



Missouri Department of Natural Resources  
Division of State Parks  
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# **1998-1999 Meramec State Park Off-Season Visitor Survey**

## **Project Completion Report**

**Submitted to**

**Missouri Department of Natural Resources  
Division of State Parks**

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## Executive Summary

The purpose of this study was to describe off-season visitors' socio-demographic characteristics, patterns of use, and satisfaction with park facilities, programs and services at Meramec State Park (MSP).

An on-site survey of adult visitors to MSP was conducted from November 1, 1998 to February 28, 1999. Almost four hundred (386) surveys were collected, representing an overall response rate of 55%. Results of the survey have a margin of error of plus or minus 5.1%. The following information summarizes the results of the study.

### Socio-demographic Characteristics

- MSP visitors were comprised of nearly equal numbers of males and females, and the average age of the adult visitors to MSP was 43.
- The highest percentage had a high school education or less and had an annual household income of \$25,000-\$50,000.
- The majority of visitors (95%) were Caucasian, 2% were Native American, and less than 1% were Hispanic (0.3%), Asian (0.8%), and African American (0.5%).
- Five percent (5%) of visitors reported having a disability.
- Over 94% of visitors were from Missouri with 2% from Illinois and 3% from other states.

- Over 38% of the Missouri visitors were from Sullivan, 31% were from a 30-mile radius around the park, and 16% were from the St. Louis area.

### Use-Patterns

- Almost 90% of visitors traveled 75 miles or less to visit MSP, and 98% traveled less than a day.
- Over four-fifths of MSP visitors had visited the park before.
- MSP visitors had visited the park an average of 28 times in the past year.
- Almost all (90%) of the visitors were day-users.
- Of the 10% of visitors staying overnight, the majority (72%) stayed in the MSP campground, and over two-fifths stayed two nights. The average number of nights overnight visitors stayed was 2.6.
- The majority of MSP visitors visited the park with family and/or friends, although over 20% visited the park alone.
- The majority (61%) of visitors to MSP indicated they visited during all four seasons of the year.
- Over half (54%) visited during the off-season because of fewer people.
- The most frequent recreation activities in which visitors participated were

viewing wildlife, hiking, picnicking, studying nature, fishing, and visiting the visitor center.

### **Satisfaction and Other Measures**

- Ninety-eight percent (98%) of the visitors were either very or somewhat satisfied overall.
- Visitors were most satisfied with the park signs and least satisfied with river access areas.
- The majority of visitors gave high ratings on care of natural resources.
- Clean restrooms, upkeep of park facilities, and being free of litter and trash were the areas identified as needing the most attention. Visitors gave these areas lower performance ratings, but felt these attributes were of higher importance.
- Only one-fourth (27%) of visitors did not rate MSP as excellent on being safe.
- One-third (34%) of visitors with safety concerns either did not have a reason for not rating MSP excellent on safety, or felt that no place could be perfectly safe. Fifteen percent (15%) of visitors commented on the behavior of other visitors, 13% felt that trail conditions were dangerous, and 9% commented on the lack of park personnel or rangers patrolling the park.
- Only 13% of visitors to MSP felt crowded during their visit. One-third of them felt crowded at the boat ramps and river access areas.
- Campers' perceptions of crowding were significantly higher than non-campers' perceptions.
- One-fourth of the respondents provided additional comments or suggestions, almost half (46%) of which were positive comments.

## Acknowledgements

Conducting and successfully completing a study of this magnitude and complexity could not have been accomplished without the cooperation of many individuals. Almost 400 visitors to Meramec State Park voluntarily agreed to provide the information upon which this report is based. It is clear from their input that these visitors care very much for the recreation resources in the Missouri State Park System. Their efforts will provide invaluable input into the planning process and providing for more effective and responsive management of these resources.

Many thanks also go to the survey clerks who collected the data at Meramec State Park, and the students at the University of Missouri who participated in the coding and computer data entry of the questionnaires. They are: Mari Trott, Emil Trott, Carrie Robinett, and Chris Thoele.

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## Introduction

### BACKGROUND

In 1939, 15 years after Missouri obtained its first state park, 70,000 visitors were recorded visiting Missouri's state parks (Masek, 1974). Today, more than 16 million people visit the 80 state parks and historic parks Missouri offers (Holst & Simms, 1996). The increase in visits to Missouri state parks and historic sites may be due in part to the diversity of sites, resources, and recreational opportunities provided by the state park system. Visitors to state parks have different characteristics and preferences (Donnelly, Vaske, De Ruiter, & King, 1996), and may be attracted to Missouri's state parks and historic sites because of the diversity of resources and recreational opportunities (Holst, 1991).

The DSP recognizes the importance of this diversity, as is evidenced by the mission of the state park system: "To preserve and interpret the finest examples of Missouri's natural landscapes; to preserve and interpret Missouri's cultural landmarks; and to provide healthy and enjoyable outdoor recreation opportunities for all Missourians and visitors to the state" (Holst, 1990, p. 7).

In order to fulfill its mission, state park managers are challenged to determine what recreational opportunities are most sought after by visitors to state parks and to determine how satisfied those visitors are with state park facilities, services, and programs. In order to ensure continued citizen support for the Parks and Soils sales tax, a tax funding state

parks, managers are further challenged to determine whether all demographic populations are benefiting from the recreational opportunities provided at state parks.

To aid in meeting these challenges and to aid in the planning and management processes at recreation sites, surveys of visitors to the various state parks and historic sites should be conducted (TRRU, 1983). Specific information provided by the surveys should include use patterns of visitors to state parks, socio-demographic characteristics of those visitors, and visitor satisfaction of facilities, services, and programs (Lucas, 1985).

### NEED FOR RECREATION RESEARCH

Recreation research has been identified as an important component in planning for recreational needs of visitors, particularly research that examines preferences and behaviors of visitors (Manning, 1986; Yoesting, 1981). In the past, it has been assumed that administrators of recreation sites were omniscient, knowing intuitively what the public wanted and should have in the way of recreational opportunities (Manning, 1986; Reid, 1963; Yoesting, 1981). Managers regarded visitors to recreation sites as static, and did not take into consideration that visitor preferences and desires can change. Because site administrators are not omniscient and visitor preferences do change (Cordell & Hartmann, 1983; Ditton, Fedler, Holland, & Graefe, 1982; Donnelly et al., 1996), studies examining the use patterns, socio-demographic

characteristics, and satisfaction of visitors are necessary for planning, implementing, and improving recreational opportunities.

Little site-specific information is available for state parks and historic sites in Missouri. Much of the survey work done for state parks and historic sites has focused on the state park system as a whole. A need exists for site-specific data to compare visitor information between parks, or to measure changing trends in these parks. Also, a need exists for consistent methodology in visitor surveys, in order that such comparisons and measurements can be made.

Manning (1986) reported that many surveys, even when conducted by the same agency, were methodologically inconsistent in recreational activity definitions, data collection techniques, sample sizes and response rates, age of respondents, and question wording and sequence. Any comparison of data would be difficult because of the inconsistent methodologies.

### **STUDY PURPOSE**

The purpose of this study was to gain information about off-season visitor use patterns, socio-demographic characteristics, and satisfaction with park programs, facilities, and services.

This report examines the results of the off-season visitor survey conducted at Meramec State Park (MSP). Objectives specific to this report include:

1. Describing the use patterns of visitors to MSP during the period between November 1, 1998 and February 28, 1999.
2. Describing the socio-demographic characteristics of visitors to MSP.
3. Determining if there were differences in select groups' ratings of park attributes, satisfaction with park features, overall satisfaction, and perceptions of crowding.
4. Determining any differences in select characteristics of visitors who rated highly park safety and those who did not.

### **STUDY AREA**

One of the oldest, and perhaps one of the most popular of Missouri's state parks, MSP is located in Franklin, Washington, and Crawford counties. Bordering the Meramec River, MSP provides many unique recreational opportunities, including cave exploration and river recreation. Although a majority of MSP's facilities are closed during the off-season, including the dining lodge, motel, store, and cabins, many visitors still visit MSP during the off-season. A goal of this study was to determine what attracted visitors to visit MSP during the off-season.

### **SCOPE OF STUDY**

The population of the visitor study at MSP consisted of all MSP visitors who were 18 years of age or older (adults), and who visited MSP from November 1, 1998 to February 28, 1999. These results only reflect off-season visitors.

## Methodology

### SAMPLING PROCEDURES

A 95% confidence interval was chosen with a plus or minus 5% margin of error. Based upon 1997 visitation data at MSP for January, February, November and December, it was estimated that

during the study period were the respondents for this study.

Table 1 shows the survey schedule along with the time slots used. Two time slots were chosen for surveying and one time slot was surveyed per day. The two time

*Table 1. Meramec State Park Survey Schedule*

Date	Day	Time slot
November 14	Saturday	2. 12:30 - 5:00 p.m.
November 15	Sunday	1. 8:00 a.m. - 12:30 p.m.
November 18	Wednesday	2. 12:30 - 5:00 p.m.
November 24	Tuesday	1. 8:00 a.m. - 12:30 p.m.
December 1	Tuesday	2. 12:30 - 5:00 p.m.
December 10*	Thursday	1. 8:00 a.m. - 12:30 p.m.
December 19*	Saturday	2. 12:30 - 5:00 p.m.
December 20*	Sunday	1. 8:00 a.m. - 12:30 p.m.
January 3*	Sunday	2. 12:30 - 5:00 p.m.
January 16	Saturday	1. 8:00 a.m. - 12:30 p.m.
January 17	Sunday	2. 12:30 - 5:00 p.m.
January 22	Friday	1. 8:00 a.m. - 12:30 p.m.
January 24	Sunday	2. 12:30 - 5:00 p.m.
January 27	Wednesday	1. 8:00 a.m. - 12:30 p.m.
February 4	Tuesday	2. 12:30 - 5:00 p.m.
February 7	Sunday	1. 8:00 a.m. - 12:30 p.m.
February 16	Tuesday	2. 12:30 - 5:00 p.m.
February 27	Saturday	1. 8:00 a.m. - 12:30 p.m.

\* Inclement weather prevented sampling.

approximately 48,000 visitors would visit MSP during the period between November 1, 1998 and February 28, 1999 (DNR, 1998). Therefore, with a 95% confidence interval and a plus or minus 5% margin of error, a sample size of 397 was required (Folz, 1996). A random sample of adult visitors (18 years of age and older) who visited MSP

slots were chosen to reflect the decreasing daylight hours during the winter months of November, December, January, and February, and were as follows: Time Slot 1 = 8:00 a.m. - 12:30 p.m. and Time Slot 2 = 12:30 p.m. - 5:00 p.m. A time slot was randomly chosen (Time Slot 2) and assigned to the first of the scheduled survey dates. Thereafter,

time slots were assigned in ranking order based on the first time slot. For example, the second survey date would be surveyed during time slot 1, the third during slot 2, and so on. This method was chosen to allow each of the two time slots to be surveyed an equal number of times during the study period. This method was also chosen to allow visitors leaving the park at various times of the day an equal opportunity for being sampled.

### **QUESTIONNAIRE**

The questionnaire used in this study was based on the questionnaire developed by Fink (1997) for the Meramec State Park Visitor Survey. A copy of the questionnaire for this study is provided in Appendix A.

### **SELECTION OF SUBJECTS**

The survey of visitors at MSP was administered on-site, to eliminate the non-response bias of a mail-back survey. An exit survey was conducted of every vehicle leaving the park during the selected time slot.

### **DATA COLLECTION**

The surveyor was stationed near the entrance to the park at the visitor center parking lot. During the selected time slot, the surveyor stopped every vehicle and asked every visitor who was 18 years of age and older to voluntarily complete the questionnaire, unless he or she had previously filled one out. To increase participation rates, respondents were given the opportunity to enter their name and address into a drawing for a prize package and were assured that their responses to the survey questions were anonymous and would not be attached to

their prize entry form. Willing participants were then given a pencil and a clipboard with the questionnaire and prize entry form attached. Once respondents were finished, the surveyor collected the completed forms, clipboards, and pencils. Survey protocol is given in Appendix B and a copy of the prize entry form is provided in Appendix C.

An observation survey was also conducted to obtain additional information about: date, day, time slot, and weather conditions of the survey day; the number of adults and children in each vehicle; vehicle type and number of axles per vehicle; the number of times the visitors entered/exited the park during the visit; and the number of individuals asked to fill out the questionnaire, whether they were respondents, non-respondents, or had already participated in the survey. This number was used to calculate response rate, by dividing the number of useable surveys collected by the number of adult visitors asked to complete a questionnaire. A copy of the observation survey form is provided in Appendix D.

### **DATA ANALYSIS**

The data obtained for the MSP study was analyzed with the Statistical Packages for the Social Sciences (SPSS) (SPSS, 1996).

Frequency distributions and percentages of responses to the survey questions and the observation data were determined. The responses to two open-ended questions, questions 10 and 22, were listed as well as grouped into categories for frequency and percentage calculations. The number of surveys

completed by month, by date, by day of week, and by time slot were also determined.

Comparisons using independent t-tests for each group were also made to determine any statistically significant differences ( $p < .05$ ) in the following selected groups' satisfaction with park features (question 8), ratings of park attributes (question 9), overall satisfaction (question 12), and perceptions of crowding (question 13). The selected groups included:

1. First-time visitors versus repeat visitors (question 1).
2. Campers versus non-campers (question 4). Non-campers include both day-users and the overnight visitors who did not camp in the MSP campground.
3. Weekend visitors versus weekday visitors. Weekend visitors were surveyed on Saturday and Sunday, weekdays were Monday through Friday.

Other comparisons were made using independent t-tests to determine any statistically significant differences in visitors who rated the park as excellent on being safe versus visitors who rated the park as good, fair, or poor on being safe, for the following categories:

1. First-time versus repeat visitors.
2. Campers versus non-campers.
3. Weekend versus weekday visitors.

Differences between visitors who rated the park as excellent on being safe versus those who did not were also compared on the following questions: differences in socio-demographic characteristics, perceptions of crowding, measures of satisfaction with park features, ratings of park attributes, and overall satisfaction.

An additional comparison included overall satisfaction between visitors who felt some degree of crowding and those who were not at all crowded on their visit.

## Results

This section describes the results of the Meramec State Park Visitor Survey. For the percentages of responses to each survey question, see Appendix E. The number of individuals responding to each question is represented as "n=."

### **SURVEYS COLLECTED & RESPONSE RATES**

A total of 386 surveys were collected at MSP during November, December, January, and February, with 135 collected in November (35.0%), 34 collected in December (8.8%), 116 collected in January (30.1%), and 101 collected in February (26.2%). Tables 2, 3, and 4 show surveys collected by day of week, by time slot, and by date respectively. Of the 386 surveys collected, 260 (67.2%) were collected on weekends (Saturday and Sunday) and

127 (32.8%) were collected on weekdays (Monday through Friday). The overall response rate was 54.8%.

### **SAMPLING ERROR**

Because a total of 386 surveys were collected, the margin of error was increased from plus or minus 5% to plus or minus 5.1%. With a sample size of 387, a confidence interval of 95%, and a margin of error of plus or minus 5.1%, there is a 95% certainty that the true results of this study are within plus or minus 5.1% of the study findings. For example, from the results that 44.3% of the visitors to MSP during the study period were female, it can be stated that between 39.2% and 49.4% of the MSP visitors were female.

*Table 2. Surveys Collected by Day of Week*

Day	Frequency	Percent
Sunday	159	41.2%
Tuesday	58	15.0%
Wednesday	22	5.7%
Thursday	38	9.8%
Friday	9	2.3%
Saturday	<u>100</u>	<u>25.9%</u>
Total	386	100.0%

*Table 3. Surveys Collected by Time Slot*

Time Slot	Frequency	Percent
1. 8 a.m. - 12:30 p.m.	141	36.5%
2. 12:30 - 5:00 p.m.	<u>245</u>	<u>63.5%</u>
Total	386	100.0%

**Table 4. Surveys Collected by Date**

<b>Day and Date</b>	<b>Frequency</b>	<b>Percent</b>
Saturday, November 14	59	15.3%
Sunday, November 15	36	9.3%
Wednesday, November 18	20	5.2%
Tuesday, November 24	20	5.2%
Tuesday, December 1	34	8.8%
Saturday, January 16	15	3.9%
Sunday, January 17	16	4.1%
Friday, January 22	9	2.3%
Sunday, January 24	74	19.2%
Wednesday, January 27	2	0.5%
Thursday, February 4	38	9.8%
Sunday, February 7	33	8.6%
Tuesday, February 16	4	1.0%
Saturday, February 27	26	6.7%
Total	386	100.0%

### **SOCIO-DEMOGRAPHIC CHARACTERISTICS**

#### ***Age***

The average age of adult visitors to MSP was 42.5. When grouped into four age categories, 36.9 % of the adult visitors were between the ages of 18-34, 38.2% were between the ages of 35-54, 11.3% were between the ages of 55-64, and 13.6% were 65 years of age or older.

#### ***Gender***

Visitors to MSP were almost equally male and female. Male visitors comprised 55.7% of all visitors, and female visitors comprised 44.3% of all visitors.

#### ***Education***

Over two-fifths (45.9%) of visitors to MSP indicated they had a high school education or less. Those who indicated they had some college or vocational school were 33.1%, and 20.9% indicated they had a four-year degree or post-graduate education.

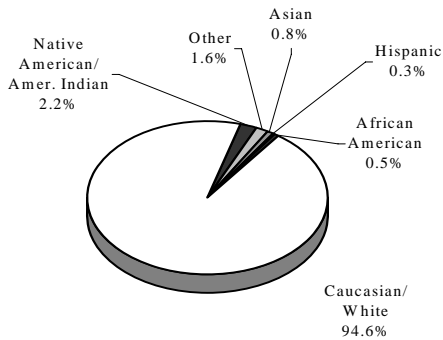
#### ***Income***

The largest percentage (39.9%) of visitors to MSP reported they had an annual income of between \$25,000 and \$50,000. The second largest percentage (29.9%) of visitors had an income of less than \$25,000. Less than 20% (18.5%) of visitors reported an annual income of between \$50,000 and \$75,000, and 11.7% of visitors reported an income of over \$75,000.

**Ethnic Origin**

Figure 1 indicates the ethnic origin of MSP visitors. The vast majority (94.6%) of visitors was Caucasian. Only 2.2 were Native American. Less than one percent were Asian (0.8%), African American (0.5%), and Hispanic (0.3%). Almost 2% (1.6%) reported an “other” origin, and these included bi-racial, Gypsy, Slavic, and Palestinian.

**Figure 1. Ethnic origin of MSP visitors.**



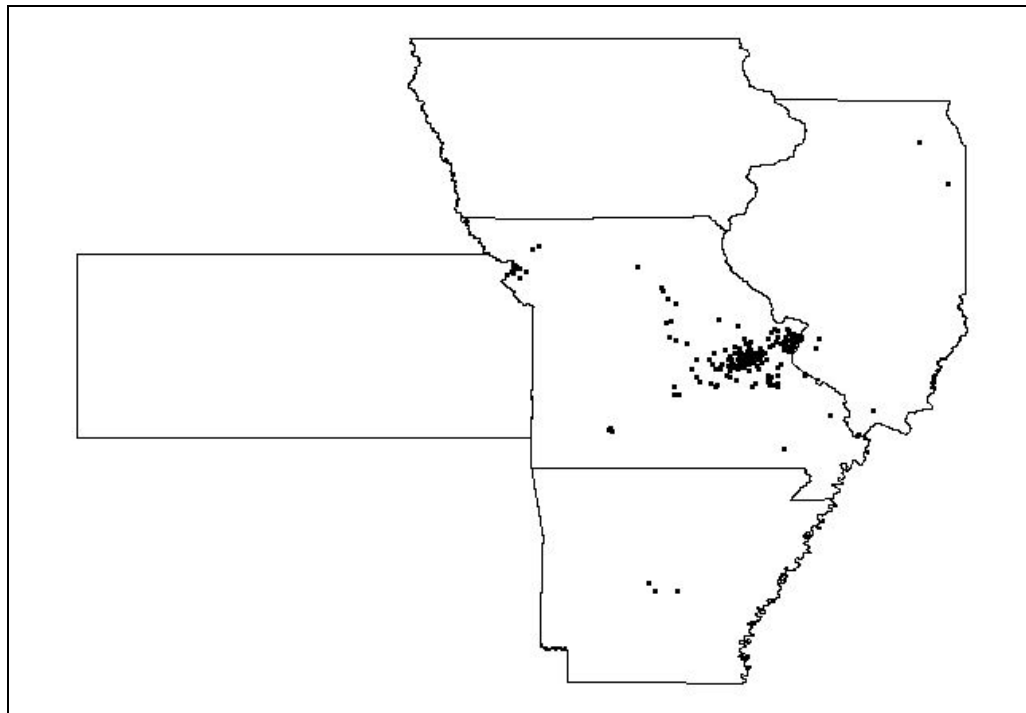
**Visitors with Disabilities**

Only 5.2% of the visitors to MSP reported having some type of disability that substantially limited one or more life activities or that required special accommodations. The majority (76.9%) of the disabilities reported were mobility-impairing disabilities. For a list of responses to disabilities, see Appendix E, question 19.

**Residence**

The majority of visitors (94.7%) were from Missouri, and 1.7% were from Illinois, while 3.4% were from other states. One visitor was from Canada. Within Missouri, 38.8% of visitors were from Sullivan, 31.4% were from areas within a 30-mile radius of the park, and 16.3% were from the St. Louis area (Figure 2).

**Figure 2. Residence of MSP Visitors by Zip Code.**





## USE PATTERNS

### *Trip Characteristics*

Almost 90% (89.4%) of MSP's visitors traveled 75 miles or less to visit the park. Over one-third (36.7%) were from Sullivan, Missouri and traveled 10 miles or less to the park. Ninety-eight percent (97.5%) of all MSP visitors were from Missouri, Illinois, and Arkansas and traveled less than a day to arrive at the park.

The majority (66.1%) of vehicles that MSP visitors drove was cars, vans, jeeps, and sport utility vehicles. Almost one-third (30.6%) of visitors drove trucks. Only 1.2% of visitors drove recreational vehicles. Two percent (2.0%) of the vehicles driven by MSP visitors pulled trailers.

### *Visit Characteristics*

Over four-fifths (85.2%) of the visitors to MSP were repeat visitors, with less than 15% (14.8%) of the visitors being first time visitors. The average number of times repeat visitors reported visiting MSP within the past year was 28.2 times.

Most of the visitors (90.1%) to MSP during the study period were day-users, with only 9.9% indicating that they visited the park for more than one day during their visit. Of those staying overnight during their visit, 71.8% stayed in the campground at MSP, 15.4% stayed in nearby lodging facilities, and 12.9% stayed at either a friend's or relative's house or at another type of facility. Of those reporting overnight stays, over two-fifths (46.9%) stayed two nights, 40.6% stayed one night, and 12.5% stayed three or more

nights. The average number of nights visitors stayed was 2.6 nights.

Two-fifths (40.9%) of the visitors to MSP visited the park with family. Twenty percent (20.9%) visited the park alone, while 15.5% visited with family and friends, 14.3% visited with friends, 6.9% visited with a club or organized group, and 1.5% visited with "other".

### *Off-Season Use*

Visitors were asked to describe the seasons in which they visited Meramec State Park. Four choices were given (spring, summer, fall, and winter) and visitors were instructed to check all that applied. The majority (60.8%) of visitors indicated that they visited MSP during all four seasons. Less than 2% (1.8%) visited just in the winter, 2.4% visited just in the spring, 5.4% visited just in the fall, and 6.6% visited just in the summer. The rest (23%) visited during other combinations of the four seasons.

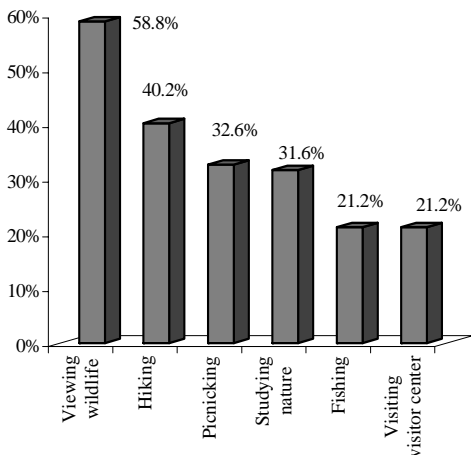
Visitors were also asked to describe what attracted them to MSP during the fall and winter. Over half (54.1%) of the visitors answering this question indicated that fewer people in the park was one attraction to visiting MSP during the off-season. Almost 18% (17.9%) indicated seasonal activities, and 7.0% indicated more campsite availability as other attractions. Over two-fifths (42.0%) of visitors also indicated there were other attractions to visiting MSP during the fall and winter. Thirty percent (30.1%) of visitors who indicated that there were other attractions to visiting MSP during the off-season commented that viewing wildlife, particularly deer, was a main attraction. One-fourth (25%) of visitors

with other reasons visited MSP during the fall and winter to enjoy nature, the fall colors, and the winter scenery. The rest (44.9%) indicated a variety of other attractions, including the cooler or nicer weather, the quiet and solitude of the park, off-season use of the caves, and other activities.

**RECREATION ACTIVITY PARTICIPATION**

Respondents to the survey were asked what activities they participated in during their visit to MSP. Figure 3 shows the percentage of visitor participation in the five highest activities. Viewing wildlife was the highest reported (58.8%) and hiking was second (40.2%). Picnicking, studying nature, fishing and visiting the visitor center were next at 32.6%, 31.6%, and 21.2% respectively.

**Figure 3. Participation in recreation activities at MSP.**



MSP visitors reported engaging in other activities, including exploring wild caves (19.7%), boating (16.3%), camping (15.8%), rafting/canoeing (13.5%), biking (5.7%), backpacking (5.4%), attending a special event (3.9%),

attending an amphitheater program (2.8%), and going on a guided nature hike (1.8%). Eleven percent (11.1%) of visitors reported engaging in an "other" activity, and these included: playing at the playground, walking, running/jogging, photography, enjoying the scenery, just driving around, and watching the deer.

**SATISFACTION MEASURES**

*Overall Satisfaction*

When asked about their overall satisfaction with their visit, there was only one respondent (0.3%) who reported being very dissatisfied with their visit and a little over one percent (1.3%) reported being somewhat dissatisfied, whereas 98.4% of visitors were either somewhat or very satisfied. Visitors' mean score for overall satisfaction was 3.85, based on a 4.0 scale with 4 being very satisfied and 1 being very dissatisfied.

No significant differences ( $p < .05$ ) were found in overall satisfaction between first-time visitors and repeat visitors, between campers and non-campers, and between weekend and weekday users.

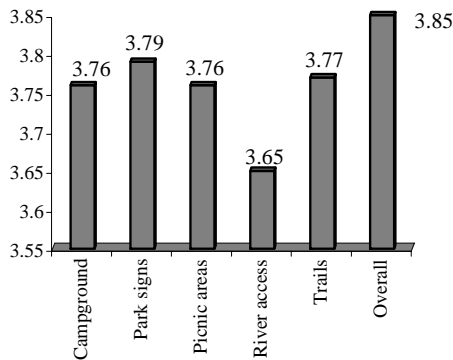
*Satisfaction with Park Features*

Respondents were also asked to express how satisfied they were with five park features. Figure 4 shows the mean scores for the five features and also for visitors' overall satisfaction. The satisfaction score for the park signs (3.79) was the highest, with the other scores ranging from 3.77 (trails) to the lowest of 3.65 (river access).

There were no significant differences ( $p < .05$ ) in satisfaction with the five park features between first-time and repeat

visitors, or between campers and non-campers. However, a significant difference ( $p < .05$ ) was found between weekend and weekday visitors regarding the picnic areas. Weekend visitors had a significantly higher mean satisfaction rating (3.80) than had weekday visitors (3.67).

**Figure 4. Satisfaction with MSP features**



**PERFORMANCE RATING**

Visitors were asked to rate the park’s performance of seven select park attributes (question 8): being free of litter and trash, having clean restrooms, upkeep of park facilities, having a helpful and friendly staff, access for persons with disabilities, care of natural

resources, and being safe. Performance scores were based on a 4.0 scale, with 4 being excellent and 1 being poor.

A significant difference ( $p < .01$ ) was found between first time and repeat visitors’ performance ratings of MSP having clean restrooms. First time visitors had a significantly higher mean rating (3.82) regarding restroom cleanliness than repeat visitors (3.43). Non-campers also had a significantly higher ( $p < .01$ ) performance rating (3.49) regarding the restrooms than had campers (3.0). There were no significant differences ( $p < .05$ ) between the performance ratings of weekend and weekday visitors.

**IMPORTANCE-PERFORMANCE MEASURES**

The Importance-Performance (I-P) Analysis approach was used to analyze questions 9 and 11. Mean scores were calculated for the responses of the two questions regarding visitors’ ratings of the performance and importance of seven select park attributes. Table 5 lists the scores of these attributes, which were based on a 4.0 scale of 4 being excellent and 1 being poor, and 4 being very

**Table 5. Mean Performance and Importance Scores for Park Attributes**

Attribute	Mean Performance Score*	Mean Importance Score*
A. Being free of litter/trash	3.64	3.94
B. Having clean restrooms	3.47	3.87
C. Upkeep of park facilities	3.58	3.88
D. Having a helpful & friendly staff	3.71	3.75
E <sub>1</sub> . Access for persons with disabilities	3.63	3.65
E <sub>2</sub> . Access for persons with disabilities	3.80	3.82
F. Care of natural resources	3.67	3.92
G. Being safe	3.69	3.85

E<sub>1</sub> = All visitors

E<sub>2</sub> = Disabled visitors only

\* 1 = Poor performance or low importance rating, 4 = excellent performance or importance rating

important and 1 being very unimportant.

indicates that management may need to

**Figure 5. Importance-Performance Matrix of Park Attributes**

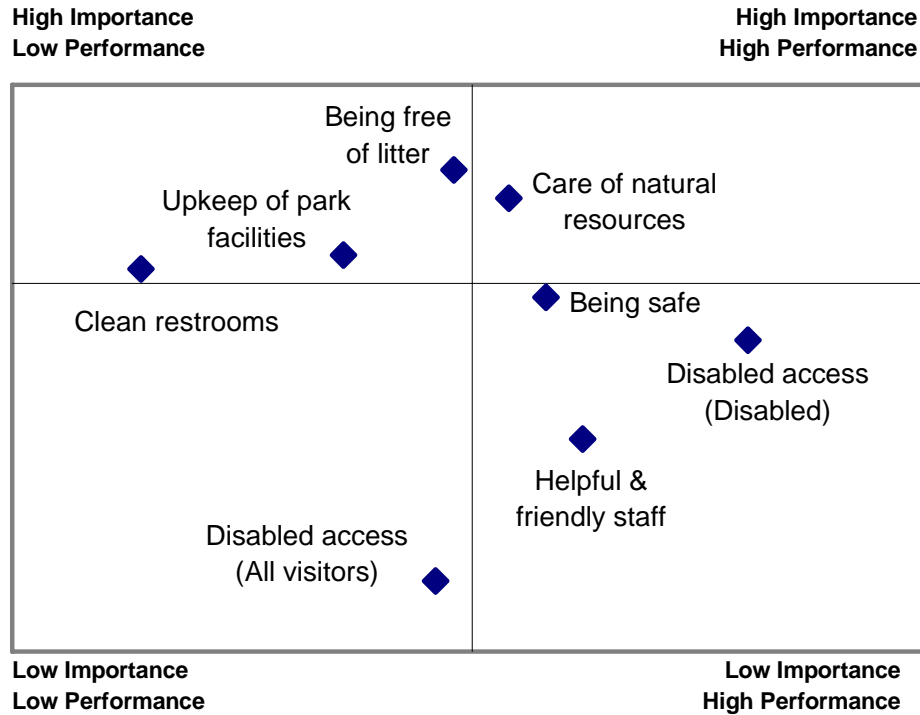


Figure 5 shows the Importance-Performance (I-P) Matrix. The mean scores were plotted on the I-P Matrix to illustrate the relative performance and importance rating of the attributes by park visitors.

The I-P Matrix is divided into four quadrants to provide a guide to aid in possible management decisions. For example, the upper right quadrant is labeled “high importance, high performance” and indicates the attributes in which visitors feel the park is doing a good job. The upper left quadrant

focus on these attributes, because they are important to visitors but were given a lower performance rating. The lower left and right quadrants are less of a concern for management, because they exhibit attributes that are not as important to visitors.

MSP is rated high on care of the natural resources. Characteristics that visitors felt were important but rated MSP low on performance were being free of litter and trash, upkeep of park facilities, and having clean restrooms.

**CROWDING**

Visitors to MSP were asked how crowded they felt during their visit. The following nine-point scale was used to determine visitors' perceptions of crowding:

1	2	3	4	5	6	7	8	9
Not at all		Slightly		Moderately				Extremely
Crowded		Crowded		Crowded				Crowded

Visitors' overall mean response to this question was 1.29. The vast majority (87.2%) of visitors to MSP did not feel at all crowded (selected 1 on the scale) during their visit. The rest (12.8%) felt some degree of crowding (selected 2-9 on the scale) during their visit.

Visitors who indicated they felt crowded during their visit were also asked to specify where they felt crowded (question 14). One-fourth (25.0%) of the visitors who indicated some degree of crowding answered this open-ended question. Table 6 lists the locations where visitors felt crowded at MSP. Of those who reported feeling crowded, the majority (41.7%) felt crowded at the river accesses and boat ramps. Twenty-five percent (25.0%) felt crowded in the picnic areas.

**Table 6. Locations Where MSP Visitors Felt Crowded During Their Visit**

Location	Frequency	Percent
River accesses/boat ramps	5	41.7%
Picnic areas	3	25.0%
Campground	2	16.7%
Entrance to MSP/parking lot at Visitor Center	2	16.7%
Total	12	100.0%

A significant difference (p<.01) was found in visitors' perceptions of crowding between campers and non-

campers. Campers had a significantly higher mean crowded score (1.78) than had non-campers (1.25). No significant differences were found in visitors' perceptions of crowding between first time and repeat visitors and between weekend and weekday visitors.

***Crowding and satisfaction***

A significant difference (p<.05) was found in visitors' mean overall satisfaction with their visit and whether they felt some degree of crowding or not. Visitors who did not feel crowded had a mean overall satisfaction score of 3.87, whereas visitors who felt some degree of crowding had a mean overall satisfaction score of 3.73.

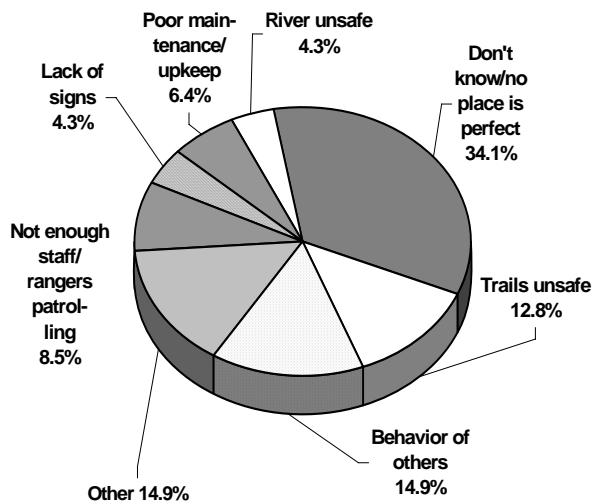
**SAFETY CONCERNS OF VISITORS**

One-fourth (26.7%) of visitors did not rate the park as excellent for safety, with only 0.3% giving MSP a poor rating, 3.4% giving the park a fair rating, and 23.0% giving it a good rating on being safe. Of these, 47.9% noted what influenced their rating. Their comments were grouped into categories and are shown in Figure 6. Appendix F provides a list of the comments.

The majority (34.1%) of the responses was either responses from visitors who did not have any reason for not rating the park excellent on being safe or responses

reflecting the belief that no place is perfect and there is always room for improvement. Fifteen percent (14.9%) of visitors commented on the behavior of others, 12.8% were concerned with trail conditions, and 8.5% felt there was a lack of staff or rangers patrolling the park. Fifteen percent (14.9%) of the comments fell into an “other” category, and the rest (15%) included comments about river conditions, lack of signage, and poor maintenance or upkeep.

**Figure 6. Comments from Visitors Not Rating MSP Excellent on Safety**



There were no significant differences in the rating of safety by first-time visitors versus repeat visitors, by campers versus non-campers, by weekend versus weekday users, and by socio-demographic characteristics of visitors.

To determine if there were differences in perceptions of crowding, satisfaction with park features, rating of park attributes, and overall satisfaction, responses were divided into two groups

based on how they rated MSP on being safe. Group 1 included those who rated the park excellent, and Group 2 included those who rated the park as good.

A significant difference ( $p < .01$ ) was found between the two groups and their perceptions of crowding. The mean crowded score for Group 1 was 1.21, and the mean crowded score for Group 2 was 1.57, indicating that those who rated the park as excellent on being safe also felt less crowded. Group 1 also had significantly higher ( $p < .001$ ) satisfaction ratings of all five park features, had significantly higher ( $p < .001$ ) ratings of all seven park attributes, and had a significantly higher ( $p < .001$ ) overall satisfaction.

**ADDITIONAL VISITOR COMMENTS**

Respondents to the survey were also given the opportunity to write any additional comments or suggestions on how DNR could make their experience at MSP a better one (question 22). Over one-fourth (28.0%) of the total survey participants responded to this question, with 108 responses given by 96 respondents. The comments and suggestions were listed and grouped by similarities into 12 categories for frequency and percentage calculations. The list of comments and suggestions is found in Appendix G. Table 7 lists the frequencies and percentages of the comments and suggestions by category.

Almost half (46.3%) of the comments were positive comments, including such comments as: “Best park in the state,” “Great park,” and “Keep up the good work.” The rest (53.7%) of the comments were categorized based on similar suggestions or complaints, such as suggestions and complaints about the

campgrounds, complaints or suggestions about signage or interpretive information, or an “other” category for suggestions and complaints not fitting into any other category.

**VISITATION ESTIMATES**

From the observation data, it was determined that the average number of visitors per visitor vehicle was 2.05. Because some visitor vehicles were vehicles with trailers and because the traffic counter at MSP counts vehicles by axle, the number of visitors per axle was calculated to determine a more accurate estimate of visitation. The percentage of park related vehicles was also calculated.

The average number of axles per visitor vehicle (VV) was 2.01. The average number of axles per park related vehicle (PRV) was 2.05. The percentage of PRV axles was 17.6% of all vehicles, and was determined by dividing the total number of PRV axles (242) by the sum of PRV axles and VV axles (1,376).

The number of visitors per axle was 1.02, and was calculated by dividing the number of visitors per VV (2.05) by the number of axles per VV (2.01). This number can be used to estimate attendance at MSP, by multiplying it by the total number of axles crossing the traffic counter minus the 17.6% PRV.

**Table 7. Frequency and Percentage of Comments and Suggestions from MSP Visitors**

Category	Frequency	Percent
1. General positive comments	50	46.3%
2. Suggestions/complaints about campground	6	5.6%
3. Better/more river accesses	5	4.6%
4. Suggestions/complaints about restrooms	5	4.6%
5. Better maintenance/upkeep of park and facilities	4	3.7%
6. Suggestions/complaints about trails	4	3.7%
7. Better/more signage or interpretive information	3	2.8%
8. Complaints/suggestions about visitor center	2	1.9%
9. Need additional trash cans	2	1.9%
10. Suggestions/complaints about cabins	2	1.9%
11. More staff/rangers patrolling park and river	1	0.9%
12. Other	24	22.2%
Total	108	100.0%

## Discussion

### MANAGEMENT IMPLICATIONS

The results of this study provide relevant information concerning MSP visitors. However, the results should be interpreted with caution. The surveys were collected only during the off-season months of November, December, January, and February; therefore, visitors who visit during other seasons of the year are not represented in the study's sample. The results, however, are still very useful to park managers and planners, particularly for comparison with results from the visitor survey conducted at MSP during the summer of 1997 (Fink, 1997).

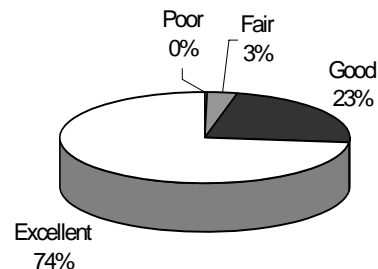
Over 86% of MSP visitors reported that they were very satisfied with their visit to the park. Williams (1989) states that visitor satisfaction with previous visits is a key component of repeat visitation. The high percentage of repeat visitation (85%) combined with their positive comments provide evidence that MSP visitors are indeed satisfied with their park experience. Almost half (46%) of the visitors who gave comments or suggestions provided positive comments concerning MSP and its staff.

Although only one-fourth (27%) of visitors did not report an excellent rating of the park as being safe, management should not dismiss their safety concerns. While the majority (34%) of visitors with safety concerns either did not have a reason for not rating MSP excellent on being safe, or felt that no place could be perfectly safe, a large percentage (23%) of visitors felt that there was a lack of staff or rangers patrolling the park to

monitor behavior of other visitors. Another 23% of safety comments were directed at unsafe facilities and poor maintenance, including unsafe trail and river conditions. To address the safety concerns of MSP visitors, one solution would be posting signs cautioning visitors of trail difficulty and river conditions. Maintenance schedules of park facilities might need to be reviewed. Another solution would be a greater park personnel presence, which could be accomplished by increasing ranger patrols.

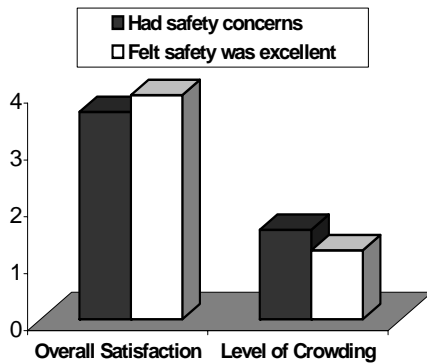
To put the issue of park safety into perspective, 73% rated the park as excellent, 23% rated the park as good, and less than 4% rated the park fair or poor on safety (Figure 7). Visitor comments indicate that safety is largely a perceptual issue. Those with safety concerns also felt less satisfied and more crowded than those who rated safety as excellent (Figure 8). Additional research could focus on the effectiveness of approaches that address visitor safety perceptions (e.g., personnel uniform policies, regularly scheduled patrols, or increased signage).

**Figure 7. Safety ratings of MSP.**





**Figure 8. Levels of Satisfaction Ratings & Crowding by Safety Concerns**



Although crowding was not an issue identified by the majority of MSP visitors, 13% of visitors expressed some degree of crowding. Crowding is a perceptual construct not always explained by the number or density of other visitors. Expectations of visitor numbers and the behavior of other visitors also play a significant role in crowding perceptions. Interestingly, over half of the visitors to MSP indicated that they visited during the off-season because there were fewer people in the park.

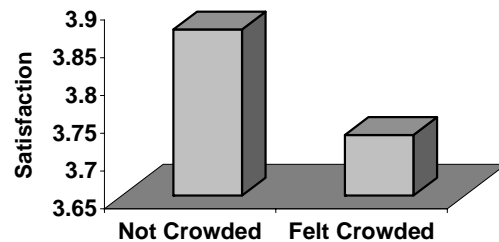
MSP visitors who felt crowded had significantly lower satisfaction ratings than visitors who did not feel crowded (Figure 9). Campers also felt significantly more crowded than non-campers.

As perceptions of crowding are inversely related to overall satisfaction, park managers should address the issue of crowding. One option is to review comments relating to crowding and consider options that would reduce crowding perceptions. For example, most comments listed the boat ramps

and river accesses as where visitors felt most crowded. Further study could determine if crowding perceptions here are due to the number of people or perhaps the behavior of those at these areas.

Visitors felt that clean restrooms, being free of litter and trash, and upkeep of park facilities were very important but rated MSP's lower on these attributes. Repeat visitors rated the restrooms lower (3.43) than first-time visitors (3.82), and campers also rated the restrooms lower (3.0) than non-campers (3.49). The lower ratings given to MSP's restrooms may be due in part to the fact that the water in the campgrounds is turned off from November 1 to April 1. The only available restrooms in the park are pit toilets and the restrooms inside the visitor center, a condition commented on by several visitors. The other findings suggest more time could be spent maintaining the park's other facilities and perhaps returning trash cans to several of the day-use areas.

**Figure 9. Overall Satisfaction is Lower For Those Who Felt More Crowded**



The results of the present study suggest some important management and planning considerations for MSP. Even though MSP visitors rated their visits

and the park features relatively high, attention to safety and facility maintenance can positively effect these ratings.

Just as important, on-going monitoring of the effects of management changes will provide immediate feedback into the effectiveness of these changes. On-site surveys provide a cost effective and timely vehicle with which to measure management effectiveness and uncover potential problems.

### **RESEARCH RECOMMENDATIONS**

The results of the present study serve as baseline visitor information of MSP. The frequency and percentage calculations of survey responses provide useful information concerning socio-demographic characteristics, use patterns, and satisfaction of MSP visitors. In addition, the “sub-analysis” of data is important in identifying implications for management of MSP. (The sub-analysis in the present study included comparisons using Chi-square and ANOVA between selected groups and the Importance-Performance analysis.) Additional relevant information may be determined from further sub-analysis of existing data. Therefore, it is recommended additional sub-analysis be conducted to provide even greater insight to management of the park.

Additional visitor surveys at MSP should also be conducted on a regular basis (e.g., every three, four, or five years). Future MSP studies can identify changes and trends in socio-demographic characteristics, use patterns, and visitors’ satisfaction at MSP.

The methodology used in this study serves as a standard survey procedure that the DSP can use in the future. Other Missouri state parks should be surveyed similarly to provide valid results for comparisons of visitor information between parks, or to measure change over time in other parks.

The present study was conducted only during the off-season. An earlier study of MSP visitors was conducted during the peak season of 1997. Therefore, it is recommended that a comparison of the results of the two studies be conducted to determine if differences between peak and off-season visitors exist and, if so, identify the management implications of such differences.

### **METHODOLOGY RECOMMENDATIONS AND CONSIDERATIONS FOR OTHER PARKS**

The on-site questionnaire and the methodology of this study were designed to be applicable to other Missouri state parks.

#### ***Survey Signage***

It is recommended that adequate signage be utilized when collecting surveys on-site. A “Visitor Survey” sign was used in the present study to inform visitors exiting the park that a survey was being conducted. Having the sign for that purpose aided in the workability of the methodology, as many visitors slowed their vehicles and some stopped before being asked to do so. However, the “survey station” became an “information station” when visitors arriving at the park saw the surveyor with clipboards and surveys. Having an assistant to help answer visitors’ questions and to pass out surveys would be helpful.

### ***Survey administration***

The prize package drawing and the one-page questionnaire undoubtedly helped attain the response rate in the present study. For this reason it is recommended that any future surveys of MSP visitors continue to be conducted through one-page questionnaires, and that the practice of offering incentives also be continued.

Achieving the highest possible response rate (within the financial restraints) should be a goal of any study. To achieve higher response rates, the following comments are provided.

The most frequent reason that visitors declined to participate in the survey was because they did not have enough time. It is recommended for future surveys that self-addressed stamped envelopes be available to offer to visitors only if they do not volunteer to fill out the survey on-site. This technique may provide higher response rates in future surveys, with minimal additional expense.

One caution, however, is to always attempt to have visitors complete the survey on-site, and to only use the mail-back approach when it is certain visitors would otherwise be a non-respondent.

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**Appendix A. Meramec State Park User Survey**

## MERAMEC STATE PARK

The Missouri Department of Natural Resources is seeking your evaluation of Meramec State Park. This survey is voluntary and completely anonymous. Your cooperation is important in helping us make decisions about managing this park. Thank you for your time.

**1. Is this your first visit to Meramec State Park?** *(Check only one box.)*

yes     no    **If no, how many times have you visited this park in the past year?** \_\_\_\_\_

**2. If this is not your first visit to Meramec State Park, during which of the following seasons do you visit?** *(Check all that apply.)*

spring     summer     fall     winter

**3. During this visit to the park, are you staying overnight?**

yes    **If yes, how many nights are you staying at or near the park during this visit?** \_\_\_\_\_  
 no    *(If no, skip to question 5.)*

**4. If staying overnight, where are you staying?** *(Check only one box.)*

campground in Meramec State Park     nearby campground  
 nearby lodging facilities     friends/relatives  
 other *(Please specify.)* \_\_\_\_\_

**5. With whom are you visiting the park?** *(Check only one box.)*

alone     family and friends     club or organized group  
 family     friends     other *(Please specify.)*  
\_\_\_\_\_

**6. What attracts you to visiting Meramec State Park during the fall and**

**winter?** *(Check all that apply.)*

fewer people in the park  
 more campsite availability  
 seasonal activities specific to fall and winter  
 other *(Please specify.)* \_\_\_\_\_

**7. Which recreational activities have you engaged in during this park visit?** *(Check all that apply.)*

biking     picnicking     attending special event  
 boating     backpacking     going on guided nature hike  
 camping     rafting/canoeing     viewing visitor center exhibits  
 fishing     studying nature     exploring wild caves  
 hiking     viewing wildlife     attending amphitheater program  
 other *(Please specify.)* \_\_\_\_\_

**8. How satisfied are you with each of the following in Meramec State Park?** *(Check one box for each feature.)*

	Very Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Very Dissatisfied	Don't Know
a. campground	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. park signs		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. picnic area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. river access areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. trails	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**9. How do you rate Meramec State Park on each of the following?** *(Check one box for each feature.)*

	Excellent	Good	Fair	Poor	Don't Know
a. being free of litter/trash	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. having clean restrooms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. upkeep of park facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. having a helpful & friendly staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. access for persons with disabilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. care of natural resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. being safe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**PLEASE TURN SURVEY OVER.**

**MERAMEC STATE PARK**

**10. If you did not rate this park as excellent on being safe, what influenced your rating?**

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**11. When visiting any state park, how important are each of these items to you? (Check one box for each feature.)**

	Very Important	Somewhat Important	Somewhat Unimportant	Very Unimportant	Don't Know
a. being free of litter/trash	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. having clean restrooms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. upkeep of park facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. having a helpful & friendly staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. access for persons with disabilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. care of natural resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. being safe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**12. Overall, how satisfied are you with this visit to Meramec State Park? (Check only one box.)**

Very Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Very Dissatisfied
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**13. During this visit, how crowded did you feel? (Circle one number.)**

1	2	3	4	5	6	7	8	9
Not at all Crowded		Slightly Crowded			Moderately Crowded			Extremely Crowded

**14. If you felt crowded on this visit, where did you feel crowded?**

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**15. What is your age?** \_\_\_\_\_ **16. Gender?**  female  male

**17. What is the highest level of education you have completed? (Check only one box.)**

<input type="checkbox"/> grade school	<input type="checkbox"/> vocational school	<input type="checkbox"/> graduate of 4-year college
<input type="checkbox"/> high school	<input type="checkbox"/> some college	<input type="checkbox"/> post-graduate education

**18. What is your ethnic origin? (Check only one box.)**

<input type="checkbox"/> Asian	<input type="checkbox"/> African American	<input type="checkbox"/> Native American/American Indian
<input type="checkbox"/> Hispanic	<input type="checkbox"/> Caucasian/White	<input type="checkbox"/> Other (Please specify.)

**19. Do you have a disability that substantially limits one or more life activities or might require special accommodations?**

<input type="checkbox"/> yes	<b>If yes, what disability or disabilities do you have?</b>
<input type="checkbox"/> no	_____

**20. What is your 5-digit zip code (or country of residence, if you live outside the U.S.)?** \_\_\_\_\_

**21. What is your annual household income?**

<input type="checkbox"/> less than \$25,000	<input type="checkbox"/> \$50,001 - \$75,000
<input type="checkbox"/> \$25,000 - \$50,000	<input type="checkbox"/> over \$75,000

**22. Please write any additional comments about your park visit or suggestions on how the Missouri Department of Natural Resources can make your experience in Meramec State Park a better one.**

**THANK YOU FOR YOUR HELP.  
YOU ARE ALWAYS WELCOME IN MISSOURI STATE PARKS.**

**Appendix B. Survey Protocol**



## Protocol for Meramec State Park User Survey

Hi, my name is \_\_\_\_\_, and I am conducting a survey of park visitors for Missouri state parks. The information that I am collecting will be useful for future management of Meramec State Park.

The survey is one page, front and back side, and only takes about 3-5 minutes to complete. Anyone who is 18 or older may complete the survey, and by completing the survey, you have the opportunity to enter your name in a drawing for a prize package of \$50 worth of concession coupons. Your participation is voluntary, and your responses will be completely anonymous.

Your input is very important to the management of Meramec State Park. Would you be willing to help by participating in the survey?

[If no,] Thank you for your time. Have a nice day.

[If yes,]

Here is a pencil and clipboard with the survey attached (for each respondent). Please complete the survey on both sides. When finished, return the survey(s), clipboard(s), pencils, and prize entry form(s) to me.

Thank you for taking time to complete the survey. Your help is greatly appreciated. Have a nice day.

**Appendix C. Prize Entry Form**

**WIN A PRIZE PACKAGE OF CONCESSION COUPONS  
WORTH \$50**

**Enter a drawing to win \$50 worth of gift certificates! These certificates are good for any concessions at any state park or historic site. Concessions include cabin rentals, canoe rentals, boat rentals, restaurant dining, horseback riding, etc.**

**You may enter the drawing by simply filling out the back of this entry form and returning it to the surveyor. Your name, address, and telephone number will be used only for this drawing; thus, your survey responses will be anonymous. The drawing will be held March 1, 1999. Winners will be notified by telephone or mail. Redemption of gift certificates is based on dates of availability through August 31, 1999.**

**Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

\_\_\_\_\_

**Phone #:** (      ) \_\_\_\_\_

**Appendix D. Observation Survey**

Date \_\_\_\_\_ Day of Week \_\_\_\_\_ Time Slot \_\_\_\_\_  
 Weather \_\_\_\_\_ Temperature \_\_\_\_\_ Park/Site \_\_\_\_\_

	Survey #'s	# of Adults	# of Children	Vehicle Type	Additional Axles	# of Visits Today
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

**Time Slot Codes:**

Time Slot 1 = 8:00 - 12:30 p.m.

Time Slot 2 = 12:30 - 5:00 p.m.

**Appendix E. Responses to Survey Questions**

## Meramec State Park Visitor Survey

### 1. Is this your first visit to Meramec State Park? (n=385)

yes	14.8%
no	85.2%

### If no, how many times have you visited this park in the past year? (n=229)

*The responses from this open-ended question were grouped into the following 10 categories:*

0	3.9%
1-2	16.2%
3-5	20.1%
6-10	15.6%
11-20	13.5%
21-30	8.2%
31-40	0.8%
50-100	15.4%
101-200	4.3%
201-300	1.8%

The average # of times repeat visitors visited the park in the past year was 28.2 times.

### 2. If this is not your first visit to Meramec State Park, during which of the following seasons do you visit? (n=386)

spring	68.1%
summer	73.8%
fall	74.6%
winter	58.0%

### 3. During this visit to the park, are you staying overnight? (n=375)

yes	9.9%
no	901.7%

### If yes, how many nights are you staying overnight at or near the park during this visit? (n=32)

*The responses from this open-ended question were grouped into the following 4 categories:*

1	40.6%
2	46.9%
3-15	12.5%

The average # of nights respondents visiting the park for more than one day stayed was 2.6.

**4. If staying overnight, where are you staying? (n=69)**

campground in Meramec State Park	71.8%
nearby lodging facilities	15.8%
friends/relatives	2.6%
other	10.3%

**5. With whom are you visiting the park? (n=386)**

alone	20.9%	family & friends	15.5%	club or organized group	6.9%
family	40.9%	friends	14.3%	other	1.5%

**6. What attracts you to visiting Meramec State Park during the fall and winter? (n=386)**

Fewer people

**7. Which recreational activities have you engaged in during this park visit? (n=305)**

biking	5.7%	picnicking	32.6%	attending special event	3.9%
boating	16.3%	backpacking	5.4%	going on guided nature hike	1.8%
camping	15.8%	rafting/canoeing	13.5%	viewing visitor center exhibits	21.2%
fishing	21.2%	studying nature	31.6%	exploring wild caves	19.7%
hiking	40.2%	viewing wildlife	58.8%	attending amphitheater program	2.8%
other	11.4%				

*In addition to percentages of responses, a mean score was calculated for each feature in questions 8, 9, 11, and 12. The score is based on a 4.0 scale with 4 = very satisfied, 3 = somewhat satisfied, 2 = somewhat dissatisfied, and 1 = very dissatisfied (Q. 8 & 12); 4 = excellent, 3 = good, 2 = fair, and 1 = poor (Q. 9); and 4 = very important, 3 = somewhat important, 2 = somewhat unimportant, and 1 = very unimportant (Q. 11). The mean score is listed in parenthesis following each feature.*

**8. How satisfied are you with each of the following in Meramec State Park?**

	Very Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Very Dissatisfied	
a. campground (3.76)	78.9%	18.8%	2.0%	0.4%	n=256
b. park signs (3.79)	81.6%	16.9%	0.3%	1.2%	n=331
c. picnic areas (3.76)	79.6%	17.9%	1.3%	1.3%	n=319
d. river access areas (3.65)	73.1%	20.6%	4.4%	1.9%	n=316
e. trails (3.77)	79.6%	18.4%	1.7%	0.3%	n=294

**9. How do you rate Meramec State Park on each of the following?**

	Excellent	Good	Fair	Poor	
a. being free of litter/trash (3.64)	68.6%	27.9%	2.4%	1.1%	n=376
b. having clean restrooms (3.47)	58.1%	32.0%	8.7%	1.2%	n=322
c. upkeep of park facilities (3.58)	64.3%	30.1%	4.7%	0.8%	n=359
d. having a helpful/friendly staff (3.71)	74.6%	21.7%	3.7%	0.0%	n=350
e. access for disabled persons (3.63)	67.0%	28.9%	3.7%	0.4%	n=270
f. care of natural resources (3.67)	71.3%	24.9%	3.2%	0.6%	n=345
g. being safe (3.69)	73.3%	23.0%	3.4%	0.3%	n=352



**10. If you did not rate this park as excellent on being safe, what influenced your rating?**

45 visitors (47.9% of those who did not rate the park as excellent on being safe) responded to this question with 47 responses. The 47 responses were divided into 8 categories. Frequencies and percentages of responses in each category are listed.

	<u>Frequency</u>	<u>Percent</u>
1. Don't know/no reason/no place is perfect	16	34.1%
2. Behavior of others	7	14.9%
3. Unsafe trail conditions	6	12.8%
4. Not enough park staff/rangers patrolling	4	8.5%
5. Poor maintenance/upkeep	3	6.4%
6. Lack of signage	2	4.3%
7. Dangerous river conditions	2	4.3%
8. Other	<u>7</u>	<u>14.9%</u>
Total	47	100%

**11. When visiting any state park, how important are each of these items to you?**

	Very Important	Somewhat Important	Somewhat Unimportant	Very Unimportant	
a. being free of litter/trash (3.94)	93.9%	6.1%	0.0%	0.0%	n=375
b. having clean restrooms (3.87)	87.4%	11.8%	0.8%	0.0%	n=372
c. upkeep of park facilities (3.88)	88.3%	10.9%	0.8%	0.0%	n=368
d. having helpful/friendly staff (3.75)	77.8%	19.7%	2.5%	0.0%	n=365
e. access for disabled persons (3.65)	73.0%	20.8%	4.7%	1.6%	n=322
f. care of natural resources (3.92)	93.6%	5.3%	0.8%	0.3%	n=360
g. being safe (3.85)	87.4%	10.4%	1.6%	0.5%	n=365

**12. Overall, how satisfied are you with this visit to Meramec State Park?**

	Very Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Very Dissatisfied	
(Mean score = 3.85)	86.4%	12.0%	1.3%	0.3%	n=376

**13. During this visit, how crowded did you feel? (n=375)**

On a scale of 1-9, with 1 = Not at all crowded and 9 = Extremely crowded, the mean response was 1.29.

**14. If you felt crowded on this visit, where did you feel crowded?**

A total of 12 responses were given by 12 visitors. The 12 responses were divided into 4 categories. Frequencies and percentages of responses in each category are listed.

	<u>Frequency</u>	<u>Percent</u>
river access/boat ramps	5	41.7%
picnic areas	3	25.0%
campground	2	16.7%
entrance to park/parking lot at visitor center	<u>2</u>	<u>16.7%</u>
Total	12	100%

**15. What is your age?** (n=369)

*Responses were divided into the following 4 categories:*

18-34 36.9%

35-54 38.2%

55-65 11.3%

65+ 13.6%

(Average age = 42.5)

**16. Gender?** (n=368)

Female 44.3%

Male 55.7%

**17. What is the highest level of education you have completed?** (n=377)

grade school	6.6%	vocational school	3.7%	graduate of 4-year college	11.9%
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high school	39.3%	some college	29.4%	post-graduate education	9.0%
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**18. What is your ethnic origin?** (n=291)

Asian	0.8%	African American	0.5%	Native American/American Indian	2.2%
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Hispanic	0.3%	Caucasian/White	94.6%	Other	1.6%
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**19. Do you have a disability that substantially limits one or more life activities or might require special accommodations?** (n=291)

yes 5.2%

no 94.8%

**If yes, what disability or disabilities do you have?** (n=13)

*The following is a list of all responses to this open-ended question.*

Ankle was injured and limits ability for long hikes or walks. Sometimes locks up and won't walk.

Arthritis.

Can't walk very far.

Cerebral palsy.

Child with disability.

Heart, diabetes.

Heart.

Need help walking.

No use of arm or leg.

Parkinson's disease, rheumatic arthritis.

Polio.

Replacement knee.

Wheelchair.

**20. What is your 5-digit zip code (or country of residence, if you live outside the U.S.)? (n=356)**

*The states with the highest percentages of respondents were:*

Missouri 94.7%

Illinois 1.7%

**21. What is your annual household income? (n=341)**

less than \$25,000 29.9%                      \$50,001 - \$75,000 18.5%

\$25,000 - \$50,000 39.9%                      over \$75,000 11.7%

**22. Please write any additional comments about your park visit or suggestions on how the Missouri Department of Natural Resources can make your experience in Meramec State Park a better one.**

*96 of the 386 visitors (28.0%) responded to this question. A total of 108 responses were given, and were divided into 12 categories. Frequencies and percentages of responses in each category are listed.*

	<u>Frequency</u>	<u>Percent</u>
1. General positive comments	50	46.3%
2. Complaints/suggestions about campground	6	5.6%
3. Complaints/suggestions about restrooms	5	4.6%
4. Better/more river access	5	4.6%
5. Better maintenance/upkeep	4	3.7%
6. Suggestions/complaints about trails	4	3.7%
7. Better/more signage	3	2.8%
8. Provide more trash cans	2	1.9%
9. Suggestions/complaints about cabins	2	1.9%
10. Suggestions/complaints about visitor center	2	1.9%
11. More staff/rangers patrolling	1	0.9%
12. Other	<u>24</u>	<u>22.2%</u>
Total	108	100%

**Appendix F. List of Responses for Safety Concerns (Q 10)**

### **Responses to Question #10**

**If you did not rate this park as excellent on being safe (Question 9, letter g.), what influenced your rating?**

#### **Don't know/no reason/no place is perfect**

- Any time you have groups of people you can never be totally safe.
- Being safe is excellent nowhere!!
- Don't know.
- Excellence is unattainable in a wild environment.
- Haven't been here long enough to know.
- I don't know what would be unsafe.
- I usually only canoe.
- Inherent dangers from trails and river.
- It's hard to get excellent when you have so many people visit.
- No knowledge either way.
- Not considered.
- Not enough experience and time spent here.
- Nothing is completely safe. Water running anywhere is dangerous.
- Nothing is ever completely safe anywhere you are.
- Only spent one night -- not adequate time to judge.
- This is first visit for me.
- Unfamiliar with park.

#### **Behavior of others**

- People driving over the speed limit and following too close.
- People jumping into river (off cliffs and bridges).
- Run into reckless drivers sometimes.
- Some of the campers I've seen look pretty rough.
- Some of the people you experience in the park.
- Some of the people you experience in the park.
- Speeding.

#### **Unsafe trail conditions**

- Downed trees on trail (Bluff view).
- Glass on hiking trails, fish carcass (bones) with hooks, glass on road several trips.
- High cliff and river.
- Hiking trails in fall, not easy to see.
- The rocks.
- There is always a chance for someone to get hurt hiking.

**Lack of staff/rangers patrolling the park**

- Lack of water patrol.
- Lack of water patrol.
- Need more employees available in park.
- Not many security patrols.

**Poor maintenance/upkeep of park facilities**

- Debris on road.
- Playground (past experience with broken glass on playground area).
- Trash.

**Lack of signage**

- Need signage for trails, sites, stating possible hazards.
- No signs specifying deepness of water.

**Dangerous river conditions**

- High cliff and river.
- Nothing is completely safe. Water running anywhere is dangerous.

**Other**

- Accidents on 185.
- Blind spots around some corners.
- I have seen better.
- Isolated areas.
- It's dark.
- Rumors.
- Some of the turns were sharp, with no warning.

**Appendix G. List of Responses for Additional Comments (Q 22)**

**Responses to Question #22**

**Please write any additional comments about your park visit or suggestions on how the Missouri Department of Natural Resources can make your experience in Meramec State Park a better one.**

**General positive comments**

- Best park in the state.
- Coffee available nearby. Really nice place to visit.
- Could not find an open restroom in the camping area. Maybe the closed restrooms could post a sign directing users to open facilities. Beautiful trees!
- Everything was so great. I enjoyed and took good pictures of this park. Thanks.
- Excellent visitor center.
- Good job.
- Great place to visit.
- Great visitor center.
- Hike extensively all trails in park. Keep up the good work on trails and cleaning the glade areas.
- I have come to this park since I was very small. We practically grew up here. The whole family's into nature.
- I just moved to the area and really enjoy hiking/running the trails here. Thanks.
- I live close to the park and I always bring my kids down here to see deer, in which there are a lot.
- I love all Missouri state parks.
- I love this place!
- I love to look at the deer and just drive in area, so please open up the roads.
- I'm a local, I have been visiting this park all my life. It is well taken care of and I love it.
- I'm pleased with the park and enjoy visiting it often. I lived near area and like visiting.
- It's always a pleasant visit.
- It's good!
- It's great!!
- Keep up good work.
- Lodge restaurant buffets are nice.
- More beach areas. I have been coming to this park since I was a baby -- have always enjoyed my visits.
- Nice!
- Nothing. The park is perfect.
- One of the nicest state parks I have visited in many states throughout the U.S.
- Park is a nice place to get away from work during the lunch hour!
- Really loved the park. Troop 15.
- So far, we haven't been in the park yet. It seems like a nice facility so far though.
- Thanks!
- Thanks.
- Thanks. Good doughnuts.
- The park is always so quiet and clean.
- The park seems to be kept well maintained.
- The visitor center was extremely nice and educational.



- This park is extremely beautiful and pleasant to visit.
- This park is safe and wonderful to visit. I'd like to see a lot more black bears in Missouri.
- This was just a drive-through, off-season, first time visit. We will definitely return next spring or summer.
- Very excellent visitors center, clean restrooms in center. No park entry fee.
- Very good sightseeing. I want to try the fishing.
- Very good.
- Very nice!
- We come to see deer at the park.
- We enjoy the lodge restaurant when it is open -- especially the buffets.
- We enjoyed our visit.
- We had a lovely visit. Thanks!
- We had a very nice visit with our family. We plan to come back during different seasons. I would like to work here.
- We hope to visit this park year-round now that we live close by.
- We think it's a great park and we love it.
- We'll be back.

#### **Complaints/suggestions about campground**

- Need more full hook-ups.
- Park needs more full hook-ups.
- Remote campsites. Cabins open until December 1.
- Resurface camping spots.
- The campsites all need resurfacing.
- Would like to see more camping with water and electric.

#### **Better/more river accesses**

- Cut weeds, give better walkway to river.
- Make river more wheelchair accessible.
- More beach areas. I have been coming to this park since I was a baby -- have always enjoyed my visits.
- Need rails on some steps. Closer access to river for parking.
- Need to have a better canoe put in and take out in the summer when float trips are running if you can't use the commercial put in.

#### **Complaints/suggestions about restrooms**

- Could not find an open restroom in the camping area. Maybe the closed restrooms could post a sign directing users to open facilities. Beautiful trees!
- I think there should be bathrooms on this trail.

- Need to have full service restrooms with running water open in winter for the lunch crowd.
- No water on this trip, need some place to get water. Outhouse needed chemical added or else pumped out.
- We were surprised that no restrooms were open when campsites were still being rented. Otherwise a nice stay.

### **Suggestions/complaints about trails**

- I haven't walked trails but, learning center along trail walk. Information on natural happenings along trails: trees, rock formations, plants, etc. and their uses to the environment and how we can protect them.
- I think there should be bathrooms on this trail.
- I would like access for mountain biking on the trails. I am responsible. I would be eternally grateful for single-track trail to ride my bike on.
- Need bike trails....paved or unpaved.

### **Better maintenance/upkeep**

- Clean up the trash. Take care of the wild dogs.
- Cut weeds, give better walkway to river.
- During the winter I think the gate to the hotel should be open so people can view the outlook spot. The park being free of litter and trash is poor during the summer down by the boat ramp.
- Leave other local sites open to the locals, they are now trashed. When we upkeep them, they were clean.

### **Better/more signage**

- I haven't walked trails but, learning center along trail walk. Information on natural happenings along trails: trees, rock formations, plants, etc. and their uses to the environment and how we can protect them.
- I haven't walked trails but, learning center along trail walk. Information on natural happenings along trails: trees, rock formations, plants, etc. and their uses to the environment and how we can protect them.
- Mark trail better. I got kinda lost on one trail and had to take road back to car.

### **Complaints/suggestions about cabins**

- Cabins should be open in the middle and more accessible to wheelchairs.
- Have some cottages open in winter time.

**Complaints/suggestions about visitor center**

- Bring more to the visitor center.
- More wildlife displays at center.

**Provide trash cans**

- Please, put back all the smaller trash cans by the picnic area so I myself and the elderly don't have to walk as far. Thank you.
- Please, return the individual trash cans to the picnic area. It would decrease litter two-fold.

**More staff/rangers patrolling**

- More water patrol over holiday weekends.

**Other**

- A yearly scrapbook of events, nature, and wildlife, to be kept in the visitors' center.
- Advertise its beauty and accommodations.
- All facilities were closed due to rain.
- Clean up the trash. Take care of the wild dogs.
- Coffee available nearby. Really nice place to visit.
- During the winter I think the gate to the hotel should be open so people can view the outlook spot. The park being free of litter and trash is poor during the summer down by the boat ramp.
- Fisher Cave and other areas were closed.
- For children -- a new net for basketball goal.
- Go back to drinking at picnic tables.
- I love to look at the deer and just drive in area, so please open up the roads.
- I would like access to Hamilton Cave during at least part of the year.
- I would like to see Cain Botton open all year and at night. I would like to be able to use Hamilton Cave at the appropriate time of the year
- I'm not aware of any scenic overlook points. I think that would be nice to have, especially with viewing equipment at these points (view finders, telescopes, etc.).
- Keep it natural.
- More wild bears.
- Need rails on some steps. Closer access to river for parking.
- Paintball area.
- Park needs to have something for winter.
- Please provide us wintery facilities.
- The litter along the highway coming down to the park was NOT attractive. Perhaps some signs saying "no littering" or a fine for littering would help!
- This park is safe and wonderful to visit. I'd like to see a lot more black bears in

Missouri.

- Too many canoes.
- We live in Sullivan and visit mainly to walk.
- We visited second time in fall just to picnic and hike. In summer we just looked around on the way to Woodlands where we have a lake lot.