to be engaged in more passive kinds of recreational activities (i.e., enjoying the natural surroundings rather than manipulating them.)

Factor scores are one way in which a separate score for each individual on each factor can be computed.³

We computed factor scores, then calculated mean scores for

³ The method of computing factor scores is known as the "regression estimate" approach. These estimates are standardized so that each factor score mean will be zero and will have a standard deviation of approximately one (See Nie, et al, 1975)

each factor for each of the locations. This was to see what kinds of individuals tended to use each location. These mean scores for the various locations are found in Table IV-3.4

The entire sample mean scores for each factor are approximately 0.000 because the factor scores are standardized. Any score that differs substantially from 0 indicates that more or fewer recreationists of a given type tend to occupy that particular location. We have put boxes around those scores greater than +2.00 and less than -2.00 to indicate that, from our perspective, significantly greater or lesser occupation of the site occurs by that type of recreationist. For example, Table IV-3 shows that partyers tend to aggregate especially at Marysville and Indian Creek. Those individuals who go to Rock Bridge and Koomer Ridge, on the other hand, tend not to be partyers. These differences will be explored further in our summary of the recreational niches.

Finally, we are interested in this chapter in whether the density tolerance of individuals in each of the locations was similar or whether density tolerance differed from site to site. Given that some of the areas seem to cater more

4 Because of the large number of cases, even small differences in means tend to be statistically significant. We were more interested in substantive differences rather than just statistically significant ones. We felt means below -2.00 or above +2.00 on this standardized scale would represent means substantially different from zero.

Table IV-3 -- Mean Factor Scores of Recreation Types for Each Location

| | Partying | Tourist-y | River Dwellers | Day Hikers | Back to Nature | Bird Watchers |
|--------------|----------|-----------|----------------|------------|----------------|---------------|
| Marysville | .510* | -.130 | -.476 | .015 | .174 | .139 |
| 715 Turnouts | -.043 | -.084 | -.330 | -.379 | .188 | .040 |
| Sky Bridge | -.198 | .140 | .222 | .034 | -.098 | -.108 |
| Rock Bridge | -.202 | -.107 | .248 | .189 | -.154 | .026 |
| Chimney Top | -.143 | -.072 | .148 | .098 | .008 | .090 |
| Koomer Ridge | -.231 | .061 | -.057 | .150 | -.082 | .112 |
| Grays Arch | .029 | -.133 | .013 | .186 | .058 | .128 |
| Raven Rock | .072 | .457 | .230 | .426 | -.177 | -.404 |
| Indian Creek | .452 | -.071 | -.537 | -.526 | .051 | -.051 |
| Trails | -.008 | -.350 | -.026 | .285 | .432 | .043 |

*We have arbitrarily boxed all scores above -.200 or .200. These we feel are substantively significant scores.

toward "wilderness" kinds of recreational opportunities while other seem to be more appropriate for more "intensive" use, we expected that there would be differences in density tolerance.

As we did in Chapter 3 with density preference data for the visitors as a whole, we have plotted the preference scores for the niche locations. We plotted only five locations to a figure to make the figures easier to read.

Figures IV-1 and IV-2 compare density tolerance between diverse recreationists, such as those interviewed along the trails compared with those interviewed at Sky Bridge. People on trails like to see very few people and indicate that they find it quite distasteful to encounter large numbers of people. The individuals at Sky Bridge, on the other hand, have a flat curve: they do not find it particularly enjoyable to see few people, and they do not find it particularly distasteful to see many people. The differences with regard to density tolerance will be discussed as a part of the subsequent discussion of niches.

Recreational Niches in the Red River Gorge

Table IV-4 summarizes the characteristics of each of the locations that we surveyed in Red River Gorge. It is apparent that these different locations do attract different kinds of individuals who utilize the different recreational opportunities in very different ways. Even those who are

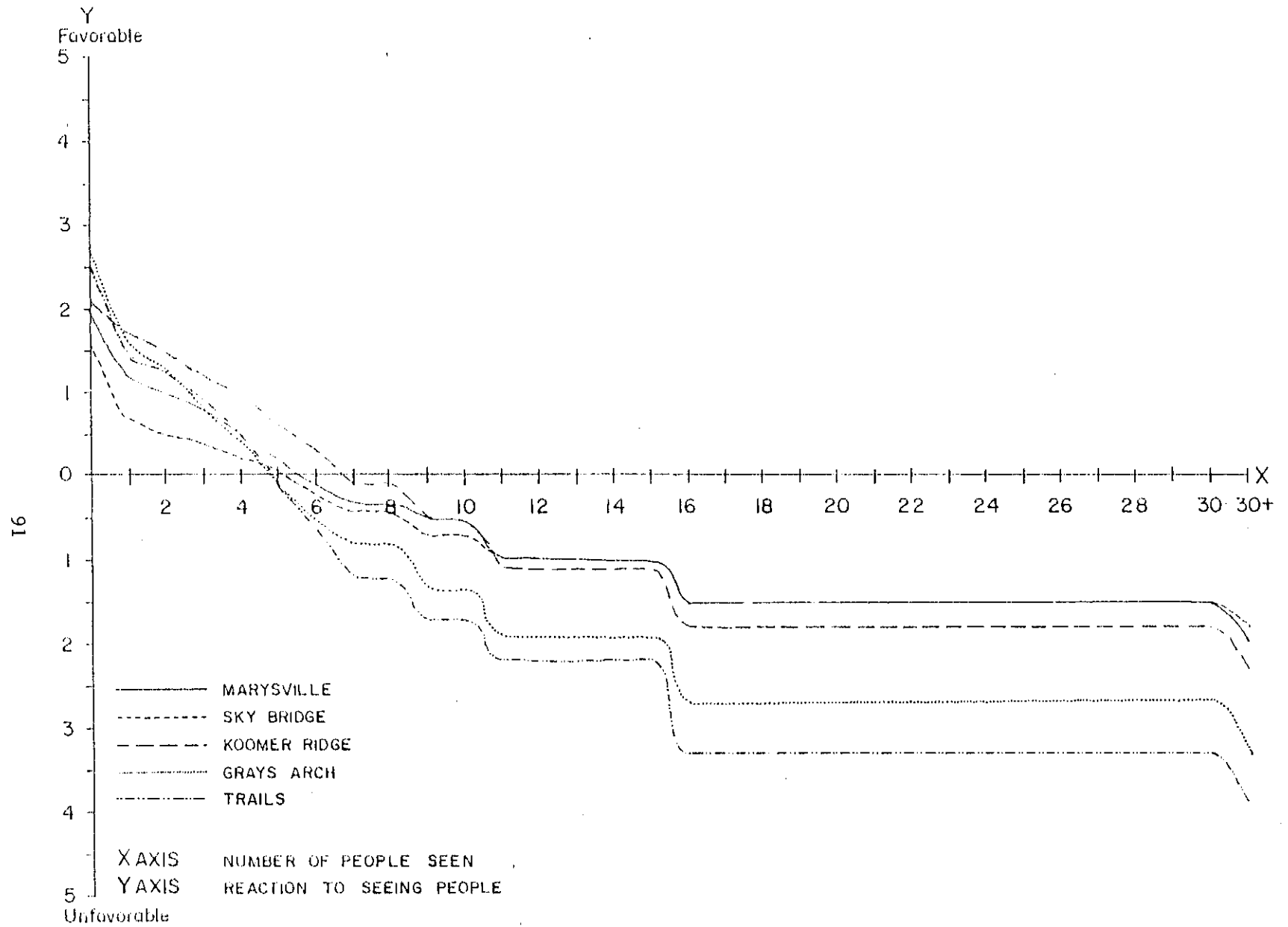


Fig. IV-1. Density Tolerance Curves for First Five Sites.

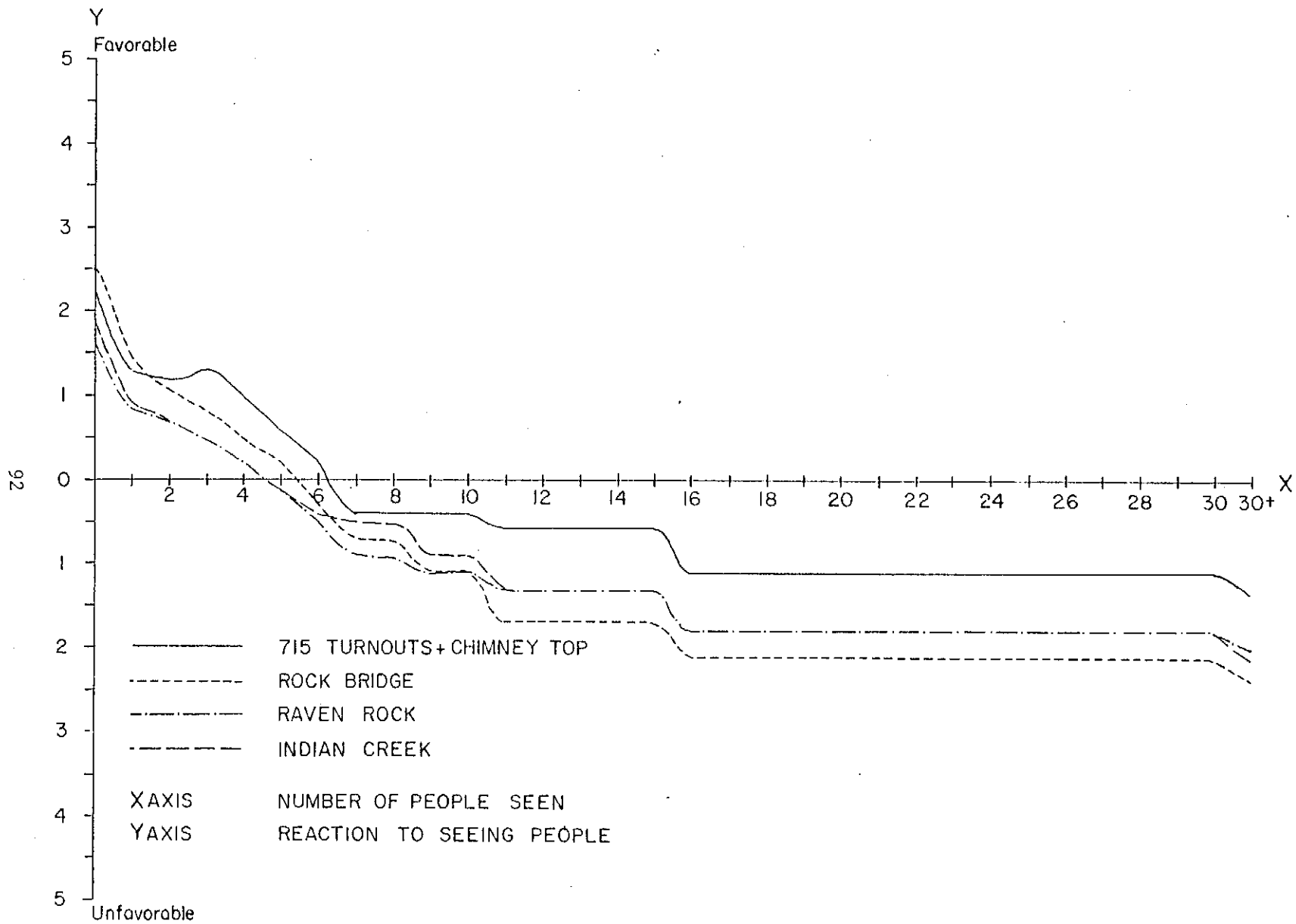


Fig. IV-2. Density Tolerance Curves for Remaining Sites.

Table IV-4. Characteristics of Recreational Niches

| <u>Locations</u> | <u>Attributes</u> | <u>Type of Niche</u> |
|------------------|---|--|
| Marysville | Young, male, students, From Cincinnati, partyers, river dwellers | Frontier, camping and partying atmosphere. For urban males; high density tolerance |
| Indian Creek | Younger, more working class, From local area, partyers, river dwellers, are <u>not</u> day hikers | Camping and partying area for local people |
| Koomer Ridge | Oldest group, well-educated, professionals, many from Cincinnati, <u>not</u> partyers, tend to be seeking more peaceful pursuits, like seclusion but are density tolerance. | An organized campground that appeals to families seeking peaceful atmosphere. |
| Sky Bridge | Slightly older, students and professionals, many from around Cincinnati, are <u>not</u> partyers or river dwellers | A tourist spot appropriate for and attractive to everyone |
| Raven Rock | More people from Kentucky and Lexington, very tourist-y, attracts day-hikers, not river dwellers or bird-watcher types | Appeals to those who like to stay in their car yet see "the sights" |
| Chimney Top | Older, well-educated, professionals and students, most from Lexington and Louisville, no clear types | Another major attraction that appeals to everyone; Fairly long ride down dirt road may discourage people who have driven a long way. |

| | | |
|--------------|---|---|
| Grays Arch | Males, well-educated, students and professionals, many from Cincinnati, seeking exercise, <u>not</u> density tolerant | A major attraction that is more challenging to reach. It takes a more strenuous hike to get there |
| Rock Bridge | Older, well-educated, professionals, many from Cincinnati, are <u>not</u> partyers or river dwellers; many are day hikers | More Family-oriented recreation that appeals to more mature, less wild group of people |
| 715 Turnouts | Younger, males, many from Lexington, and rest of Kentucky, river dwellers; not day hikers | Drive-in recreation; appears to attract younger crowd who like river recreation and to get back to nature without lots of exertion getting there. |
| Trails | Younger, males, students, many from Cincinnati, seeking exercise <u>not</u> tourists, but day hikers, definitely getting back to nature <u>not</u> density tolerant | More interested in wilderness style, dispersed recreation. Most "purists" of sample |

there for the same purpose may behave differently or have different expectations depending on which "niche" they are occupying.

Many visitors came to camp, for example, but not all camping in the Gorge is of the same nature. There are two unorganized and undeveloped campgrounds in the Red River Gorge, at Marysville and at Indian Creek. Both are heavily utilized. Considerable soil compaction, destruction of trees, and other environmental damage has occurred at each. Despite these similarities, there are some quite important differences.

Marysville is a campground largely for urban males who are seeking a frontier, free, atmosphere. They come to party in a place where they know the authorities will not disrupt them. On weekends especially, Marysville is a campground for partying rather than sleeping. The litter of beer cans left behind after these nights of drunkenness and noise is a visible testimonial to the primary interest of many of the recreationists who go there. When local people talk about the distasteful behavior of the "hippies" in the Gorge, they are most often referring to those who camp at Marysville. The people at Marysville are quite density tolerant (Figure IV-1).

Indian Creek is quite a distance from Marysville not only in terms of road miles but also in terms of the kind of individuals who inhabit the niche. Like those at

Marysville, Indian Creek campers are young, but they tend to be from the local area rather than urbanites. They too are partyers and river dwellers, but tend to be less interested in day hiking. They are less density tolerant than the partiers at Marysville (Figure IV-2). We think that the separation between these two groups of partying campers is a purposeful one. The cultural differences between the urban, middle class, student group at Marysville and the poorer, working class, rural Kentucky youths at Indian Creek could potentially create a volatile situation were they camping in the same area together. Several urban young people with whom we spoke expressed trepidation over the "local rednecks", even though they evidence little or no contact with local people (see Chapter 3). The local youth who camp at Indian Creek are knowledgeable of Marysville and the "hippies" who camp there. We suspect they deliberately avoid going into each other's niche.

The third campground in the area is the organized one constructed by the Forest Service at Koomer Ridge. This campground attracts still a third type of camper: older, more educated, professionals who are seeking more peaceful activities. The noise, wild partying, and somewhat sloppy and uncouth behavior (as indicated by the litter) of the campers at Indian Creek and Marysville would not be compatible with their recreational goals. Like those at Indian Creek and Marysville, the campers at Koomer Ridge are fairly density tolerant -- but we are quite sure that they

are tolerant only for recreationists of their own kind (See Figure IV-1).

Another set of niches are those locations that might be termed the "sights" in the Red River Gorge. These are the locations in the landscape that are distinctive natural features.

Sky Bridge is perhaps the best-known attraction in the Gorge. It is easy to reach, there are many road signs telling how to get to it, and the Forest Service has constructed facilities there that make it an attractive and easy place to visit. We found that the visitors sampled at Sky Bridge included a cross section of the general population of Gorge visitors, although there were fewer river dwellers or partyers in the Sky Bridge sample. This recreational niche seems to be a tourist spot appropriate for and attractive to everyone, from the urban youngster from Cincinnati, Lexington, or Louisville, to the grandparents taking their grandchildren for a ride in the country on a Sunday afternoon. People at Sky Bridge expect to see lots of people and are quite density-tolerant, as shown by their tolerance curve on Figure IV-1.

Raven Rock seemed to attract a special kind of clientele. At the time of the surveys, it was a privately owned location. Billboards advertised it and a small fee was charged for the "privilege" of driving up the difficult road leading to the overlook. The data seem to indicate that

those who decided to drive to Raven rock tended to be people who might have been out for a day's drive and who wanted to see a "sight" without having to go very far from their cars. (Given the condition of the road, they likely wished they had gone farther from their cars!) These were the most "tourist-y" individuals, and were quite density tolerant (Figure IV-2). Many expressed a wish for further development of services in the area.

Chimney Top visitors tended to be older than the average Gorge recreationist and many of them were college graduates. Most visitors here were from either Lexington or Louisville. These visitors have a fairly high density tolerance, seem to like the area the way it is and prefer little more development (Figure IV-2).

The characteristics of people at Gray's Arch seem to indicate that people who go there are more "purist" in their recreational orientation. The trail to Gray's Arch is not especially rugged, but it is long, extending over several miles. This contrasts with the three "sights" discussed above, each of which may be reached with only a short walk from a car. Gray's Arch visitors are usually males, seeking exercise, and well educated. They have a much lower density tolerance than those individuals who go to Sky Bridge, Chimney Top, or Raven Rock (Figure IV-1).

Although Rock Bridge is according to many the most beautiful of the arches, it does not offer the imposing

splendor of a Sky Bridge or a Gray's Arch. It is much smaller but still very attractive, with waterfalls and pools in the vicinity of the trail and the arch itself. Rock Bridge tends to attract older, well-educated professionals and students. These people are not river dwellers or partyers, but many are day hikers. Rock Bridge thus appears to be a more family-oriented recreation spot sought out by people looking for a quiet, peaceful day to enjoy the woods. They are less density tolerant than those at Chimney top, Raven Rock and Sky Bridge (Figure IV-2).

The Route 715 turnouts seem to attract a clientele looking for what we might call "drive-in recreation." As Table IV-4 shows, the turnout visitors tended to be younger males, many from Lexington, who were not interested in hiking but rather were interested in the water-based recreational activities. We often saw pick-up trucks and vans parked in these turnouts with young men hanging around them drinking a beer or sometimes swimming in a deep hole in the nearby river. They are quite density tolerant (Figure IV-2).

Finally, the trail users were primarily younger males, many of whom were students seeking exercise. Many of these people were day hikers who were interested in getting back to nature. As anticipated, these were the least density tolerant individuals in our population. These individuals were those most interested in "wilderness-style" recreation,

and were closest to Heberlein's wilderness recreationist in the shape of their density curve (see Figure III-1).

Visitor Management Preferences

When the entire visitor population is examined, preferences for certain management activities emerge (Table IV-5). On the whole, visitors desire more information about the Gorge and its recreational opportunities, and yet they do not seek more services. We believe that "services" may connote "development" to most visitors, who after all, come here to "get away from it all" and experience natural

Table IV-5 Development Preferences for the Total Gorge Visitor Population

| Issue | Strongly Approve To Approve | Neutral | Disapprove To Strongly Disapprove |
|--|-----------------------------|---------|-----------------------------------|
| More Services (Groceries, Gas Stations, Restaurants) Available | 29.0 | 19.1 | 51.9 |
| Campsites with no Facilities | 29.5 | 30.6 | 39.9 |
| More Information Available | 56.2 | 25.3 | 18.5 |
| More Public Campgrounds | 38.1 | 25.7 | 36.2 |

surroundings. Visitors as a whole show a slight preference for more primitive camping facilities, though the range is

great, and distributed almost randomly across the three possible categories. Despite these general trends we felt that these general preferences mask variability existing among people at each site, so we broke the development preferences responses down by "niches".

The same groupings by site emerge in recreationist preferences for management as emerged for recreationist characteristics. The most "purist" in the sense of wanting least interference by managers, were the Trail hikers, followed closely by the visitors to the rather difficult to reach Grey's Arch (Tables IV-6 and IV-7). Users of both sites were opposed to more services, which fits their "back to nature" niche. The Trail hikers also were quite enthusiastic about the establishment of primitive campsites, as were the Grey's Arch people, though the latter were not quite as strong in that opinion. As befits their more purist orientation, members of both groups were neutral to negative (from 70% to 80% of respondents) about the establishment of new public campgrounds. The Trail users are interested in having more information available, probably because of the confusing jumble of marked and unmarked trails in the Gorge. Close to 80% of the Grey's Arch visitors were neutral to approving of having more information.

Table IV-6 Development Preferences for Trails Visitors

| Issue | Strongly Approve To Approve | Neutral | Disapprove To Strongly Disapprove |
|--|-----------------------------|---------|-----------------------------------|
| More Services (Groceries, Gas Stations, Restaurants) Available | 16.1 | 16.9 | 67.0 |
| Campsites with no Facilities | 44.1 | 30.5 | 25.4 |
| More Information Available | 50.5 | 17.6 | 21.9 |
| More Public Campgrounds | 19.7 | 23.9 | 56.4 |

Table IV-7 Development Preferences for the Gray's Arch Visitor

| Issue | Strongly Approve To Approve | Neutral | Disapprove To Strongly Disapprove |
|--|-----------------------------|---------|-----------------------------------|
| More Services (Groceries, Gas Stations, Restaurants) Available | 23.5 | 18.4 | 58.1 |
| Campsites with no Facilities | 28.0 | 34.1 | 37.8 |
| More Information Available | 52.7 | 26.2 | 21.1 |
| More Public Campgrounds | 29.3 | 29.0 | 41.7 |

People at Koomer Ridge, Chimney Top and Rock Bridge (Tables IV-8, IV-9 and IV-10) differed in their management recommendations from the Trail users and the Grey's Arch people, but were more similar to them on an imaginary "purist" scale than to those of other sites yet to be discussed. People sampled at these sites had a similar, disapproving attitude towards having more services available, wanted more information, and were not strongly committed for or against more public campgrounds. Of the three sites, the campers at Koomer were more encouraging of campgrounds. In none of the three sites were people enthusiastic about primitive campsites, though Koomer Ridge visitors were stronger in their opinions against primitive

Table IV-8 Development Preferences for Koomer Ridge Visitors

| Issue | Strongly Approve To Approve | Neutral | Disapprove To Strongly Disapprove |
|---|--------------------------------------|---------|--|
| More Services (Groceries, Gas Stations Restaurants) Available | 26.2 | 21.4 | 52.4 |
| Campsites with no Facilities | 15.9 | 33.7 | 50.4 |
| More Information Available | 61.7 | 22.3 | 16.0 |
| More Public Campgrounds | 47.0 | 20.9 | 32.1 |

Table IV-9 Development Preferences for Chimney Top Visitors

| Issue | Strongly Approve To Approve | Neutral | Disapprove To Strongly Disapprove |
|---|-----------------------------|---------|-----------------------------------|
| More Services (Groceries, Gas Stations Restaurants) Available | 21.2 | 21.5 | 57.3 |
| Campsites with no Facilities | 28.7 | 33.0 | 38.3 |
| More Information Available | 58.2 | 22.6 | 19.2 |
| More Public Campgrounds | 36.9 | 26.1 | 37.0 |

Table IV-10 Development Preferences for Rock Bridge Visitors

| Issue | Strongly Approve To Approve | Neutral | Disapprove To Strongly Disapprove |
|---|-----------------------------|---------|-----------------------------------|
| More Services (Groceries, Gas Stations Restaurants) Available | 20.5 | 20.8 | 58.7 |
| Campsites with no Facilities | 27.3 | 31.6 | 41.1 |
| More Information Available | 52.2 | 29.4 | 18.4 |
| More Public Campgrounds | 34.6 | 24.2 | 41.0 |

campgrounds than members of the other two sites. Although many of the Chimney Top and Rock Bridge sites users are "day trippers" who do not camp, there is a core of visitors to these areas who camp on the roads leading to these sites. This is probably where the variance in this variable derives and why visitors to these two sites are more tolerant of primitive camping.

Recreationists at Sky Bridge and Raven Rock (Tables IV-11 and IV-12) resembled each other in being in favor of having more information, and more public campgrounds, and opposing primitive campsites. The Raven Rock visitors, though, sought more services, which considering the road to Raven Rock, may have been predicted!

Table IV-11 Development Preferences for Sky Bridge Visitors

| Issue | Strongly Approve To Approve | Neutral | Disapprove To Strongly Disapprove |
|---|-----------------------------|---------|-----------------------------------|
| More Services (Groceries, Gas Stations Restaurants) Available | 33.8 | 16.1 | 50.1 |
| Campsites with no Facilities | 29.5 | 26.5 | 44.0 |
| More Information Available | 62.2 | 25.3 | 12.5 |
| More Public Campgrounds | 43.1 | 27.9 | 29.0 |

Table IV-12 Development Preferences for Raven Rock Visitors

| Issue | Strongly Approve To Approve | Neutral | Disapprove To Strongly Disapprove |
|--|-----------------------------|---------|-----------------------------------|
| More Services (Groceries Gas Stations Restaurants Available) | 48.5 | 20.1 | 31.4 |
| Campsites with no Facilities | 29.0 | 24.3 | 46.4 |
| More Information Available | 65.9 | 22.4 | 11.7 |
| More Public Campgrounds | 56.3 | 22.7 | 21.0 |

Table IV-13 Development Preferences for 715 Turnout Visitors

| Issue | Strongly Approve To Approve | Neutral | Disapprove To Strongly Disapprove |
|---|-----------------------------|---------|-----------------------------------|
| More Services (Groceries, Gas Stations Restaurants) Available | 32.7 | 10.9 | 56.4 |
| Campsites with no Facilities | 49.1 | 21.8 | 29.1 |
| More Information Available | 47.3 | 30.9 | 21.8 |
| More Public Campgrounds | 38.2 | 21.8 | 40.0 |

"Inhabitants" of the 715 Turnout "niche" (Table IV-13) most resembled those from the Gray's Arch "niche": they were towards the "purist" end of the scale in not seeking services or campgrounds, but the 715 people were even further along the continuum in their enthusiasm for primitive campgrounds.

Finally, the Indian Creek and Marysville groups showed some differences from the preceding groups (Tables IV-14 and IV-15). The campers at the primitive Marysville site were singularly neutral about "campsites with no facilities". Each of the three categories consisted of about 1/3 of the sample responses. The visitors at Indian Creek, another undeveloped site, do not feel strongly about primitive camping either, though they tend to be slightly more negative. This may be because many of the Indian Creek campers, though they are camping in an undeveloped area, are not without "services" in that more of them are using campers and trailers than the visitors to Marysville. No very strong opinions were shown on any of the variables asked of the Marysville people, contrasting with, for example, the Trail people's unmistakable statement against having more services. Most of the average responses to the question on the desire for more information that were collected at the other sites hovered in the 60% favorable range. The low (46%) average favorable response to this question given by the Indian Creek campers may be due to the high incidence of local people who frequent Indian Creek.

Table IV-14 Development Preferences for Indian Creek Visitors

| Issue | Strongly Approve To Approve | Neutral | Disapprove To Strongly Disapprove |
|---|-----------------------------|---------|-----------------------------------|
| More Services (Groceries, Gas Stations Restaurants) Available | 34.9 | 24.3 | 40.8 |
| Campsites with no Facilities | 37.5 | 29.5 | 33.0 |
| More Information Available | 45.6 | 29.4 | 25.0 |
| More Public Campgrounds | 43.0 | 23.8 | 33.2 |

Table IV-15 Development Preferences for Marysville Visitors

| Issue | Strongly Approve To Approve | Neutral | Disapprove To Strongly Disapprove |
|---|-----------------------------|---------|-----------------------------------|
| More Services (Groceries, Gas Stations Restaurants) Available | 32.8 | 18.0 | 49.2 |
| Campsites with no Facilities | 30.9 | 33.7 | 35.4 |
| More Information Available | 50.0 | 26.4 | 23.6 |
| More Public Campgrounds | 28.7 | 27.4 | 43.9 |

Being local, they may feel that already have all the information they need. Similarly, they may be less opposed to having more commercial services in the area because of the beneficial effect they would have on the local economy.

Summary

We believe that the recreational niche hypothesis is a valid one for the Red River Gorge. These 10 different locations within the Gorge seem to have somewhat different types of individuals inhabiting them for recreational purposes. The management implications of these recreational niches will be discussed in the final chapter.

We should emphasize that our identification of niches does not mean that other types of recreationists never cross into other niches or that there is homogeneity and therefore lack of conflict among the people in a given niche. Nevertheless, it is quite impressive that separation of people into "appropriate niches" does seem to occur. The separation comes about largely, we believe, because of the kind of recruitment process which draws people to visit the Gorge.

There is no longer significant publicity about the area and almost everyone hears about the Gorge by word of mouth. First time visitors usually come with a family member or friend who has been there before. The "veterans" recommend certain places as being superior for certain kinds of

recreation. Because friends have similar tastes and recreation preferences, there is a tendency for certain types of people to go to certain places, and for recreational activities to take place differentially in separate areas of the Gorge. Outsiders, such as members of the research team, quickly learned the "rules" of the different locations. It was unwise, we discovered, to have female interviewers doing surveys alone in Marysville. By the same token, when these females were interviewing at Sky Bridge, we found that it was advisable to have them wearing skirts and blouses so they would receive a better response from the older individuals who frequented that spot. It paid to act cautiously when approaching visitors at 715 Turnouts. The appearance of a state car would initiate evasive action of visitors engaged in drug use or alcohol consumption, and the first action the interviewer would have to take would be to reassure the visitors that he/she was not there to enforce the law.

It is impressive that even without the managers of the Red River Gorge providing guidance to recreationists, the informal networks (along with whatever kind of recreation is appropriate at a site) seem to be effectively directing recreationists to appropriate places. This informal word of mouth does break down, perhaps frequently. We had friends who visited the Gorge after hearing us extoll the virtues of the location. Yet without a guide, some of them ended up at Marysville and reported back to us that they thought the

Gorge was a terrible place to visit. We could only conclude that once there, they were unable to plug into the right network to find out how to get to the most interesting places and to find compatible types of recreationists.

The effectiveness of the informal word of mouth methods may be judged from the levels of satisfaction expressed by our respondents. Of the 2500 people answering the question about satisfaction with their experience in the Gorge, only 20 individuals reported that they were dissatisfied. Only 98 said that they were neither positive nor negative. Thus, over 95% of the visitors reported a generally positive evaluation of their trip to Red River Gorge.

CHAPTER 5

MEMBERS OF FOUR CONSERVATION/RECREATION ORGANIZATIONS

One way to obtain information about the use of recreational resources in an area is to survey users of the area, as we reported in Chapters 3 and 4. It is also useful for managers to know something about the people who do not go to a particular site for recreation. It may be that a portion of the populace avoids a recreation site for reasons which managers would be advised to know: perhaps the environment has become less suited to particular usages, or human density has reached a level discouraging to some class of users. Managers may want to encourage certain types of users. If they are systematically being excluded, it would behoove management to find out why. Finding these people, of course is difficult. By definition, they are not going to be found at the recreation site. A general public survey is prohibitively expensive, and would yield only a small number of people who deliberately do not use a site. A better plan is to seek this elusive population where the probability is highest of finding them. We chose to look for the non-user in conservation and recreation organizations, and the results of what we called our "Potential Visitors Survey" are presented in this chapter.

Another reason for sampling members of conservationist/recreationist organizations is to ascertain their opinions for their own sakes. Conservationists

comprise a large segment of the recreating public, and are a vocal and influential lobby. Do they differ in any important respects from the general recreationist at a site? One might hypothesize that they would differ in some respects, but perhaps not in others. We sampled members of four conservation or recreation organizations to find out.

Because we are interested in both those who do come to the Gorge as well as those who do not, the conservationist/recreationist sample has two subgroups. We will describe the sociodemographic characteristics of both conservationist/recreationist subgroups. We will present attitudes towards and opinions of the Gorge of the conservationist/recreationist members who visit the Gorge, and also discuss these data in comparison with the general Gorge visitor. The reasons why some conservationist/recreationist members do not frequent the Gorge will also be discussed, with its management implications.

Methodology

The conservation/recreation groups surveyed represented the major, local conservationist groups that would be likely to use the Red River Gorge. The four groups surveyed were the Bluegrass Group of the Cumberland Chapter of the Sierra Club, the Bluegrass Wildwater Association, the Bluegrass Wheelmen, and Kentucky Rivers Coalition. Kentucky Rivers

Coalition was contacted because it was presumed that its members would have an interest in recreation in the Gorge, although it was later found that this existed to a lesser degree than anticipated. All of the groups were willing to participate in the survey.

The survey instrument was mailed to each of the groups except for the Bluegrass Wildwater Association. We contacted officers of the Sierra Club group, the Bluegrass Wheelmen and Kentucky Rivers Coalition and were given a set of address labels for their memberships. We made one mailing of the survey instrument because the return rate from the three groups was satisfactory: 68% for the Sierra Club, 53% for the Bluegrass Wheelmen and 35% for Kentucky Rivers Coalition. In the case of the Bluegrass Wildwater Association, a research assistant attended a meeting to pretest the survey instrument, and all the members present completed the surveys at that time. Because only minor changes in format were made in the survey instrument after this pretest, the data obtained at that meeting were used for the research. Sierra Club members represent 59% of all the respondents, the Bluegrass Wildwater Association members constitute 12%, 19% are from Kentucky Rivers Coalition, and 7% are Bluegrass Wheelman.

The survey instrument for the conservationist/recreationists was based on that used to interview visitors in the Red River Gorge. This instrument

had been extensively pretested and therefore needed only the addition of some questions specifically drawn for the conservationist/recreationist group members. It also included a section for those who had never visited the Gorge, consisting primarily of open-ended questions asking about the good and bad things they had heard about the Gorge, why they did not go, which areas they visited instead and their reasons for doing so (see Appendix 2). In addition to demographic data, we collected information about conservationist/recreationist visitation patterns in the Gorge and the type of recreation they pursued. We measured their density tolerance using Heberlein's methodology (see Chapter 3). Two sections to evaluate the management problems in the Gorge and preferences regarding services and facilities were also included in the questionnaire.

The Research Sample

Before discussing the data from this survey, we will present a brief description of the purpose and organization of each conservation/recreation group. The Bluegrass Group of the Cumberland Chapter of the Sierra Club, part of the national Sierra Club, was established in 1972. Its members number about four hundred, most of whom live in the Lexington area. The main purpose of this group is to explore, enjoy, and preserve the wilderness. The slogan on the newsletter masthead is "...not blind opposition to

progress, but opposition to blind progress." Regular membership costs \$25 per year and the club meets monthly. Non-members are welcome at meetings and at the Sierra Club outings, which are advertised in the local papers. Sierra Club members teach backpacking and hiking in adult education classes at the University of Kentucky and Transylvania University. Free, one night classes in backpacking, hiking, canoeing and first aid are also taught for both members and non-members. In addition to using the Red River Gorge for their activities, Sierra Club members visit Cumberland Gap, Clark Forest, southern Indiana, the Smokies, Jefferson Forest and the Land Between the Lakes. An annual activity of the Bluegrass Sierra Club is an autumn litter pick-up in the Red River Gorge. This litter pick-up is facilitated by the Forest Service, which collects and disposes of the bags of litter gathered by the club members.

Kentucky Rivers Coalition, (KRC), founded in 1976 to deal with water policy issues, is a non-profit corporation organized to redirect the course of natural resource development in Kentucky. Its purpose is to conduct research, provide advocacy and assist communities in organizing to promote local interests in research policy areas. Most of the KRC's work is done in rural areas outside of Fayette County. Recently they have moved into contemporary issues of land usage such as oil-shale development. Since this is not primarily a social and recreation group, but a lobbying organization, the members

meet for only a few recreational activities such as picnics and canoe trips, that are also fund-raisers. The organization's average membership is about 450 and the cost to join is \$10. The KRC, as an umbrella organization, was instrumental in the fight against the Red River dam during the mid-seventies. "Save Our Red River," a group of local landowners and residents of the Red River area, is a member of the Kentucky Rivers Coalition.

The Bluegrass Wheelmen is a club established in 1969 to promote all aspects of the sport of bicycling as a means of recreation and touring. The club has approximately 100 members who pay \$5 to join and who may then participate in monthly rides in and around Lexington. In the fall the club holds a Red River Rally, a one-day, forty-mile tour of the Red River Gorge. Beginning at the Natural Bridge stable area, the cyclists ride up through the Gorge and return to the stables. All of the club's activities, such as weekend rides, are advertised in the local papers and are open to non-members.

White water recreation, boating safety and river conservation are the focuses of the approximately 120 members of the Bluegrass Wildwater Association (BWA). Since 1976 this club has organized weekend and week-long canoeing and kayaking trips that are open to both members and non-members. In addition, the club holds public clinics to teach beginning and intermediate paddling of canoes and

kayaks. In the winter, kayak clinics are held in swimming pools and equipment is provided for non-members. Membership fees for the BWA are \$8 per year and meetings are held once each month.

Recreationist/Conservationist Visitors

We will first discuss the conservation/recreation group members who have visited the Gorge. Later, we will discuss the non-visitors.

Sociodemographic Characteristics: The majority of the respondents (67%) are from Lexington. An additional 30% of the population lives in other cities in Kentucky: Richmond, Frankfort, Winchester, Paris, Cynthiana, Louisville and Cincinnati. Kentucky residents represent 97% of those surveyed, a higher proportion than that in the visitor sample as a whole (see Table III-4). Most of the respondents are of urban, or suburban origin; only about 1/4 of them grew up on a farm or in a small town. Seventy-eight percent of them belong to at least one conservation/recreation organization in addition to the one we sampled.

There is a wide range of ages among the conservationists (Table V-1). The youngest respondent was seventeen but there are also respondents in their sixties and seventies. The largest portion of the sample (37%) are between the ages of 21 and 30, followed by those from 31 to 40 years of age

(28%). The mean age of those surveyed is 37 years, which is somewhat older than the mean for the visitor sample as a whole (see Table III-2). Males are more numerous (69%) than females (31%) in the conservationist/recreationist sample.

Table V-1 -- Conservationist/Recreationist Age Distribution

| AGE | FREQUENCY | PERCENTAGE |
|-------|-----------|------------|
| 17-20 | 12 | 3.7 |
| 21-30 | 118 | 37.0 |
| 21-21 | 38 | 11.9 |
| 26-30 | 80 | 25.1 |
| 31-40 | 89 | 27.9 |
| 41-50 | 44 | 13.8 |
| 51-60 | 26 | 8.2 |
| 61 up | 30 | 9.4 |
| | 227 | |

Mean Age = 37.2

Ninety four percent of the conservationist/recreationists have received education at the college level and 60% have had graduate education (Table V-2). Although the general visitor population is more highly educated than the national average, (Table III-3) the recreationist/conservationist sample is even more highly educated.

Table V-2-- Highest Level of Education Achieved by Conservationist/Recreationists

| EDUCATION | FREQUENCY | PERCENTAGE |
|-----------------------------------|-----------|------------|
| Grades 0-8 | 5 | 1.6 |
| Grades 9-11 | 5 | 1.6 |
| High School Diploma | 11 | 3.4 |
| Some College/Additional Schooling | 56 | 17.5 |
| Bachelors Degree | 54 | 16.7 |
| Some Graduate Work | 53 | 16.5 |
| Graduate Degree | 137 | 42.7 |
| | 321 | |

These educational levels are reflected in the occupations held by the conservationists: 60% have professional or managerial jobs, working as accountants, engineers, librarians or teachers (see Table V-3).

Table V-3 -- Conservationist/Recreationist Occupations

| OCCUPATION CATEGORIES | FREQUENCY | PERCENTAGE |
|-----------------------------|-----------|------------|
| Professional and Managerial | 183 | 60.6 |
| Student | 41 | 13.6 |
| Clerical | 16 | 5.3 |
| Sales | 14 | 4.6 |
| Farmers | 13 | 4.3 |
| Homemaker | 10 | 3.3 |
| Other | 25 | 7.3 |
| | 302 | |

Students form the next largest category (13%). White collar

workers comprise approximately 10% of the population and farmers approximately 3%. As is the case with educational levels, the recreationist/conservationist sample has even more individuals in higher occupational levels than the general Gorge visitor sample (see Table III-5).

These demographic data allow the characterization of the "typical" conservationist who visits the Red River Gorge. This person is male, thirty-seven years old, holds a graduate degree and has a professional position. His childhood home is most likely to be a city of medium or large size and he now resides in Lexington or another city in Kentucky. He has been a member of a conservation or recreation group for more than two years. It is also highly likely that this person belongs to more than one such group.

Visitation Patterns. Almost all of those surveyed (93%) have visited the Red River Gorge. About 1/3 first visited the area between 1961 and 1970, and about 18% have been coming even longer, having first visited the Gorge between 1911 and 1960. About half of the conservationist/recreationist visitors, then, have been coming to this area for a substantial period of time. The other half of them (48%) made their first visits between 1971 and 1981, the period during the dam controversy. This underscores the conservationist/recreationist sample as one especially interested in the Gorge: many of them have been long time (more than 10 years) users of the site.

Information about the Red River Gorge is mainly disseminated through contact with other people rather than through official sources, paralleling the situation found in the visitors at large. Most of these people (60%) found out about the area from their families or friends although 16% said that they learned about it "on my own." Conservation or recreation groups are responsible for introducing only 11% of the population to the area.

Conservationist/recreationist visitation patterns may allow predictions of future use of this recreation site (Table V-4).

Table V-4 -- Conservationist/Recreationist Visitation Patterns
And Predicted Visitation Patterns

| # VISITS | PRESENT | | PREDICTED | |
|----------|------------|---------|------------|---------|
| | FREQUENCY | PERCENT | FREQUENCY | PERCENT |
| 1-2 | 77 | 28.6 | 43 | 16.3 |
| 3-4 | 55 | 20.4 | 71 | 27.0 |
| 5-6 | 45 | 16.8 | 43 | 16.4 |
| 7-8 | 17 | 6.3 | 17 | 6.4 |
| 9-10 | 20 | 7.4 | 26 | 9.9 |
| 11-20 | 34 | 12.6 | 49 | 18.6 |
| 21 + | 21 | 8.8 | 22 | 8.8 |
| | <u>269</u> | | <u>263</u> | |

When asked how many visits they had made during the past few years, almost half the respondents answered four times or fewer. About a quarter of them visited the Gorge 10 or more times during the last two years, however. Most (84%) planned to visit the Gorge in the future, and when asked how

many trips they anticipated, the tendency was to predict more future use of the Gorge. Fewer people planned on only one or two visits, with more people anticipating three to four and ten-plus visits.

The conservationists usually visit the Gorge in small groups consisting of both friends and family members. Most people visit in pairs or in small groups of four or fewer. They usually do not engage in natural site recreation activities as members of a conservation or recreation group.

The conservationist's trips to the Gorge are usually planned several days in advance even though only one day may be spent there. Over half (53%) of the respondents plan their trips several days in advance while 27% go "on the spur of the moment." The majority of the conservationists (75%) usually spend "just the day" in the Gorge; few (17%) spend one night and even fewer (8%) spend two nights. These one day visits are understandable, since most of the conservationists are professional, working people with little time for extended trips. The close proximity of the Gorge means they can get away to a natural recreation area without having to take much time. This again underscores the importance of the Gorge as a regional recreation area. Over half of the respondents, (51%), have visited the area in all seasons and 41% of them prefer to visit during all four seasons rather than any single time of year. Fifteen percent prefers the fall and 11% the spring, when the

foliage is especially attractive. A few mentioned they liked "off" seasons such as winter because of the presence of fewer people, or of high water levels for canoeing.

The conservationists were asked to give their main reasons for visiting the Gorge. To experience the natural beauty of the Gorge is a reason given by almost every respondent (see Table V-5). The second most frequently cited reason was for outdoor exercise (78%) followed by the desire to experience the peacefulness (71%) and to escape everyday routine (68%).

Table V-5 -- Trip Motives of the Conservationist/Recreationist

| MOTIVE | FREQUENCY | PERCENTAGE* |
|-----------------------|-------------|--------------|
| Natural beauty | 284 | 95.9 |
| Away from routine | 204 | 68.2 |
| Peacefulness | 213 | 71.2 |
| Friends/Family | 167 | 55.8 |
| Outdoor exercise | 234 | 78.2 |
| Take it easy | 61 | 26.8 |
| Rugged life | 57 | 25.1 |
| Party | 22 | 7.3 |
| Communion with God | 76 | 25.4 |
| other | 44 | 19.4 |
| | <u>2552</u> | <u>100.0</u> |

More than half of the conservationists (56%) visit the Gorge in order to spend time with family or friends. These responses indicate that most conservationists visit the Gorge in order to enjoy outdoor exercise in a setting of natural beauty. They differ from the general Gorge visitor in being more active in their recreation pursuits, exercise

and the "rugged life" being more important to this group (compare with Table III-6).

In summary, the data on visitation patterns indicates that the conservationists pursue their outdoor interests in the Red River Gorge apart from organized conservation or recreation groups. Most of them found out about the Gorge through family or friends (although these could be conservation or recreation club members) and have been long time users of the site. They visit the area frequently and will probably continue this pattern or increase their visitation during the next two years. They usually go for one day visits in groups of four or fewer, consisting of both family and friends. Most of the conservationists prefer to visit the Gorge, and do so, during all the seasons of the year although a minority prefer certain seasons such as the fall or the spring. Finally, their main reasons for visiting the Gorge are to experience its natural beauty and peacefulness as a setting for outdoor exercise.

Recreation Patterns. The conservationists pursue a variety of activities while in the Gorge (Table V-6). Almost everyone comes to hike and many come to take photographs, picnic, camp, or simply drive around to enjoy the scenery. Many conservationists come for activities that require more physical exertion, such as canoeing, rock climbing, or swimming. "Partying", four-wheeling, and hunting are

activities that occupy very few conservationists.

Table V-6-- Activities of Conservationist/Recreationists

| ACTIVITY | FREQUENCY | PERCENTAGE* |
|---------------|-----------|-------------|
| Hiking | 283 | 94.3 |
| Camping | 151 | 50.3 |
| Picnicking | 160 | 53.3 |
| Rock climbing | 82 | 27.3 |
| Swimming | 54 | 18.0 |
| Partying | 12 | 4.0 |
| Fishing | 19 | 6.3 |
| Canoeing | 118 | 39.3 |
| Birdwatching | 97 | 32.3 |
| 4-wheeling | 5 | 1.6 |
| Hunting | 4 | 1.3 |
| Other | 59 | 19.6 |

Compared to the general Gorge visitor (Table III-7), the conservationist/recreationist visitor is more active, with a larger percentage of them involved in hiking and canoeing. They appear to be more in touch with nature, as suggested by a large percentage who watched birds, and very low percentages who partied or engaged in four-wheeling. The image of a "closeness to nature" orientation of the conservationist/recreationist visitor is also reinforced by examining their main reasons for going to the Gorge, as opposed to looking just at all the things a conservationist/recreationist visitor is likely to do at the site. In this question, we required the respondent to choose only one activity for which he comes to the Gorge (Appendix 2).

More conservationist/recreationists visit the Gorge in order to hike (64%, see Table V-7) than to pursue any other

single activity.

Table V-7 -- Main Activity of Conservation/Recreationists

| MAIN ACTIVITY | FREQUENCY | PERCENTAGE |
|---------------|-----------|------------|
| Hiking | 187 | 63.8 |
| Camping | 24 | 8.2 |
| Partying | 0 | 0.0 |
| Rock climbing | 5 | 1.7 |
| Picnicking | 4 | 1.5 |
| Canoeing | 24 | 8.2 |
| Fishing | 3 | 1.0 |
| Swimming | 0 | 0.0 |
| 4-wheeling | 1 | 0.3 |
| Hunting | 1 | 0.3 |
| Birdwatching | 3 | 1.0 |
| Other | 13 | 4.5 |
| | <hr/> 293 | |

Fewer than 10% of those surveyed indicated that other activities -- camping, canoeing, scenic driving or photography -- were the main activities drawing them to the Gorge. Fewer conservationist/recreationist visitors go to the Gorge to camp, compared to the typical Gorge recreationist (Table III-8). No one goes there to party, and more than twice as many conservationists than visitors go specifically to canoe. Only a small percentage (1%) goes specifically for birdwatching, but this is ten times as many who go specifically to watch birds in the Gorge visitor population as a whole (Table III-8). When asked to rate the opportunities in the Gorge for their main activities, 70% of the conservationists felt that these were excellent, 27% that they were good, 2% felt neutral and only 1% felt that they were only fair. The great majority of conservationists

regard the Gorge as an excellent location for their main recreational activity. However, the fact that they do perceive management problems in the Gorge and are dissatisfied with some aspects of its environmental state will be apparent in some of the following sections.

Density Tolerance. We ascertained the density tolerance of the conservationist/recreationist visitor using the same technique described in Chapter 3 for determining the density tolerance of the Red River Gorge visitors as a whole. Figure V-1 summarizes the density tolerance data, and clearly shows that the conservationists prefer to see no one, or fewer than five people (51%) when they are visiting the Red River Gorge. Thus, there is a strong preference among the conservationists to encounter very few people beside the members of their own groups when visiting the Gorge.

In comparison to the density tolerance curve of the Gorge visitor as a whole and of Heberlein's "wilderness" recreationist, the conservationist/recreationist visitor lies somewhere in between (compare Figure III-1). The tolerance curve crosses the zero "neutral" line at about six people, whereas the general Gorge visitor's and the wilderness purist's lines cross at five people. These numbers are probably not significantly different from one another. The shapes of the tolerance curves, however, show

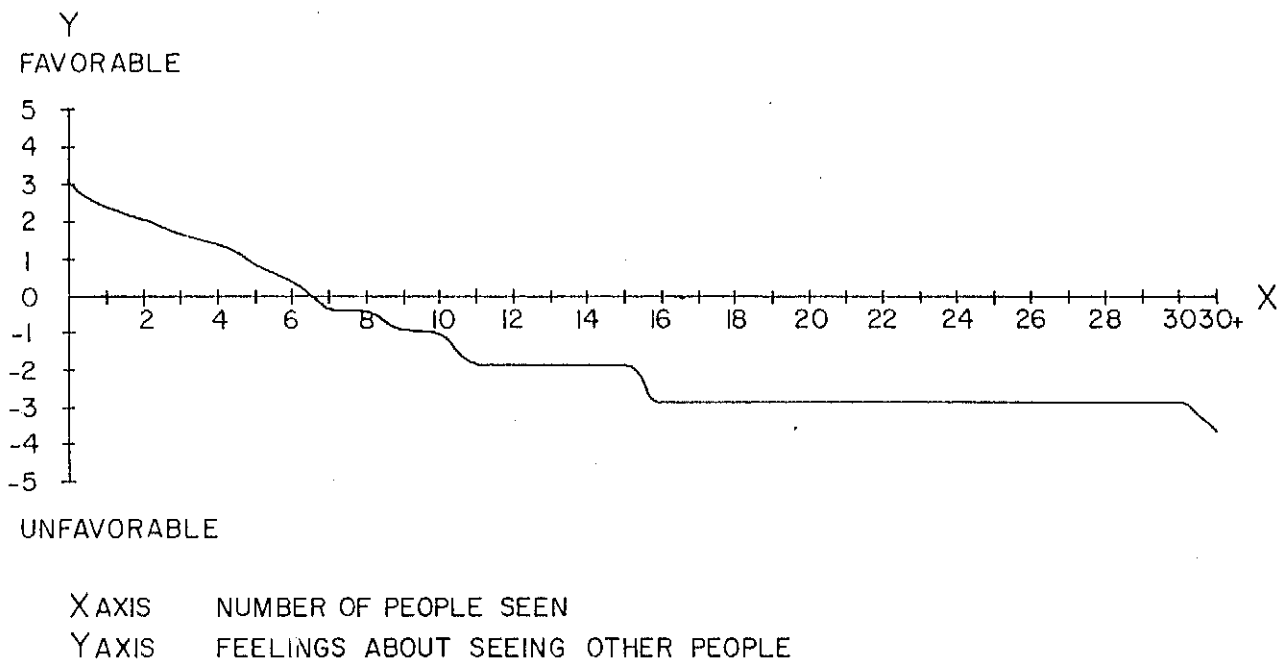


Fig. V-1. Density Tolerance Curve of Conservationists/Recreationists.

that the conservationist/recreationists are less tolerant than the general Gorge visitor: their curve indicates strong feelings (-2.0 to -4.0) for seeing moderately large numbers of people. The Gorge visitor is negative about seeing five or more people, but does not express such strong disapproval; the average does not fall below -1.0. The shape of the density tolerance curve of the conservationists/recreationists is closer to that of the wilderness recreationist, although not as extreme in its intolerance of larger numbers of people.

Most of the conservationists (48%) have had no contact with the local residents of the Gorge during their visits or have had positive contact (44%). For example, a number of conservationists described "friendly" interactions with the Gorge residents in general conversation, in business exchanges or during public meetings during the Red River dam issue. A minority of the population (3%) reported negative contact with the locals or both positive and negative contact (5%). Thus, almost all of the conservationists have had no contact or positive contact with the local residents, which parallels the data collected on the visitors as a whole (Chapter 3).

Management and Environmental Perceptions

The conservationists were asked several questions to determine their knowledge regarding the management of the

Red River and the Red River Gorge area. Eighty-one percent were aware that the Red River may become a part of the National Wild and Scenic Rivers system. This was a much higher percentage than that found in the visitor data as a whole, in which only 39% knew of the Wild and Scenic River designation. Ninety-nine percent of the conservationist/recreationist population was in favor of including the Red River in the Wild and Scenic Rivers system, and 95% of these indicated that they were strongly in favor. General visitors to the Gorge were also in favor of designation, but only 77% of them were strongly in favor.

The Red River Gorge area is under several levels of management: Federal (the Forest Service), State (Kentucky Wild Rivers, State Police, State Fish and Game) and County (County Sheriff). Most of the conservationists (51%) think that the federal government is mainly responsible for managing the Red River Gorge. Twenty-eight percent think that the state government is responsible and 11% said that they did not know. When asked to rate this management, the conservationist/recreationists were generally more critical than the visitors as a whole. They were three times as likely to view the Gorge as being somewhat poorly managed or poorly managed (Table V-8). The management problems most frequently cited were litter, lack of law enforcement, and overcrowding.

Table V-8 --Conservationist/Recreationist and Visitor
Perceptions of Management of the Red River Gorge

| PERCEPTION | <u>GENERAL</u> <u>VISITOR</u> | | <u>CONSERVATIONIST/</u> <u>RECREATIONIST</u> <u>VISITOR</u> | |
|--------------------------------|----------------------------------|-------------|---|-----------|
| | FREQUENCY | PERCENT | FREQUENCY | PERCENT |
| Poorly Managed | 82 | 3.4 | 27 | 10.3 |
| Somewhat Poorly Managed | 203 | 8.4 | 67 | 25.6 |
| Neutral | 1253 | 52.0 | 123 | 47.1 |
| Well Managed | 496 | 20.6 | 42 | 16.0 |
| Very Well <u>Managed</u> | <u>372</u> | <u>15.4</u> | <u>2</u> | <u>.7</u> |
| | 2406 | | 261 | |

The conservationists' estimates of the percent of land in the Gorge area that is privately owned was not very accurate. At the present time, approximately 59% of the land in the area is privately owned and the rest is government property. Only 15% estimated that more than half of the land was private, which was not much better than the average Gorge visitor's guess of 10%. Thus, there is a considerable amount of confusion about the amount of private land in the area, even among the generally more knowledgeable conservationist/recreationist visitors.

The conservationists consider the land and water in the Red River Gorge to be somewhat damaged by visitor use. A

large majority (73%) have noticed some "negative effects" on the land in the Gorge. Litter and erosion account for many of the negative effects on the land; two other frequent responses were "graffiti" and the presence of "tourists or too many people."

A smaller but still large proportion of the conservationists (54%) have noticed negative effects on the water in the Red River Gorge. They cited "pollution," soap suds, trash and oil as problems that affected the water quality of the Red River. A few people noted that the river was "muddy from upstream erosion" and that there was "bad drinking water" in the Gorge area.

These data are consistent with the population's feelings about the overall environmental status of the Gorge and the amount of use it receives from visitors. In these opinions they were again more critical than the general Gorge visitor (Table V-9). They were three times as likely to consider the Gorge environmentally damaged than was the general visitor. Close to 55% of them recognized some degree of environmental damage in the Gorge, compared to only 22% of the non conservationist/recreationist visitors.

Table V-9 --Conservationist/Recreationist and Visitor Perceptions of the Environmental State of the Red River Gorge

| PERCEPTION | <u>GENERAL VISITOR</u> | | <u>CONSERVATIONIST/ RECREATIONIST VISITOR</u> | |
|-------------------------|------------------------|---------|---|---------|
| | FREQUENCY | PERCENT | FREQUENCY | PERCENT |
| Environmentally Damaged | 127 | 5.2 | 41 | 14.8 |
| Somewhat Damaged | 413 | 17.0 | 111 | 17.0 |
| Neutral | 976 | 40.3 | 63 | 22.7 |
| Close to Natural State | 593 | 24.4 | 54 | 19.4 |
| In its Natural State | 312 | 12.8 | 9 | 3.2 |
| | <u>2461</u> | | <u>278</u> | |

There are also far fewer of them who hold a neutral opinion about the environmental condition of the Gorge, and only a smattering feel the Gorge is in its natural state. Similarly, almost two-thirds of the conservationists felt that the Gorge is "somewhat overused" or "overused" (Table V-10), a much higher proportion than that of the general visitor. Non conservationist/recreationist visitors were three times as likely to see the Gorge as at least somewhat underused. The conservationist/recreationist visitor, as shown by these opinions and by the density tolerance curve, prefers to have the natural recreation site remain in as pristine condition as possible, with a minimum of people, and a minimum of environmental disruption. The conservationists felt the

Gorge received somewhat more usage, and therefore somewhat more environmental damage, than was optimal.

Table V-10 --Conservationist/Recreationist and Visitor Perceptions of Usage of the Red River Gorge

| PERCEPTION | <u>GENERAL VISITOR</u> | | <u>CONSERVATIONIST/ RECREATIONIST VISITOR</u> | |
|--------------------|------------------------|---------|---|---------|
| | FREQUENCY | PERCENT | FREQUENCY | PERCENT |
| Overused | 221 | 9.0 | 84 | 30.3 |
| Somewhat Overused | 384 | 15.7 | 88 | 31.8 |
| Neutral | 1423 | 58.2 | 91 | 32.9 |
| Somewhat Underused | 255 | 10.4 | 9 | 3.2 |
| Underused | 161 | 6.5 | 5 | 1.8 |
| | <u>2444</u> | | <u>227</u> | |

Conservationists' Preferences and Perceptions of Management Problems. The conservationist/recreationist preferences and perceptions of management problems are summarized in Table V-11 and Table V-12. We asked a number of questions regarding development of the area. Although some problems are seen in the level and quality of commercial establishments such as groceries, and gas stations, (Table 11) they do not stimulate the conservationist/recreationist visitor to seek more services (Table V-12). Eighty seven percent disapprove of having more services available.

Table V-11 -- Conservationist/Recreationist Perceptions of Development Issues

| <u>CATEGORY</u> | <u>NO PROBLEM</u> | <u>SOME PROBLEM</u> | <u>SERIOUS PROBLEM</u> |
|--|-------------------|---------------------|------------------------|
| Information facilities | 25.5 | 72.2 | 2.3 |
| Quality of Developed Campgrounds | 33.6 | 60.8 | 5.6 |
| Accessibility of Canoe put-ins and take-outs | 33.6 | 63.1 | 3.3 |
| Availability of Canoe rentals | 41.9 | 54.8 | 3.3 |
| Commercial Services | 42.5 | 54.7 | 2.8 |

Table V-12 -- Development Preferences of Conservationists

| <u>ISSUE</u> | <u>STRONGLY APPROVE TO APPROVE</u> | <u>NEUTRAL</u> | <u>DISSAPROVE TO STRONGLY DISSAPROVE</u> |
|--|------------------------------------|----------------|--|
| More Services (Groceries, Gas Stations, Restaurants) Available | 4.0 | 8.7 | 87.1 |
| Campsites with no Facilities | 30.0 | 30.0 | 40.2 |
| More Information Available | 37.2 | 30.5 | 32.2 |
| More Public Campgrounds | 10.1 | 20.4 | 59.3 |

Fifty-five percent of the visitors find problems with the canoe rental availability (Table V-11), but they are not

serious problems. Respondents also saw few problems with the quality of campgrounds in the Gorge (Table V-11) and were generally not in favor of additional ones (Table V-12). They had no strong opinions regarding primitive camping areas (Table V-12). Although they felt that there were some problems with the information facilities available in the Gorge (Table V-11), they showed no enthusiasm for having more information available (Table V-12). Regarding development, then, the conservationist/recreationists in general showed no strong feelings about having more information available and having primitive camping areas, they were somewhat opposed to having more campgrounds, and were definitely opposed to having more commercial services.

Compared to the general Gorge visitor, the conservationist/recreationist is much more opposed to development of additional services (See Table IV-5). Only half as many conservationist/recreationists advocate the building of new campgrounds; this may be associated with their attitude against increasing the visitor population of the Gorge. The general visitors want more information to be available; the conservationist/recreationists are neutral. The conservationists may feel they are already knowledgeable about local attractions. Furthermore, additional information about the Gorge may be interpreted as attracting more visitors there, which the conservationist/recreationists wish to avoid. In terms of their attitudes towards services and campgrounds, they "out

purist" the most purist group of visitors, the Trails users (Table IV-6).

We also asked a number of questions about management problems in the Gorge. Ninety-five percent saw problems with vandalism, litter, and the protection of archaeological remains, though more people saw litter as a serious problem than saw the other two as serious (Table V-13).

Table V-13 --Conservationist/Recreationist Ratings of Management Problems

| <u>CATEGORY</u> | <u>NO PROBLEM</u> | <u>SOME PROBLEM</u> | <u>SERIOUS PROBLEM</u> |
|---|-------------------|---------------------|------------------------|
| Litter | 5.1 | 48.1 | 46.8 |
| Vandalism | 4.7 | 62.0 | 33.3 |
| Protection of Archaeological Remains | 4.1 | 58.1 | 37.8 |
| Number of Developed Campgrounds | 24.0 | 71.7 | 4.3 |
| Law Enforcement | 13.9 | 64.4 | 21.7 |
| Traffic Condition | 13.5 | 74.2 | 12.3 |
| Road Conditions | 20.3 | 70.1 | 9.6 |
| Availability of Drinking Water | 23.8 | 70.3 | 5.9 |
| Trail Signs and Markers | 20.0 | 76.6 | 3.4 |
| Number and Location of Toilet Facilities | 31.5 | 61.7 | 6.8 |

Some problems were seen with law enforcement, complementing the vandalism response, and also with traffic and road conditions. In all three of these management problems, over

80% of the sample saw some to serious problems, though not as many felt these were serious problems as felt litter, vandalism, and protection of archaeological remains were serious. Less important, but still considered problems by large percentages were the availability of drinking water, adequate trail signs and markers, and the number and location of toilet facilities.

Non-Visitors Data

This section will examine the data from the conservationists/recreationists in the survey population who have never been to the Red River Gorge. Because of the popularity of the Gorge as a recreation site, there is only a small number of non-visitors, sixteen, in the sample. These data indicate that the Red River Gorge has a positive reputation for beauty and is known as an excellent location for outdoor activities even among the non-visitors.

The non-visitors demographic data indicates that this group tends to be older (43 years), well educated (44% have graduate degrees) and hold professional positions (44%). With one exception, all of the non-visitors reside in Kentucky and more of them (38%) are residents of Lexington than of any other city. Most of those surveyed belong to the Sierra Club (73%) and more than half of them (57%) have been members for more than two years. They are not greatly different from the conservationist/recreationist group as a

whole.

Everyone in this group had heard about the Red River Gorge although they have not used it for their outdoor activities. Most of them (44%) learned about the Gorge from their families or friends; the second most frequently cited source of information were advertisements or the news. Their future plans for outdoor recreation included visiting the Gorge: 80% of the non-users planned to visit the area in the future.

The non-visitor population has heard many "good things" about the Red River Gorge. In fact, there were only six responses regarding "bad things" about the Gorge compared to thirty-six responses from this group detailing the "good things" they had heard about the area. The most common response (47%) about the Gorge was that it was beautiful, which included references such as "unspoiled," "untouched," "wild" and "scenic." Several respondents had heard that it was also peaceful, quiet and a good place to enjoy solitude. A few said that clean water, kayaking and canoeing could be enjoyed there and that it was a good location for hiking. One or two individuals knew about the flora and fauna in the Gorge and had heard that the area was "good to photograph."

On the other hand, of the six respondents who had heard "bad things" about the Gorge, two said that it was crowded and one each that there was a litter problem, that the area might become over-developed and that "four-wheel drive

freaks" used the area. One non-visitor had heard that the area might be inundated by a dam. Overall, however, the responses indicated that the non-visitors have acquired more positive than negative information about the Gorge.

Several reasons were given for not visiting the Red River Gorge for outdoor recreation. The most common of these was a lack of time, followed by the corollary that the Gorge was somewhat far away. For example, one non-visitor said that he could not afford the time off because he was self-employed. Two people pointed out that they were not familiar with the facilities that the Gorge might have and one thought that the trails would not be well marked because there is no lodge or major natural attraction nearby. Also, because of an increase in vandalism and auto thefts, one person who had visited the Gorge frequently for day hikes and weekend camping a few years ago said that his future visits would be restricted to driving through the area in the fall.

There are numerous other places that this population visits for outdoor recreation, including the Smoky Mountains, Florida beaches, Cumberland Falls area, Mammoth Cave and Lake Cumberland State Park. Reasons for going to these places ranged from there being "an attraction" such as the falls or the caves, and the availability of camping facilities and lodges. The Berea area, the Berea Pinnacles and Cave Run Lake are considered attractive because they are

close and uncrowded.

From these data, it appears as if most of the conservationist/recreationist nonvisitors do not avoid the Gorge for reasons having to do with the nature of the site itself, or even management of the Gorge. Because such a high proportion were planning to visit the Gorge in the future, negative perceptions of the Gorge are not so wide spread that they are keeping people away. However, there is a strong suggestion that one important reason keeping at least some conservationist/recreationists away is fear of vandalism from and rowdiness of other visitors.

Summary

The conservationist/recreationists are similar in most ways to the general Gorge visitor, (10% of whom are fellow conservationist/recreationists), but differ in degree on many characteristics. Whereas the general Gorge visitor is young, well educated, and in a middle to high status occupation, the conservation/recreation group member is in early middle age, has even more formal education, and a very high proportion hold professional jobs. They have the same word-of-mouth source of information on the Gorge as the general Gorge visitor, but conservationists have acquired more knowledge of the area. Both groups admire the Gorge for the same reasons: its beauty and tranquility. The conservationists are more opinionated about the Gorge, and like any specially selected group, are less varied (more

modal) in their responses. The general Gorge visitor does not want to see the Gorge developed, but prefers the area to remain as natural as possible, as shown in many responses but especially clearly in the high level of affirmation for the Wild and Scenic River designation. Again, the conservationist/recreationist differs in degree by being even more protective of the area. They are more strongly opposed to an increase in visitor numbers, as shown by their density tolerance curves and also by their position against increasing visitor service facilities like campgrounds.

Conservationist/recreationists are a type of recreationist managers would like to encourage, being knowledgeable preservationists who are non-abusive of the site. Their perceptions and opinions are of value to managers. As much as they like the Gorge, the recreation experience can be improved in their eyes.

There is a need for stronger law enforcement in general in the Red River Gorge, according to the conservationist/recreationist visitor. This is necessary to control vandalism, littering, and also to protect the archaeological sites in the area. Fear of vandalism and dislike of rowdiness prevents some conservationist/recreationists from going to the Gorge. The most serious problem in the Gorge, litter, is related to both law enforcement and the need to protect the quality of the environment. Action should be taken to prevent further

environmental damage to the area from both litter and erosion, another problem in the Gorge noted by the conservationists/recreationists.

There are several recommendations that can be made regarding the facilities and services available in the Red River Gorge. Information facilities and the trail signs and markers in the Gorge need to be improved. For those who come to canoe the Red River, there are insufficient sites to put-in and take-out canoes. In order to prevent trespassing on private land and the erosion that results from over-use of the unprepared river banks, more put-ins and take-outs need to be created. For the visitors who come to hike in the Gorge there should be drinking water available in a greater number of locations as well as a greater number of toilet facilities in more locations. Conservationist/recreationists disapprove of creating more campgrounds, though they also do not approve of the erosion and environmental destruction which occurs with uncontrolled tent pitching. Campgrounds would be needed to pick up the surplus if the "free form" camper were displaced from unmanaged areas; the conservationist/recreationists are opposed to new campgrounds if they increase visitation. They would probably not be opposed to campgrounds which reduced wear and tear on the Gorge. More on this subject will be discussed in Chapter 6.

Finally, the condition of the roads in the Gorge needs

attention which in turn might alleviate the traffic problems in the area. Except for these management problems, the Gorge is regarded as a beautiful area for a variety of outdoor activities by the conservation/recreation visitors who use it as well as those who have only heard about it.

CHAPTER 6
MANAGEMENT OF THE RED RIVER GORGE
SUMMARY AND RECOMMENDATIONS

Managers' Opinions

When queried about their perceptions of management problems in the Gorge, managers cited several of the same problems noted by visitors, but also pointed to many others of which visitors were either unaware or did not consider problems. All respondent classes, visitors, managers, conservation/recreation group members, and landowners, reported concern with litter. Most users of the Gorge were concerned with environmental destruction (trampled plants, compaction of trails, graffiti, destructive logging, eroding banks), and the managers were quite aware and expressed concern about these issues as well. Managers in general felt the Gorge was overused for the facilities available. Sufficient parking is a problem in the Gorge, according to managers, and several mentioned a need for more campgrounds. These were also concerns voiced by users.

Managers, however, were much more aware of "law and order" problems, such as traffic control, illegal parking, vandalism, theft, and protection of archaeological sites. Bootlegging occurs in parts of the Red River Gorge, and is a problem for the three dry counties, where liquor sale is illegal. Managers are also concerned about search and

rescue operations, something of which the visitors are almost entirely unaware. Because the Gorge is a physically dangerous place, with its high unguarded clifftops and sheer rock dropoffs, the potential for injury is always present. Add to this the tendency for some visitors to behave carelessly while under the influence of drugs or alcohol, and rescue activities become necessary and all too frequent. Rescue operations are carried out by a group of mostly Forest Service and county volunteers, regardless of whether the property on which the accident occurred is public or private.

A structural problem for management of the Gorge has been mentioned in Chapter 2: the Gorge passes through three Kentucky counties. Counties are the most important level of political organization in the Commonwealth, and the Gorge therefore is administratively split at this important governmental level. Also, population centers of the three counties involved are located far from the Gorge, and county officials do not pay as much attention to activities here. The Gorge is likewise divided by a patchwork of Federal and private ownership. By accident of history and geography, the Gorge is "managed" at three different levels: Federal, State, and County. This means a lack of coordination and authority for the various activities that must take place. For example, some managers complained that the duties of the Forest Service should include law enforcement. Although many accidents occur on private land, counties do not

consider search and rescue operations their responsibility. Whose responsibility is it to control illegal parking? Drug use? Fires which begin on private (or public) land and spread to public (or private) land? Managers from different agencies gave conflicting reports as to who should have primary responsibility in these and other matters.

Besides the problem of coordination of authority, the three levels of simultaneous management may present conflicting goals for the use of the Gorge. The objectives of the Division of Water Resources, as an example, may not correspond to those of the Division of State Parks and Tourism. Furthermore, various agencies in the different levels may differ in their capabilities, and lack the manpower or authority to perform tasks that may indeed be part of their responsibility and recognized as such. Appropos of this, financial constraints were mentioned by personnell at all three levels. All agreed that better management would occur if more money were made available for patrolling, litter pickup, search and rescue, and so on.

The visitors and conservation/recreation group members also had opinions about management in the Gorge. In brief, we found a strong opinion that the Gorge was overused, and also that some improvement in facilities and services were necessary. Chapter 5 may be consulted for more detail on these opinions.

Recommendations

The data that were presented and analyzed in previous chapters should help managers to make better decisions concerning the future of management in Red River Gorge. To a certain extent, therefore, the purposes of this research have been fulfilled. As Lewis and Marsh have written,

"Managers are confronted with myriad administrative problems in dealing with the recreational use of rivers. They constantly make decisions on complex sensitive issues without adequate resource and user data. Additional studies are needed." (1977:30)

The mere compiling of data, however, is not sufficient without interpretation and recommendations derived from data. These interpretations and recommendations must be based not only surveys and interviews, but also on the subjective impressions gained from close acquaintance with the area and personal contact with those concerned. Our personal observations, combined with the more formally collected quantitative data, have led us to a number of conclusions regarding management of the Red River Gorge that we feel should be considered.

Recommendation 1 -- The United States Forest Service and other management agencies should pursue a strategy of accommodation and compromise with private landowners in Red River Gorge and in other parts of the Daniel Boone National Forest

Justification: In 1977, the Daniel Boone National Forest contained approximately 1,357,086 acres within its proclamation boundaries. Of this acreage, only 38% was in public ownership (Shands and Healey, 1977). Within the Red River Gorge, the percentage of the land that is owned by the Government is somewhat larger, but there is still approximately 59% of land which is owned by private individuals (United States Forest Service, 1974).

Historically, agencies like the U.S. Forest Service have relied on acquisition of land through fee-simple purchase in order to achieve management goals. The premise of such a "management by acquisition" policy has been that public ownership is the only means by which management of the natural resource base of the national forests can be ensured for the "good of the greater public." Such a philosophy, we believe, arose in part because of the history of the agency itself. The Forest Service was initially inspired as a natural resource management agency for sparsely-inhabited blocks of public land in the western United States. The low population densities of the west meant that little human relocation and disruption was necessitated in consolidating large tracts of publically-owned land.

The establishment of the eastern National Forests were under different circumstances than those surrounding the development of the National Forests in the west. In the Appalachian Mountains a distinct economic, social and

cultural system, based on the small, subsistence farm, has evolved. The subsistence farm is of considerable importance in the area, although it has certainly lost its centrality in the culture. Whatever the current expression of this traditional lifestyle, there are over 10 million people living within the domain of the Appalachian National Forests and their needs and relationship to the area need to be taken into consideration. Simply stated, the Red River Gorge of the Daniel Boone National Forest is an inhabited area and is likely to remain that way. It should also be noted that management plans to protect the Gorge directly and indirectly affect areas and landowners outside the proclamation boundaries and their perceptions and attitudes toward any management goal can have a considerable impact upon the successful achievement of that goal. Ultimately, that means that the Forest Service is going to have to develop a cooperative relationship with the local landowning community and residents of the area.

The development of a positive and cooperative relationship between the Forest Service and local people in the Gorge will not be an easy task. As we have shown in Chapter 2, the historical occurrences which have created considerable tension and animosities on the part of landowners toward "the government" are strong.

One way in which the Daniel Boone National Forest has begun to take steps that might lead to better relations with

Landowners has been to hire short-term consultants to assist them with their land use planning and social impact assessments. Within the Forest Service bureaucracy there are specialists in charge of such departments as Wildlife Management, Geology, Timber, Soils, Recreation, and so on, but no specialist and no department is charged with the responsibility of dealing with local people. Forest Service policy, in fact, militates against its personnel becoming aware of local issues because of frequent transfers of personnel from one National Forest to another. The transfer policy exists to try to avoid conflicts of interest between Forest Service employees and local individuals and corporations. Another reason is to promote consistency of policy from one Forest Service district to another. The net effect of the policies, however well-intentioned, is that they result in poor relations between the Forest Service and local people. Gorge landowners often complained that they could "never get a straight answer" from Forest Service personnel about land-acquisition plans. Forest Service employees reported that they could not give answers because they were not able to guarantee what the next occupant of their position would do or what changing policies would require.

Accommodation and compromise can only be established through mutual trust. Trust can be engendered only if locals and Forest Service employees understand one another. The Forest Service can begin this process by promoting much

greater social awareness among its employees.

We know of instances in which private landowners have approached the Forest Service with their own management agreements. They have, in effect, offered to give up some developmental rights over their own land in exchange for getting some assurance from the Government that it will give up efforts to acquire the private land. Such arrangements should be pursued by the Forest Service rather than being ignored.

Recommendation 2 -- Less than fee simple acquisition needs to be explored for management of privately held land in Red River Gorge. This means that landowners must be willing to negotiate leasing, easement, or developmental rights agreements.

Justification: We believe that the Forest Service should pursue a flexible strategy of gaining control over private lands. In the case of some lands in which the owner is abusing the land or is unable to maintain adequate control over it, it may be necessary for the Government to condemn land for purchase. In most cases, this drastic step will probably not be necessary.

Federal ownership of some parcels is probably justified. Those private areas which are heavily used to the point of environmental degradation would probably be better off in

public hands. Even this option is not totally necessary, however. The Forest Service claims an inability to manage recreation or control problems which arise as a function of recreational use on any property which they do not directly own. Because landowners take the attitude that the Forest Service should help them deal with problems arising on their lands, it appears as if the landowners could work out an arrangement with the Forest Service where the Forest Service would have some authority even in privately held land. Because of the Forest Service "mind set" towards acquisition, it is possible that the refusal to assist local landowners is a strategy to encourage them to sell out. (This was never directly articulated to us by any Forest Service personnel; we have no evidence that this is a policy.)

There are positive reasons for leaving landowners, especially resident ones, on the land. Because they are most familiar with the area, and its inhabitants, they are in a better position to monitor trespassing and destruction of archaeological sites.

In lieu of the Forest Service working out cooperative agreements with landowners for managing private lands, purchase of certain heavily used tracts is recommended. Other areas that likely require better management surveillance but which are not as ecologically affected as others (for example, canoe put-ins and take-outs) could

remain in private hands, but through less-than-fee acquisition processes such as easements, lease back agreements or developmental rights contracts, be partially managed by the Forest Service. Other areas such as the more heavily used de facto trails could also come under Forest Service supervision through the utilization of easements, which would preserve the majority of the land now in private ownership in its present state.

Justification for this policy in this particular area lies with the demonstration found in this study (and in Beebe, 1982) that the landowners on the whole are preservationist, and are not engaging in destructive activities. It may even be the case that the constant threat of government acquisition of their land may itself encourage landowners to modify the land from its natural state. Some Upper Gorge residents were grumbling that "if the Forest Service is going to get it anyway, I might as well cut all my timber."

Although we recommend easements, we are not unaware of problems involved in establishing them with this particular population. During the course of our interviewing, we discussed easements as a possible management alternative to purchase of property. We asked "Do you plan to strip mine your property?"

"No."

"Do you plan to clear cut?"

"No."

"Do you plan to subdivide and build vacation homes?"

"No."

"Well, how would you like the government to pay you for not stripping, clear cutting, or subdividing?"

"Nobody is going to tell me what to do with my land!"

Even after having been confronted with this attitude, we feel that individuals are ultimately rational decision-makers, and if the terms were sufficiently attractive and presented in the proper manner local landowners would agree to easements. Most of these landowners have had experience with "easements" of a different kind: mineral and oil leases. These are certainly no less restrictive than some of the provisions for easements which could be drawn up by the Federal management agencies. Properly presented easement offers, which take into consideration the attitudes and cultural orientations of the landowners, could prove successful, and would contribute considerably to solving some of the management problems occurring on private land.

Recommendation 3 -- Steps should be taken to limit the amount of damage recreational use causes in the Red River Gorge. This can be done in a number of ways: reducing the total number of users; decreasing the number of destructive users; increasing the ability of the total area to sustain substantial numbers of recreationists by dispersing recreationists from the most heavily used areas to less used

areas.

Justification and Elaboration. Because the recognition of environmental damage in the Gorge occurs among all components of our study (managers, visitors, conservation/recreation group members, landowners) this recommendation requires little justification. The Gorge serves a regional population, which hears about the recreational opportunities largely through word of mouth. There are some indications that the reputation of the Gorge for being overused has spread. An article in a local newspaper about Raven Run, a scenic wildlife refuge near Lexington, was discussing problems in the Run brought about by increased visitation. "I would not want the sanctuary to get to the point where it is like the Red River Gorge. I would not want publicity about the sanctuary to ruin it", said the manager of the site (Mead, 1982).

No further expansion of the visitor population, especially given current management ability and existing facilities, should be encouraged. Publicity oriented to bring people in from other parts of the country should be avoided, even though some agencies may see this as beneficial to the Commonwealth. More visitors are not desired by landowners, or by visitors themselves. Conservation/recreation group members, the most knowledgeable and influential of the Gorge visitors, are vehemently opposed to more recreational use of the site.

However, if the decision is made to expand rather than to hold the visitor population steady, then a number of steps must be taken to reduce the effect on the natural setting. Recall that the density preference of Gorge visitors indicated that in general they encountered more people than they felt optimum; ways of decreasing the density of recreationists will have to be explored to maintain a high level of visitor satisfaction in the Gorge.

It is likely advisable to reduce or disperse the visitor population even at present levels of usage, regardless of future growth trends. The following comments thus apply to the present situation, but apply even more to any attempts to encourage growth in the visitor population of the Gorge.

A way of decreasing the number of encounters visitors have with others is to disperse recreation from the most heavily trafficked areas to less heavily trafficked areas. Most of the marked and maintained hiking trails are on the South side of the river, arising in or around the Koomer Ridge campground area. There are numerous de facto trails on the North side of the river, some of which could be developed and marked to attract visitors. The Sheltopee Trace is a Forest Service maintained hiking trail passing through the entire DBNF from north to south, and includes a portion running through the Gorge. Trails could be marked from the Sheltopee Trace to Indian Staircase, Cloudsplitter, and other north side features, and people could be made

aware of them through Forest Service trail maps. When we were ascertaining sampling locations, we decided it would not be an effective use of manpower to have a research assistant hiking the Sheltopee Trace: there were too few people encountered on this trail compared with the hiking trails on the South side of the river.

One of the reasons why the trails on the South bluffs are so well used is the presence of Koomer Ridge campground. Many hikers headquartered at Koomer Ridge. A campground on the north side of the river would encourage the use of the river and trails on that side, in a less destructive fashion than the present laissez-faire system of people camping on turnouts or in Marysville.

Besides dispersion, another way of reducing negative effects of visitation in the Gorge is by decreasing the number of destructive visitors. One of the most degraded areas is Marysville, private property upon which a high proportion of rather destructive individuals camp. There are no sanitary facilities, and little cleanup except once a year when volunteer Sierra Club members make a pass through the area. An alternate, managed, Forest Service campground could be established either here or elsewhere and result in much less damage to the land than now occurs. Biologists or other specialists in environmental carrying capacity would be in a better position than we are to determine whether the area is sufficiently degraded that it should be closed down

to allow for recovery. If this is decided, then of course a Forest Service campground should not be established in Marysville. If it does come about that a campground is recommended for Marysville, the Forest Service can explore outright purchase or some easement arrangement, as discussed above.

Marysville is currently private property, but if the Forest Service were either able to purchase the land or reach an agreement with the landowners, it would be possible to close down Marysville, with posted notification that the area was no longer a campground, and regular patrolling to discourage "squatters". We suspect the rowdy element would not continue to frequent Marysville if the present situation were transformed to a Forest Service monitored campground. These mostly teenage and early 20's young people come to Marysville, after all, because it is an unorganized, lawless frontier. Bringing in a "parent figure" like the Forest Service would change the complexion of the site greatly.

The "niche dwellers" of Marysville, however, may merely move to another Gorge territory, and treat it in the same destructive fashion. Because of the special circumstances surrounding Marysville, however, the threat of a new Marysville being established somewhere else is not great. A Marysville niche requires easy access by automobile, since camping equipment and drinking supplies are heavy to carry. If the campers are going to be concentrated, which is part

of the problem, then a parking area large enough to contain many cars is a necessity. There may not be that many "wild" parts of the Gorge which have such easy auto access and abundant parking. Dispersing the Marysville population may largely defuse or diffuse their negative social and environmental effects. Closing down Marysville may solve a major social, as well as ecological, problem.

Most visitor recruitment to the Gorge is by word of mouth, and people tend to go where their friends tell them to go, and return to the same places they have camped before. Many times they do not know about facilities available elsewhere. Better trail markers, camping facilities and information within the Gorge directing people away from overused areas would contribute importantly to reducing the excess human impact upon the natural landscape, and also make for a more enjoyable experience for the recreationist, most of whom go to "get away from it all."

Recommendation 4 -- The Forest Service should increase the resources directed towards management of the Gorge. This includes making more patrols, maintaining hiking trails and signs, collecting litter, and monitoring areas which are or potentially could become overused. It also includes opening up new facilities and expanding services where needed.

Justification: We call upon the Forest Service to bear the primary burden of Gorge management for two reasons: 1) it is the only management entity which has at least some

jurisdiction across the entire Gorge region and 2) even considering budget cuts of the "new Federalism", it nonetheless has more resources for recreation management than the county or state. Visitors and managers both have listed conditions for which a higher profile of the Forest Service is the only solution. The Forest Service has already decided that the timber management function which comprises most of the activities in other parts of the DBNF, will not be the main focus of use for the Gorge area. They are committed to leaving the river corridor and surrounding areas in their natural state for the purpose of recreation. As such, more resources need to be directed to recreation management to make good that promise.

Increased Forest Service presence would reduce the amount of vandalism and theft, and may reduce the number of accidents due to inappropriate behaviors in the dangerous areas of the Gorge. This may require making arrangements with local landowners, which we believe would be possible.

The Forest Service should consider providing certain facilities called for by many users. Trash receptacles, drinking water, and sanitary facilities need to be located in more places for the use of recreationists. Although most visitors did not request more information on the Gorge, it is our experience that they are very ignorant of the extent of recreational offerings available. More information could be made available at especially Koomer Ridge, but also in

other places which could be set up. A visitors' center in the Middle Gorge, on Hwy. 715, could contribute greatly to educating people about the Gorge. Literature could be specifically designed to disperse recreationists away from congested areas, as discussed above.

We are aware that the Forest Service recognizes many of the management problems to which we have drawn attention. They have, for example, plans for a north side campground, though none have been constructed. We recognize these suggestions will cost money, and also that the Forest Service personnel we interviewed and spoke with informally have indicated clearly that they need more money. However, it is not our place to suggest the source of this money, or whether indeed new monies are needed rather than reallocation of what is available.

Recommendation 5 -- In future research on characteristics and opinions of users of a recreation site, the concept of recreational niche should be utilized to provide the fullest picture of management needs.

Justification: The niche concept clearly provides a more complete view of the diversity of recreational activities in an area than other sampling strategies. If we were to have sampled only at Marysville or only at Gray's Arch, we would have come up with very different impressions about recreational use of the Red River Gorge. Management implications of the niche concept are of course its use for

encouraging or discouraging certain kinds of users, and predicting in what environments certain niches are likely to emerge. We can predict, for example, that building automobile access roads to a particular region at a site will discourage certain users, while encouraging others. Modifying an area (such as putting a Forest Service campground at Marysville) will change the quality of the niche and bring in new kinds of occupants. The new occupants may be desirable or undesirable to management, and changes should be considered in terms of these probabilities. Understanding the nature of the niche and the people occupying it results in a higher probability of altering or controlling the behaviors which occur in the niche. To understand the nature of the niche, we strongly recommend using the participant observation technique to supplement more traditional survey methods. Only then will the survey data be fully interpretable, and of maximum use for management.

Finally, there are theoretical reasons for using the niche concept. Are there differences in the type of activity or attitude toward certain activities among people in different parts of the country? If you've seen one "touristy type", have you indeed, seen them all? Midwesterners are different from Southwesterners in many behavioral and attitudinal ways. Do their recreational activities also encompass regional differences? The niche concept can be used to answer this question. We would like

to see other large recreational areas subjected to the "niche" treatment to determine the similarities and differences of niches found in Red River Gorge to those found in ecologically similar areas. We feel this would lead to a clearer understanding of regional differences in recreation: if the same niches emerged in a similar ecological setting in another part of the country, it would suggest that regional populational differences in recreational style and activity do not exist. In this case, the nature of the recreation site itself would override the cultural differences of the people using it. We predict, however, that Kentuckians using the Eastern Woodlands ecology of the Red River Gorge are carving that area up into somewhat different niches than would people in "Gorge-like" moraine regions in Wisconsin, or in some other reasonably similar ecological setting. How much "environmental determinism" is there in recreational behavior?

A Final Thought

During our work in the Gorge, we have expressed viewpoints concerning management issues. In some cases, we have drawn the ire of many individuals. We have no doubt that this final chapter will be controversial to many of the people who have the most at stake -- especially local landowners and the U. S. Forest Service managers. We hope that our ideas will be taken in the spirit in which they are

intended. We have spent much time in the Gorge, we have listened and tried to report faithfully the many divergent perspectives offered to us, and we have thought long and hard to determine what is best for the Red River Gorge, the people who come periodically to experience its splendor, the people who are charged with managing it, and the people whose lives are intimately bound up with it. While our opinions will anger some, many or all, we hope that you will "remember that we, too, have come to love this land of over-towering edges" (Berry, 1971).

APPENDIX I

Visitor Questionnaire

My name is _____ . I'm an anthropologist from the University of Kentucky. I'm part of a research team funded by the Office of Water Research and Technology, Department of the Interior, that is studying the use and management of Kentucky's wild river areas. We are particularly interested in getting your views about what aspects of the use of these rivers are pleasing to you and are of concern to you. Our research will serve as one source of information for the formulation of better management plans for these river areas. You are free to refuse to answer all or any of our questions if you so desire. If you would like further information about the goals, procedures or any other aspect of this research, please feel free to ask.

A. VISITATION PATTERNS

1. Where do you live?

| | | |
|--------------|--------|-------|
| city or town | county | state |
|--------------|--------|-------|

2. How many people are in your group, counting yourself? _____
Please indicate by number how many of the people with you are:

3. family members _____

4. friends _____

5. What is the total number of days you will stay on this visit to the Red River Gorge? _____

6. Including this visit, how many times have you visited the Red River Gorge in the last two years? _____

7. Did you stop to vacation elsewhere before coming to the Red River Gorge?

a. Yes: _____

b. No _____

8. If you continue your vacation after leaving the Red River Gorge, where will you go? _____

9. When have you visited the Red River Gorge? (Please circle all that apply).

1. Spring
2. Summer
3. Fall
4. Winter

10. When do you prefer to visit the Red River Gorge?

1. Spring
2. Summer
3. Fall
4. Winter
5. I like the Gorge equally well in all seasons.

If you prefer one particular season, please state why: _____

11. Do you belong to any conservation or recreation groups?
a. No
b. Yes (Please list) _____

12. Are you here with a conservation or recreation group?
a. No
b. Yes (Please list) _____

13. How did you find out about the Red River Gorge?
1. on my own
2. from family or friends
3. from government agencies or other official sources
4. I live or have lived in the area
5. from an advertisement or the news
6. from conservation or recreation groups

14. What are the MAIN reasons that you came to the Red River Gorge?
Please circle all that apply:
1. to experience the natural beauty
2. to achieve a sense of communion with God
3. to experience the peacefulness
4. to be with friends or family
5. to party and have a good time
6. to get away from everyday routine
7. to get some outdoor exercise
8. to take it easy
9. to experience the rugged life

B. RECREATION TYPE

1. While you are in the Red River Gorge, what will you do? Please circle all that apply:
1. canoe
2. fish
3. hike
4. camp
5. swim
6. rock climb
7. picnic
8. birdwatch
9. party
10. "4-wheeling," off the road vehicle
11. hunt
12. other _____

2. Of these activities, which is the MAIN activity for which you came? Please list only ONE activity.

3. How would you rate the opportunities in the Red River Gorge for your main activity?

| | | | | | | | | | |
|-----------|--|----|--|---|--|----|--|--|------|
| Excellent | | | | | | | | | Poor |
| +2 | | +1 | | 0 | | -1 | | | -2 |

C. CONTACT PREFERENCES

While you're here for recreation, we'd like to find out how many people you would prefer to see. While you are doing the MAIN activity for which you came (canoeing, camping, hiking, partying or whatever)...

1. How would you feel about seeing no other people, beside your own group?

| | | | | | | | | | | |
|----------------|----|----|----|----|---|----|----|----|----|------------------|
| very favorable | | | | | | | | | | very unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 |

2. How would you feel about seeing one other person, beside your own group?

| | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|------------------|
| very favorable | | | | | neutral | | | | | very unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 |

3. How would you feel about seeing 2 other persons, beside your own group?

| | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|------------------|
| very favorable | | | | | neutral | | | | | very unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 |

4. How would you feel about seeing 3 other persons, beside your own group?

| | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|------------------|
| very favorable | | | | | neutral | | | | | very unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 |

5. How would you feel about seeing 4 other people...

| | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|------------------|
| very favorable | | | | | neutral | | | | | very unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 |

6. How would you feel about seeing 5 other people...

| | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|------------------|
| very favorable | | | | | neutral | | | | | very unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 |

7. How would you feel about seeing 6 other people...

| | | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|----|------------------|
| very favorable | | | | | neutral | | | | | | very unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 | |

8. How would you feel about seeing 7-8 other people...

| | | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|----|------------------|
| very favorable | | | | | neutral | | | | | | very unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 | |

9. How would you feel about seeing 9-10 other people...

| | | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|----|------------------|
| very favorable | | | | | neutral | | | | | | very unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 | |

10. How would you feel about seeing 11-15 other people...

| | | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|----|------------------|
| very favorable | | | | | neutral | | | | | | very unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 | |

11. How would you feel about seeing 16-30 other people...

| | | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|----|------------------|
| very favorable | | | | | neutral | | | | | | very unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 | |

12. How would you feel about seeing more than 30 other people...

| | | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|----|------------------|
| very favorable | | | | | neutral | | | | | | very unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 | |

13. Please estimate how many people (outside your own group) you actually saw while doing your MAIN activity (canoeing, camping, hiking, etc.)

- | | |
|-----------------------|-------------------------------|
| 1. nobody | 7. six other people |
| 2. one other person | 8. 7-8 other people |
| 3. two other people | 9. 9-10 other people |
| 4. three other people | 10. 11-15 other people |
| 5. four other people | 11. 16-30 other people |
| 6. five other people | 12. more than 30 other people |

14. We would like to find out how you felt about seeing this number of people. Did you feel that there were:

| | | | | |
|-------------------|----|------------|----|-----------------|
| Not enough people | | Just Right | | Too Many People |
| +2 | +1 | 0 | -1 | -2 |

15. Have you ever had any contact with the people who live around here?

1. No
2. Yes, positive contact
3. Yes, negative contact

Please describe briefly:

16. If you had to make a guess, what percentage of the land in Red River Gorge would you say is privately owned?

0%-10% 10%-25% 25%-50% over 50%

D. PREFERENCES

Please circle the number below that expresses how you would feel about the following in the Red River Gorge:

| | <u>Strongly Approve</u> | <u>Approve</u> | <u>Neutral</u> | <u>Disapprove</u> | <u>Strongly Disapprove</u> |
|--|-----------------------------|----------------|----------------|-------------------|--------------------------------|
| 1. Having more services available (groceries, gas stations, restaurants) | 1 | 2 | 3 | 4 | 5 |
| 2. Campsites with no sanitary facilities | 1 | 2 | 3 | 4 | 5 |
| 3. Having more information available about the area (information centers, exhibits, signs) | 1 | 2 | 3 | 4 | 5 |
| 4. Having more public or private campgrounds available in the Gorge | 1 | 2 | 3 | 4 | 5 |
| 5. Seeing a group of nude swimmers | 1 | 2 | 3 | 4 | 5 |
| 6. Seeing a group of drunk people | 1 | 2 | 3 | 4 | 5 |
| 7. Seeing people with handguns | 1 | 2 | 3 | 4 | 5 |

E. MANAGEMENT

1. Do you know the Red River may become a part of the National Wild and Scenic Rivers system?

- 1. Yes
- 2. No

2. If the Red River is included in the Wild and Scenic River system, it will be preserved in free-flowing condition, the water quality will be protected, and development will be limited. How would you feel about this?

strongly
in favor

+2

+1

neutral

0

-1

strongly
opposed

-2

3. Who do you think is mainly responsible for managing the Red River Gorge?

- 1. don't know
- 2. no one
- 3. local landowners
- 4. county government
- 5. state government
- 6. federal government

4. Do you feel that there are any management problems in the Red River Gorge?

- 1. No
- 2. Yes

Please explain: _____

5. Have you noticed any negative effects on the LAND in the Red River Gorge?

- 1. No
- 2. Yes

Please explain: _____

6. Have you noticed any negative effects on the WATER in the Red River Gorge?

- 1. No
- 2. Yes

Please explain: _____

Do you feel the Red River Gorge is:

- | | | | | | |
|----------------------------|----|----|---|----|----------------------|
| 7. Underused | | | | | overused |
| | -2 | -1 | 0 | +1 | +2 |
| 8. Environmentally damaged | | | | | In its natural state |
| | -2 | -1 | 0 | +1 | +2 |
| 9. Poorly managed | | | | | well managed |
| | -2 | -1 | 0 | +1 | +2 |

F. FINAL QUESTIONS

1. Age _____
2. Sex _____
3. Occupation _____
4. Please circle the highest amount of education you have completed:
 1. grade 0-8
 2. grade 9-11
 3. high school diploma
 4. some college or additional schooling
 5. Bachelor's degree
 6. some graduate work
 7. graduate degree
5. Where did you grow up (to age 18)? Please circle only one answer.
 1. on a farm or ranch
 2. in a small town (2,500 or less people)
 3. in a town or small city (2,500--25,000 people)
 4. in a city (25,000--100,000 people)
 5. in the suburb of a large city
 6. in a large city (over 100,000 people)
6. Please mark your overall feelings about this visit to the Red River Gorge:

| | | | | |
|---------------------|-----------|---------|--------------|------------------------|
| Extremely satisfied | Satisfied | Neutral | Dissatisfied | Extremely Dissatisfied |
| +2 | +1 | 0 | -1 | -2 |

DO NOT FILL IN. FOR INVESTIGATORS' USE ONLY.

Type of camper

- | | |
|-----------------|---------------|
| 1. missing data | 4. RV |
| 2. tent | 5. car camper |
| 3. not camping | 6. backpacker |

Type of boater

- | | |
|-----------------|----------------|
| 1. missing data | 4. canoe |
| 2. not boating | 5. rubber raft |
| 3. flatboat | 6. kayak |

Type of hiker

- | | |
|-----------------|-----------------------------|
| 1. missing data | 4. more than one day hikers |
| 2. not hiking | 5. rock climbers |
| 3. day hikers | |

Location _____ Date _____

Sunny Overcast Rainy CA SA ECS EA

Group# _____ Time of Day _____

* * * *

APPENDIX II

Actual and Potential User Survey

ACTUAL AND POTENTIAL USER SURVEY

A. PERSONAL INFORMATION

Card 1

Variables

1-2-3 Where do you live?

| | | |
|---------------------------|---------------------------|---------------------------|
| city or town | county | state |
| 1-2-3 _____, _____, _____ | 4-5-6 _____, _____, _____ | 7-8-9 _____, _____, _____ |

4 Age _____ 10-11 _____, _____

5 Sex _____ 12-13 _____, _____

6 Occupation _____ 14-15-16 _____, _____, _____

7 Please circle the highest amount of education you have completed:

- 1. grade 0-8
 - 2. grade 9-11
 - 3. high school diploma
 - 4. some college or additional schooling
 - 5. Bachelor's degree
 - 6. some graduate work
 - 7. graduate degree
- 17-18 _____, _____

8 Where did you grow up (to age 18)? Please circle only one answer. 19-20 _____, _____

- 1. on a farm or ranch
- 2. in a small town (2,500 or less people)
- 3. in a town or small city (2,500--25,000 people)
- 4. in a city (25,000--100,000 people)
- 5. in the suburb of a large city
- 6. in a large city (over 100,000 people)

9 We would like your opinions because you are a member of _____ 21-22 _____, _____

10 How long have you been a member of this group?

- 1. not a member
 - 2. just joined
 - 3. less than a year
 - 4. 1-2 years
 - 5. more than 2 years
- 23-24 _____, _____

11 What is the general focus or reason for the existence of this group? 25-26 __, __

1. Conservation, preservation
2. recreation
3. skill development
4. social interaction
5. study of nature
6. political
7. business, professional
8. religious
9. physical exercise
10. other _____

12 How many conservation or recreation groups do you belong to? Please write out the names of the groups (do not use initials) in which you actively participate. 27-28 __, __

B. VISITATION PATTERNS

13 Have you ever been to the Red River Gorge? 28-30 __, __

1. Yes
2. No

If your answer to number 13 is yes, please answer the following questions. If your answer to number 13 is no, please go to section H on page 10.

14 What year did you first visit the Red River Gorge? _____ 31-32 __, __

15 How did you find out about the Red River Gorge? 33-34 __, __

1. on my own
2. from family or friends
3. from government agencies or other official sources
4. I live or have lived in the area
5. from an advertisement or the news
6. from conservation or recreation groups

16 How many times have you visited the Red River Gorge in the last two years? _____ 35-36 __, __

- 17 Is your visit to the gorge usually to spend 37-38 ____, ____,
1. just the day
 2. one night
 3. two nights
 4. three nights
 5. four nights
 6. 5 or more nights
- 18 When have you visited the Red River Gorge? (Please circle all that apply). 39-40 ____, ____,
1. Spring
 2. Summer
 3. Fall
 4. Winter
- 19 When do you prefer to visit the Red River Gorge? 41-42 ____, ____,
1. Spring
 2. Summer
 3. Fall
 4. Winter
 5. I like the Gorge equally in all seasons.
- If you prefer one particular season, please state why:
- 20 _____ 43-44 ____, ____,
- 21 Do you know about weather conditions in the Gorge before any particular visit? 45-46 ____, ____,
1. Yes
 2. No
- 22 Do weather conditions affect your decision to visit the Gorge? If so how? 47-48 ____, ____,
1. No
 2. Yes _____
- 23 When you visit the Gorge, do you usually 49-50 ____, ____,
1. plan your trip on the "spur of the moment"?
 2. plan your trip several days in advance?
 3. plan the trip a week or more in advance?
- What are the main reasons that you visit the Red River Gorge? Please circle all that apply. 51-52 ____, ____,
- 24 to experience the natural beauty 53-54 ____, ____,
- 25 to achieve a sense of communion with God 55-56 ____, ____,
- 26 to experience the peacefulness 57-58 ____, ____,
- 27 to be with friends or family 59-60 ____, ____,
- 28 to party and have a good time 61-62 ____, ____,
- 29 to get away from everyday routine 63-64 ____, ____,
- 30 to get some outdoor exercise 65-66 ____, ____,
- 67-68 ____, ____,

34 How many people usually go with you on your visits to the Red River Gorge? PLEASE INCLUDE YOURSELF IN THIS NUMBER _____ 71-72 _____

76-77-78-79-80 _____

Card 2 _____

Are these people usually (please circle only 1)

35 1. family members 1-2 _____
 36 2. friends 3,4 _____
 37 3. both 5-6 _____

C RECREATION TYPE

When you visit the Red River Gorge, what do you do? Please circle all that apply

38 canoe 7-8 _____
 39 fish 9-10 _____
 40 hike 11-12 _____
 41 camp 13-14 _____
 42 swim 15-16 _____
 43 rock climb 17-18 _____
 44 picnic 19-20 _____
 45 birdwatch 21-22 _____
 6 party 23-34 _____
 47 "4 wheeling", off road vehicle driving 25-26 _____
 48 hunt 27-28 _____
 49 scenic driving 29-30 _____
 50 photography 31-32 _____
 51 other 33-34 _____

52 Of these activities, which one is most often the MAIN activity for which you go to the Red River Gorge? Please list only one activity.

35-36 _____

53 How would you rate the opportunities in the Red River Gorge for your main activity?

| | | | | | | |
|-----------|----|---|----|----|------|-------------|
| Excellent | | | | | Poor | |
| +2 | +1 | 0 | -1 | -2 | | 37-38 _____ |

D CONTACT PREFERENCES

We'd like to find out how many people you would prefer to see during your visits to the Gorge. While you are doing the MAIN activity for which you go to the Gorge (canoeing, camping, hiking, partying or whatever)...

54 How would you feel about seeing no other people beside your own group? 39-40 _____

| | | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|----|------------------|
| Very Favorable | | | | | Neutral | | | | | | Very Unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 | |

- 55 How would you feel about seeing one other person, beside your own group? 41-42 __, __
- | | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|------------------|
| Very Favorable | | | | | neutral | | | | | Very Unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 |
- 56 How would you feel about seeing 2 other persons, beside your own group? 43-44 __, __
- | | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|------------------|
| very favorable | | | | | neutral | | | | | very unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 |
- 57 How would you feel about seeing 3 other persons, beside your own group? 45-46 __, __
- | | | | | | | | | | | |
|----|----|----|----|----|---|----|----|----|----|----|
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 |
|----|----|----|----|----|---|----|----|----|----|----|
- 58 How would you feel about seeing 4 other people.... 47-48 __, __
- | | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|------------------|
| very favorable | | | | | neutral | | | | | very unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 |
- 59 How would you feel about seeing 5 other people.... 49-50 __, __
- | | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|------------------|
| very favorable | | | | | neutral | | | | | very unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 |
- 60 How would you feel about seeing 6 other people.... 51-52 __, __
- | | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|------------------|
| very favorable | | | | | neutral | | | | | very unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 |
- 61 How would you feel about seeing 7-8 other people... 53-54 __, __
- | | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|------------------|
| very favorable | | | | | neutral | | | | | very unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 |
- 62 How would you feel about seeing 9-10 other people.... 55-56 __, __
- | | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|------------------|
| very favorable | | | | | neutral | | | | | very unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 |
- 63 How would you feel about seeing 11-15 other people... 57-58 __, __
- | | | | | | | | | | | |
|----------------|----|----|----|----|---------|----|----|----|----|------------------|
| very favorable | | | | | neutral | | | | | very unfavorable |
| +5 | +4 | +3 | +2 | +1 | 0 | -1 | -2 | -3 | -4 | -5 |

- 72 Having more public or private camp-grounds available in the Gorge 1 2 3 4 5 7-8 __, __
- 73 Seeing a group of nude swimmers 1 2 3 4 5 9-10 __, __
- 74 Seeing a group of drunk people 1 2 3 4 5 11-12 __, __
- 75 Seeing people with handguns 1 2 3 4 5 13-14 __, __

F. MANAGEMENT

- 76 Do you know the Red River may become a part of the National Wild and Scenic Rivers system? 15-16 __, __
1. Yes
2. No
- 77 If the Red River is included in the Wild and Scenic River system, it will be preserved in free-flowing condition, the water quality will be protected, and development will be limited. How would you feel about this? 17-18 __, __

| | | | | |
|----------------------|----|---------|----|---------------------|
| Strongly in Favor | | Neutral | | Strongly Opposed |
| +2 | +1 | 0 | -1 | -2 |

- 78 Who do you think is mainly responsible for managing the Red River Gorge? 19-20 __, __
1. don't know
2. no one
3. local landowners
4. county government
5. state government
6. federal government

- 79 Do you think there are any management problems in the Red River Gorge? If so, please describe briefly. 21-22 __, __

Below is a list of areas of concern to a natural resource manager. Do you feel that there are any management problems in any of these areas in the Red River Gorge?

| | No Problems | | Some Problems | | Serious Problems | | | |
|----|--|---|---------------|---|------------------|--|-------|----------|
| | 1 | 2 | 3 | 4 | 5 | | | |
| 81 | Number of developed campgrounds | | | | | | 25-26 | ___, ___ |
| 82 | Quality of developed campgrounds | | | | | | 27-28 | ___, ___ |
| 83 | Number and location of toilet facilities | | | | | | 29-30 | ___, ___ |
| 84 | Availability of drinking water | | | | | | 31-32 | ___, ___ |
| 85 | Accessibility of canoe put ins and take outs | | | | | | 33-34 | ___, ___ |
| 86 | Availability of canoe rental businesses | | | | | | 35-36 | ___, ___ |
| 87 | Litter | | | | | | 37-38 | ___, ___ |
| 88 | Road conditions | | | | | | 39-40 | ___, ___ |
| 89 | Traffic conditions | | | | | | 41-42 | ___, ___ |
| 90 | Trail markers and signs | | | | | | 43-44 | ___, ___ |
| 91 | Services (stores, gas stations, other commercial developments) | | | | | | 45-46 | ___, ___ |
| 92 | Information facilities | | | | | | 47-48 | ___, ___ |
| 93 | Law enforcement | | | | | | 49-50 | ___, ___ |
| 94 | Vandalism | | | | | | 51-52 | ___, ___ |
| 95 | Protection of archaeological remains | | | | | | 53-54 | ___, ___ |
| 96 | Have you noticed any negative effects on the <u>LAND</u> in the Red River Gorge? | | | | | | 55-56 | ___, ___ |
| | 1. No | | | | | | | |
| | 2. Yes | | | | | | | |

H. NON USE QUESTIONS

Please answer the following questions only if you answered NO to question 13 in part B.

105 Have you ever heard of the Red River Gorge? 1-2 __, __

- 1. no
- 2. yes

If you answered yes, please answer the following questions. If you answered no, please go to question 110

106 How did you find out about the Red River Gorge? 3-4 __, __

- 1. on my own
- 2. from family or friends
- 3. from government agencies or other official sources
- 4. I live or have lived in the area
- 5. from an advertisement or the news
- 6. from conservation or recreation groups
- 7. other _____

107 What good things have you heard about the Red River Gorge? 5-6 __, __

108 What bad things have you heard about the Red River Gorge? 7-8 __, __

109 Why have you never been to the Red River Gorge? 9-10 __, __

110 If you do not visit the Red River Gorge for your outdoor recreation, please list the other areas that you do visit 11-12 __, __

111 Why do you visit these areas and not the Red River Gorge? 13-14 __, __

112
I. FUTURE USE

112 Do you plan to visit the Red River Gorge in the future? 15-16 __, __

1. no
2. maybe
3. yes

113 Approximately how often do you expect to visit the Red River Gorge in the next two years? 17-18 __, __

Thank you very much for your answers

APPENDIX III

Landowner Questionnaire

Date:

Location

Interviewer:

Interviewee:

Remarks:

A. First, I would like to ask you some questions about your living situation and your history in this area:

(1) How many people live in your household?

(2) Please give me the names, ages, sex and last grade completed for each of these household members:

| Relationship | Age | Sex | Education | Occupation |
|--------------|-----|-----|-----------|------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

A.

(6) Do you have any family members who live in the area?

a. Do you ever visit with these family members?

1. Which ones do you visit with most regularly?

2. How often would you say you visit with these family members?

b. Do you ever work with any of these family members?

1. Which ones?

2. How often?

3. What do you do when you work together?

| Relationship | Social | Work |
|--------------|--------|------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

A.

(3) How long have you lived in this area?

a. Where were you born?

b. Where did your parents live?

(4) How do you feel about living here? Why?

(5) Have you ever left this area for an extended period of time?

a. When?

b. For how long?

c. Where did you go?

d. Why did you leave?

e. What was your main reason for returning?

B.

I would now like to ask you some questions about this land.

(1) Who owns the land now?

- a. How many acres are in this piece of property?
- b. Did you (they) inherit the land or was it purchased?
- c. How long has the land been in the family?
- d. When the owner dies who will inherit the land?

(2) Do you now or have you ever lived on the land?

- a. When?
- b. For how long?
- c. (if used to live there and doesn't now) Why did you move?

A. (7) Do you have friends in the area with whom you visit on a regular basis?

a. How often do you visit with these friends?

b. Do you and your friends ever work together?

Friend

Social

Work

(8) Do you or any of your family own land in this area?
(If yes, go to B. If no, go to C)

B.

(4) Why is the land not used for growing crops?

(5) Has the land ever been used for growing crops?

a. What kinds of crops?

b. Who grew them? (owner or leasee)

c. Why are they no longer grown?

(6) Have you ever thought about growing crops on this land?

a. What crops?

b. Why did you decide against it?

B.

- (3) Is any of this land now used to grow crops? (if no, go to #4)
- a. What kinds of crops?
 - b. How many acres are used to grow crops?
 - c. Do you grow these crops yourself or do you rent the land to someone else? (get acreage here)
 - d. How long have these crops been grown on this land?
 - e. How much of the crop do you use for your own consumption?
 - f. How much of the crop do you sell?
 - g. Do you plan on using any more of your land for growing crops?
 1. What kinds?
 2. When?

B.

(7) Do you plan to grow crops on this land anytime in the future?

- a. What kinds of crops?
- b. How many acres will be involved?
- c. How many acres will be involved?

(8) Is any of this land used to raise stock? (if no, go to #9)

- a. What kinds of animals? (number and type)
- b. Are these your own animals?
- c. How much acreage would you say is involved in raising stock?
- d. How much of the stock is raised for your own consumption?
- e. How much of this stock is raised for sale?
- f. Do you plan to raise more stock in the future? (go to B.12)

B.

(9) (if do not now raise stock) Has stock ever been raised on this land?

- a. What kinds of animals?
- b. Who raised them?
- c. When was this?
- d. Why are they no longer raised on this land?

(10) Have you ever thought about raising stock on this land?

- a. What kinds of animals?
- b. Why did you decide against it?

(11) Do you plan to raise stock on this land anytime in the future?

- a. What kinds of animals?
- b. When?
- c. How many acres will be involved?
- d. Will these animals be for your own use or for sale?

B.

(12) Has timber ever been harvested on this land?

a. When was it harvested?

b. Who harvested it?

c. Is it presently harvested?

1. Do you harvest it or is it contracted out?

2. How many board feet per year?

3. How many acres are involved?

4. What types of trees are harvested?

5. How much do you harvest for your own use? (if not contracted)

6. How much do you harvest for sale?

d. Are there any plans to harvest timber in the future?

1. How much?

2. When?

B.

(13) Are there any minerals on the land?

- a. What kind of mine?
- b. When was it mined?
- c. For how long was it mined?
- d. Who mined it?
- e. Is it still actively mined?
 1. Who mines it?
 2. How much _____ would you say is mined per year)
 3. How much of this product do you use?
 4. How much is mined for sale?
 5. How long has it been mined?
- f. How many acres are involved in mining?

(14) Are there any plans to do more extensive mining on this property in the near future?

- a. What type of mineral?
- b. How many acres would be involved?
- c. Who will do the mining?
- d. When will the mining take place?

B.

(15) Have you ever thought about mining on this land?

- a. What kind of mineral?
- b. Why did you decide against it?

(16) Are there any oil or gas wells on this land?

- a. Who drilled them?
- b. When were they drilled?
- c. Are they now actively producing wells? How much per year?
- d. Who owns them? (If respondent owns, ask e. and f.)
- f. How much of this oil or gas do you use?
- g. How much of this oil or gas do you sell?

(17) Have you ever thought of drilling for oil or gas on this land?

- a. When was this?
- b. Why did you decide against it?

B.

(18) Are there any plans to drill for oil or gas on this land in the near future?

a. When will this happen?

b. Who will do the drilling?

(19) Is any of your property presently subdivided?

a. How many acres?

b. When did this subdivision take place?

(20) Have you ever thought about subdividing your property?

a. When did you consider this subdivision?

b. Why did you decide against it?

B.

(21) Do you have any plans to subdivide any of your land in the near future?

a. How much land?

b. When will this subdivision take place?

(22) Is any of your land along the Red River?

a. How many acres?

b. Is this land presently being used for farming or any other purposes that we discussed earlier?

c. Are there any plans to use this land in the future?

1. How much of the land will be used?

2. When do you plan to use it?

3. For what purpose?

(23) Given what you know about property values in this area, what would you say your land is worth today?

B.

(24) Do you plan to sell any of your land in the near future?

a. Why are you selling it?

b. How do you feel about selling it?

(25) Is any government agency currently trying to acquire any of your property?

a. Which agency?

b. How many acres are involved?

c. What is the agency's reason for wanting to acquire your land?

d. How do you feel about it?

C. (For tenants on land)

- (1) How long have you lived on this land?

- (2) Where did you live before you moved here?
 - a. How long did you live there?
 - b. Is that residence in this area?
 - c. Did you farm that land?

- (3) Why did you move to this land?

- (4) Do you use this land for farming, timber, mining or any other kind of production? (if farming)
 - a. How many acres?
 - b. What crops and/or livestock?
 - c. Are these crops or livestock for your own use or are they for sale?

- (5) Do you plan to move anytime soon? If yes:
 - a. Why are you moving?

 - b. Where are moving to?

 - c. How do you feel about moving?

D. (Ask all respondents) The rest of these questions are about recreational use of the Red River Gorge area:

(1) Do you use the river for recreation?

If yes:

a. How do you use the river?

swimming camping picnicking birdwatching
 hunting canoeing hiking trailbiking
 fishing rock-climbing horseback riding four-wheeling
 partying other

b. What would you say is your primary activity along the river?

c. How often do you use the river?

d. What part of gorge do you use most frequently?

If no:

e. Why do you not use the river?

f. Have you ever used the river?

1. What was your primary activity?

2. How often?

3. When was this?

4. Why did you stop using the river?

D.

(2) Does anyone else in your household use the river for recreation?
If yes:

- a. What would you say is their primary activity?
- b. How often do they use the river for this activity?

If no:

- a. Why don't any other household members use the river?
- b. Have they ever used the river?
 1. When?
 2. How?
 3. How often?
 4. Why did they stop using the river?

D.

(3) Do you know of any clubs or organizations who presently use the river?

a. Who are these groups?

b. How did you find out about them?

c. What are their primary activities in the Gorge area?

d. Do you ever have personal contact with these clubs or organizations?

(4) Are you a member of any conservation or recreation organizations?

a. What organizations?

b. How active are you?

D.

(5) Is any of your land used by visitors to the Gorge area?

a. For what activities?

b. Do they use your land for these activities with or without your permission?

c. How do you feel about this?

(6) Is your land posted with No Trespassing or other signs indicating that access to your property is restricted?

a. (If yes) Why did you feel it was necessary to post your land?

b. (If no) Why do you not feel that you have to post your land?

c. (If yes) Do you feel that the posting of your property has been successful in preventing trespass and abuse of your land?

(7) What types of people would you say use the river the most?

a. Do you ever have contact with these people?

b. What kinds of contacts do you have?

c. What kinds of contacts do other residents have with people who use the river?

D. (8)

How important are the following to your experience in the Red River Gorge area?

| | very important | important | no opinion | unimportant |
|--|-------------------|-----------|---------------|-------------|
| 1. solitude, uncrowded areas, being away from the rush of civilization | 1 | 2 | 3 | 4 |
| 2. whitewater adventure | 1 | 2 | 3 | 4 |
| 3. camping opportunity | 1 | 2 | 3 | 4 |
| 4. being with family/friends | 1 | 2 | 3 | 4 |
| 5. geological uniqueness (rocks, arches, caves, etc.) | 1 | 2 | 3 | 4 |
| 6. uniqueness of the plants and animals | 1 | 2 | 3 | 4 |
| 7. being in one of the state's wild river areas | 1 | 2 | 3 | 4 |
| 8. observing and being part of nature | 1 | 2 | 3 | 4 |
| 9. personal enrichment | 1 | 2 | 3 | 4 |
| 10. physical exercise | 1 | 2 | 3 | 4 |

How would the following situations affect your experience here in the Gorge?

| | I would enjoy it a lot | I would enjoy it | I would be neutral | I would diskike it | I would dislike it a lot |
|--|------------------------------|---------------------|-----------------------|--------------------------|--------------------------------|
| 1. finding litter along the river or at campsites | 1 | 2 | 3 | 4 | 5 |
| 2. camping at a place with no sanitary facilities or no developed areas | 1 | 2 | 3 | 4 | 5 |
| 3. meeting other groups of people | 1 | 2 | 3 | 4 | 5 |
| 4. seeing manmade features (billboards, buildings, telephone poles, etc.) while hiking or canoeing or climbing | 1 | 2 | 3 | 4 | 5 |
| 5. camping at a place where several other groups are camped | 1 | 2 | 3 | 4 | 5 |
| 6. noise from aircraft, construction, or other man caused sources | 1 | 2 | 3 | 4 | 5 |
| 7. seeing a group of nude swimmers | 1 | 2 | 3 | 4 | 5 |
| 8. seeing a group of drunk, noisy people | 1 | 2 | 3 | 4 | 5 |
| 9. seeing people with firearms | 1 | 2 | 3 | 4 | 5 |

| How do you feel about the following? | <u>In favor</u> | <u>Neutral</u> | <u>Opposed</u> |
|---|-----------------|----------------|----------------|
| 1. mining in the watershed of the Red River | 1 | 2 | 3 |
| 2. clear cutting in areas near or adjacent to the river | 1 | 2 | 3 |
| 3. the building of commercial establishments which are visible from the river | 1 | 2 | 3 |
| 4. subdivision of land along the river | 1 | 2 | 3 |

If the river is designated as a National Wild and/or Scenic River, there may be consequences for people who own land along or near the river or for people who live near the river or use the river area. Please rank the following in terms of which of these possible alternatives you personally would prefer. Give a 1 to the statement you most favor, a 2 to the next and so on.

- a. Management would remain exactly as it is, with no additions or changes.
- b. The Forest Service or some other managing agency would purchase rights to access for recreational visitors (boat loading, roads, trails, etc.), compensating the owners for their loss of exclusive use of this land.
- c. The Forest Service would purchase river frontage land outright.

APPENDIX IV

RED RIVER GORGE MANAGEMENT INTERVIEW

My name is Sara Alexander. I am an anthropologist from the University of Kentucky. I am part of a research team studying the use and management of the Red River Gorge area. During the past two summers we have been doing a survey of the recreationists in the Gorge in an effort to determine the sociodemographic characteristics of the visitors, the kinds of recreation in which they engage, their preferences for recreational and other developments in the area, and their perceptions of the management of the Gorge.

The purpose of this interview is to find out how you, as part of the management system of the Gorge, feel about present-day, as well as future, management issues of the area, the environmental condition of the Gorge today, and the potential future of the area, with particular regard to the proposed National Wild and Scenic River designation. My ultimate goal in this research is to provide information that will be useful in managing the Red River Gorge in the future. Please feel free to refuse to answer any of the questions if you so desire. If you would like further information about this research, please feel free to ask.

A. General Information

1. Name _____
2. Sex _____
3. Age _____
4. Highest level of education _____
5. Employer _____
6. Position _____
7. How long employed _____
8. Nature of work in the Gorge _____
9. How long working in the Gorge _____

B. Management

1. Do you feel there are any critical management questions facing the Gorge today?

Any others?

- a. To what are these attributable?

- b. Is anything being done about them?

- c. Has anything ever been done in the past?

- d. Will anything (more) be done (in the future)?

2. There are several sources of management in the Gorge--local, county, state and federal. Do you know of any conflicting management problems between these different levels?

- a. What? Why? Between whom?

Any others?

- b. Are any efforts being made to deal with these conflicts?

3. Have there been or are there any management problems caused by the recreationists who come to the Gorge?

- a. What? When? Where?

Any others?

b. Is anything being done to remedy the situation?

c. Will anything (more) be done (in the future)?

4. Have there been or are there any management problems in the Gorge caused by the residents (Powell, Menifee, Wolfe counties) of the area?

a. What? When? (Who?)

Any others?

b. Is anything being done to remedy this situation?

c. Will anything (more) be done (in the future)?

5. Do you know if there have been or are any problems between the residents in the area and the visitors to the Gorge?

a. Nature of?

Any others?

b. Due to what?

c. Remedies?

C. Environmental Condition

1. Have you noticed any ecological changes in the Gorge over the past ten years (or as long as you have been working in the area)?

Any others?

- a. To what are these attributable?

- b. If detrimental, do you know of any action being taken to remedy these processes?

- c. Do you know of any future plans to remedy these processes?

2. Have you noticed any negative effects on the land in the Red River Gorge?

Any others?

a. Due to what?

b. Is anything being done?

c. Has anything been done in the past?

d. Will anything (more) be done (in the future)?

3. Have you noticed any negative effects on the water in the Red River Gorge?

Any others?

a. Due to what?

b. Is anything being done?

c. Has anything been done in the past?

d. Will anything (more) be done (in the future)?

4. Have the recreationists affected the environment of the Gorge in any way?

a. What? Where?

Anything else?

b. Is anything being done?

c. Are there any plans for dealing with this in the future?

5. Have the recreationists affected the esthetic resources and/or scenic attractions in the Gorge area?

a. What? Where?

Anything else?

b. Is anything being done?

c. Are there any plans for dealing with this in the future?

D. Future of the Gorge

1. As you probably know, the Red River is currently being considered for inclusion in the Wild and Scenic river system.

a. What effects do you think this will have (if designated)?

b. How do you feel about the designation?

c. Positive/negative consequences?

1. Visitors?

2. Residents?

3. Management?

4. Ecology?

2. In conclusion, what do you think would be the best thing that could be done for the Red River Gorge?

a. Development preferences?

b. Feelings toward regulation/control (monitoring use)?

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