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1999 Pershing State Park 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 visitors' socio-demographic characteristics, patterns of use, and satisfaction with park facilities, programs and services at Pershing State Park (PSP).

An on-site survey of adult visitors to PSP was conducted June, July, August, and September 1999. One hundred thirty (130) surveys were collected, with an overall response rate of 97%. Results of the survey have a margin of error of plus or minus 9%. The following information summarizes the results of the study.

Socio-demographic Characteristics

- PSP visitors were comprised almost equally of females (56%) and males (44%), and the average age of the adult visitor to PSP was 44.
- About 40% of the visitors reported a household income of between \$25,000 and \$50,000, and over two-fifths (44%) reported having completed grade school or high school as the highest level of education completed.
- The majority (95%) of visitors was Caucasian. Almost two percent (1.6%) were African American and 2% reported being Native American. Less than 1% reported being of Hispanic ethnic origin.
- Six percent (6%) of the visitors reported having a disability.

- Eighty-four percent (84%) of the visitors were from Missouri, 8% were from Illinois, and almost 3% were from Nebraska.
- Over half (55%) of the visitors lived within 50 miles of PSP.

Use-Patterns

- The majority (76%) of visitors drove less than a day's drive (less than 150 miles) to visit PSP. Of those driving 150 miles or less, 58% lived within 25 miles of the park. Within Missouri, 43% of the visitors came from the immediate vicinity (within 15 miles) of the park.
- Two-thirds (65%) of PSP visitors had visited the park before.
- PSP visitors had visited the park an average of about 9 times in the past year.
- Over half (58%) of the visitors were day-users. Of the visitors staying overnight, 100% stayed in the campground at PSP. The average number of nights overnight visitors stayed was 2.6 nights.
- The majority of PSP visitors visited the park with family and/or friends.
- The most frequent recreation activities in which visitors participated were walking, walking the boardwalk trail, picnicking, camping, viewing wildlife, visiting the Locust Creek Covered

Bridge Historic Site, fishing, hiking, and swimming.

Satisfaction and Other Measures

- One hundred percent (100%) of PSP visitors were either satisfied or very satisfied overall.
- Of the seven park features, the boardwalk trail was given the highest satisfaction rating and the swimming area was given the lowest satisfaction rating.
- Visitors gave higher performance ratings to the park being free of litter and trash, upkeep of park facilities, having clean restrooms, and being safe.
- Visitors gave a lower performance rating to the care of the natural resources at the park.
- Less than one-fourth (24%) of the visitors to PSP felt some degree of crowding during their visit. Of those who felt crowded, the swimming and picnic areas were where most felt crowded.
- Visitors who did not feel crowded had a significantly higher overall satisfaction compared to visitors who did feel crowded.
- One-third (35%) of the visitors at PSP did not give park safety an excellent rating.
- Of those visitors responding to the open-ended opportunity to express their safety concerns (41% of those visitors not giving the park an excellent safety rating), 33% commented on needing improved facilities and/or signs at PSP.
- Although two-thirds (64%) of the visitors felt that nothing specific could increase their feeling of safety at PSP, 16% did indicate that more lighting at PSP would increase their feeling of safety.
- Visitors who felt the park was safe were more satisfied overall, gave higher satisfaction ratings to the seven park features, and gave higher performance ratings to all of the park attributes as well.
- Over half (56%) of visitors reported that they would support the proposed reservation system.
- Over half (56%) of visitors reported they would support a “carry in and carry out” trash removal system.
- Twenty-six percent (26%) of visitors provided additional comments and suggestions, the majority (59%) of which were positive comments about the park and staff.

Acknowledgements

Conducting and successfully completing a study of this magnitude and complexity could not have been accomplished without the cooperation of many individuals. Over 2,000 visitors to Missouri State Parks participated in the 1999 Missouri State Parks Visitor Survey. Over 100 visitors to Pershing 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 other individuals provided assistance during the 1999 Missouri State Parks Visitor Survey, without whom the study would not have been a success. The following expressions of gratitude are in acknowledgement of their contributions. Special acknowledgement goes to the staff at Pershing State Park for their willingness to accommodate the survey crew during the study period, and also for their assistance during sampling. Many thanks also go to the research assistants who assisted in data collection and the students at the University of Missouri who assisted in computer data entry of the questionnaires. They are: Shane Aumiller, Amy Mahon, Chis Thoele, and Laura Marsch.

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Introduction

NEED FOR RECREATION RESEARCH

In 1939, 15 years after Missouri obtained its first state park, 70,000 visitors were recorded visiting Missouri's state parks (Masek, 1974). Today, the increase in demand for outdoor recreation experiences has given rise to over 16 million visitors who, each year, visit the 80 parks and historic sites in Missouri's state park system (Holst & Simms, 1996). Along with this increase in demand for outdoor recreation experiences are other highly significant changes in outdoor recreation. Some of these changes include a change in the nature of vacations with a trend toward shorter, more frequent excursions; an increasing diversity of participation patterns across groups; an increase in more passive activities appropriate for an aging population; an increased concern for the health of the environment; and a realization of the positive contributions the physical environment has on the quality of one's life (Driver, Dustin, Baltic, Elsner, & Peterson, 1996; Tarrant, Bright, Smith, & Cordell, 1999).

Societal factors responsible for these changes in the way Americans recreate in the outdoors include an aging population; a perceived decline in leisure time and a faster pace of life; geographically uneven population growth; increasing immigration; changes in family structures, particularly an increase in single-parent families; increasing levels of education; a growth in minority populations; and an increasing focus on quality "lifestyle management" (Driver et al., 1996;

Tarrant et al, 1999). These factors and their subsequent changes in outdoor recreation participation have important implications for recreation resource managers, who are now faced with recreation resource concerns that are "...people issues and not resource issues alone (McLellan & Siehl, 1988)." This growing social complexity combined with the changes it has created in outdoor recreation participation have given rise to the need for research exploring why and how people recreate in the outdoors as well as how these individuals evaluate the various aspects of their outdoor recreation experiences.

STUDY PURPOSE

Visitor satisfaction tends to be a primary goal of natural resource recreation managers (Peine, Jones, English, & Wallace, 1999) and has been defined as the principal measure of quality in outdoor recreation (Manning, 1986). Visitor satisfaction, however, can be difficult to define because individual visitors are unique. Each visitor may have different characteristics, cultural values, preferences, attitudes, and experiences that influence their perceptions of quality and satisfaction (Manning, 1986).

Because of these differences in visitors, a general "overall satisfaction" question alone could not adequately evaluate the quality of visitors' experiences when they visit Missouri's state parks and historic sites. For this reason, it is necessary to gather additional information about visitor satisfaction through questions regarding: a) visitors'

socio-demographic characteristics; b) visitors' satisfaction with programs, services and facilities; c) visitors' perceptions of safety; and d) visitors' perceptions of crowding. Thus, the purpose of this study is to gain information, through these and other questions, about the use patterns, socio-demographic characteristics, and satisfaction with park programs, facilities, and services, of visitors to ten of Missouri's state parks.

This report examines the results of the visitor survey conducted at Pershing State Park (PSP), one of the ten parks included in the 1999 Missouri State Parks Visitor Survey. Objectives specific to this report include:

1. Describing the use patterns of visitors to PSP during the study period of June through September, 1999.
2. Describing the socio-demographic characteristics of visitors to PSP.
3. Determining if there are 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 park safety high and those who did not.
5. Gaining information about selected park-specific issues.

STUDY AREA

Pershing State Park, located in Linn County near Laclede, is perhaps one of the most unique parks in the Missouri state park system. Locust Creek runs through Pershing State Park and contributes to its uniqueness by being one of the few remaining unchannelized larger streams in Missouri. Also located in the park are wetlands consisting of swamps, marshes, and a wet prairie. Pershing offers camping, picnicking, swimming, and fishing as well as an archery range and a 1.5 mile interpretive boardwalk accessing the wetland area.

SCOPE OF STUDY

The population of the visitor study at PSP consisted of visitors who were 18 years of age or older (adults), and who visited the park during the study period June through September 1999.

Methodology

SAMPLING PROCEDURES

A 95% confidence interval was chosen with a plus or minus 5% margin of error. Based upon 1998 visitation data for June, July, August, and September, it was estimated that approximately 23,000 visitors would visit PSP during the period between June 1 and September 30, 1999 (DNR, 1998). Therefore, with a 95% confidence interval and a plus or minus 5% margin of error, a sample size of 394 visitors was required (Folz, 1996). A random sample of adult visitors (18 years of age and older) who visited PSP during the study period were the respondents for this study.

To ensure that visitors leaving PSP during various times of the day would have equal opportunity for being surveyed, three time slots were chosen for surveying. The three time slots were as follows: Time Slot 1 = 8:00 a.m. - 12:00 p.m., Time Slot 2 = 12:00 p.m. - 4:00 p.m., and Time Slot 3 = 4:00 p.m. - 8 p.m. A time slot was randomly chosen and assigned to the first of the scheduled survey dates. Thereafter, time slots were assigned in ranking order based upon the first time slot. Two time slots were surveyed during each survey day.

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 PSP was administered on-site, to eliminate the non-response bias of a mail-back survey. Because access to Pershing State Park is from Highway 130 and not from a clearly defined entrance gate, an exit survey was not feasible. Therefore, three recreation areas within the park were identified in which to survey: Recreation Area 1 (a day use area north of the campground consisting of picnic areas, shelter houses, and a swimming beach); Recreation Area 2 (a day-use area south of the campground consisting of a picnic area and the interpretive boardwalk); and Recreation Area 3 (the campground).

To ensure that visitors at the three recreation areas would have an equal opportunity for being surveyed, surveying alternated between the areas. Only one area was surveyed during each time slot. All adults (18 years of age and older) in these areas were asked to participate in the survey.

DATA COLLECTION

The surveyor wore a state park t-shirt and walked a roving route in each of the assigned recreation areas. During the selected time slot, the surveyor 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 group; 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 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 PSP 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 the open-ended questions were listed as well as grouped into categories for frequency and percentage calculations. The number of surveys completed by weekday versus

weekend, by time slot, and by recreation area was also determined.

Comparisons using independent sample 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 6), ratings of park attributes (question 7), overall satisfaction (question 13), and perceptions of crowding (question 14). The selected groups include:

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

Other comparisons were made using independent sample 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, measures of performance of park attributes, and overall satisfaction. Chi-square tests were conducted comparing responses between select groups regarding support for a reservation system and support for a “carry in and carry out” trash system.

The selected groups include:

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

Additional comparisons include:

1. Multiple linear regression analyses to determine which of the satisfaction variables and which of the performance variables most accounted for variation in overall satisfaction.
2. An independent sample t-test comparing overall satisfaction between visitors who felt some degree of crowding and those who were not at all crowded during their visit.

Results

This section describes the results of the Pershing 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 130 surveys were collected at PSP during the time period of June, July, August, and September 1999. Tables 1 and 2 show surveys collected by time slot and by area, respectively. Of the 130 surveys collected, 85 (65.4%) were collected on weekends (Saturday and Sunday) and 45 (34.6%) were

collected on weekdays (Monday through Friday). The overall response rate was 97% (only four visitors refused to fill out a questionnaire).

SAMPLING ERROR

With a sample size of 130 and a confidence interval of 95%, the margin of error increases from plus or minus 5% to plus or minus 9%. For this study, there is a 95% certainty that the true results of the study fall within plus or minus 9% of the findings. For example, from the results that 56.3% of the visitors to PSP during the study period were female, it can be stated that between 44.6% and 65.3% of the PSP visitors were female.

Table 1. Surveys Collected by Time Slot

Time Slot	Frequency	Percent
1. 8 a.m. - 12 p.m.	47	36.2%
2. 12 p.m. - 4 p.m.	34	26.2%
3. 4 p.m. - 8 p.m.	49	37.7%
Total	130	100.0%

Table 2. Surveys Collected by Area

Recreation Area	Frequency	Percent
Day Use Area 1	48	36.9%
Day Use Area 2	39	30.0%
Campground	43	33.1%
	130	100.0%

SOCIO-DEMOGRAPHIC CHARACTERISTICS

Age

The average age of adult visitors to PSP was 43.9. When grouped into four age categories, 31.7% of the adult visitors were between the ages of 18-34, 43.1% were between the ages of 35-54, 11.4% were between the ages of 55-64, and 13.8% were 65 or over.

Gender

Visitors to PSP were almost equally male and female. Female visitors comprised 56.3% of all visitors, while male visitors comprised 43.7% of all visitors.

Education

Over two-fifths (43.7%) of visitors to PSP indicated they had grade school or high school as the highest level of education completed. One-third (32.8%) indicated having completed vocational school or some college, while 23.5% indicated having completed a four-year college degree or post-graduate education.

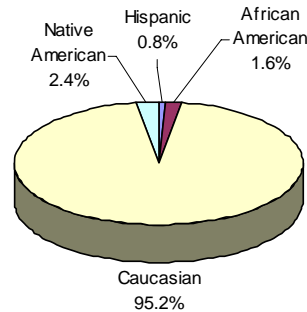
Income

About 40% (39.3%) of the visitors to PSP reported they had an annual household income of between \$25,000 and \$50,000. Over one-fourth (29.1%) of visitors had an income of less than \$25,000. Just over 20% (22.2%) of visitors had an income of between \$50,001 and \$75,000, and less than 10% (9.4%) had a household income of over \$75,000.

Ethnic Origin

Figure 1 indicates the ethnic origin of PSP visitors. The vast majority (95.2%) of visitors was Caucasian. Almost two percent (1.6%) of the visitors were African American, and 2.4% of the visitors reported being of Native American descent. Less than 1% (0.8%) of visitors were Hispanic, and there were no visitors who reported being of Asian descent.

Figure 1. Ethnic Origin of PSP visitors.

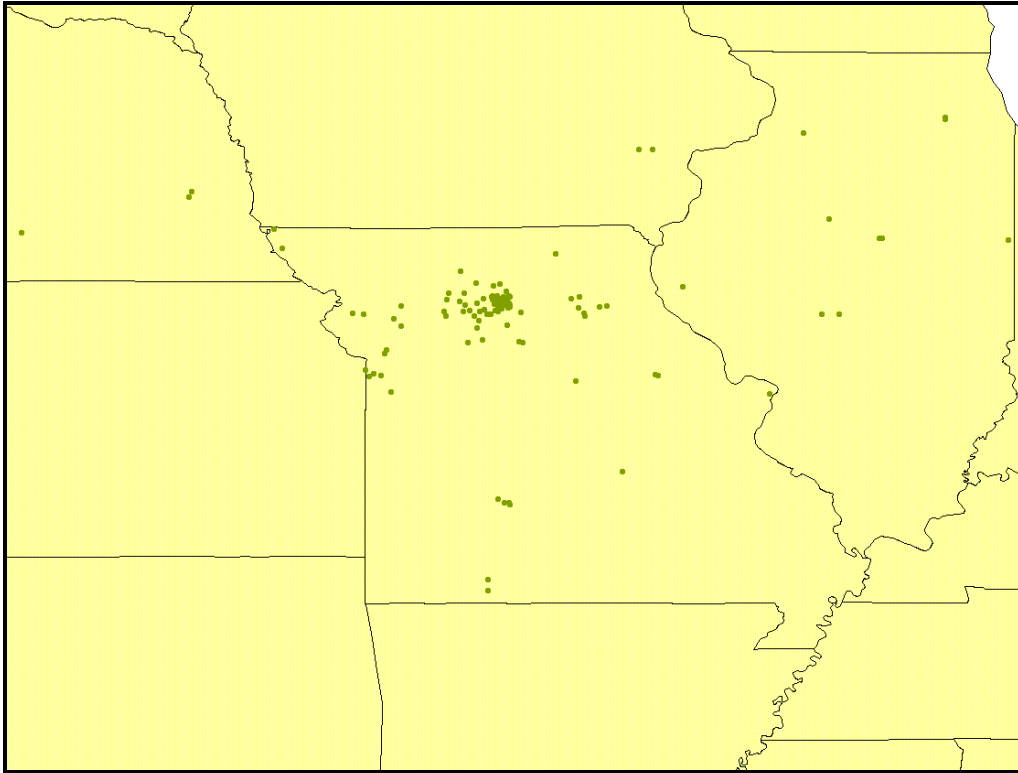


Visitors with Disabilities

Six percent (5.6%) of the visitors to PSP reported having some type of disability that substantially limited one or more life activities or that required special accommodations. Most of the disabilities reported were mobility-impairing disabilities.

Residence

Over four-fifths (83.5%) of PSP visitors were from Missouri, while 16.5% of visitors were from out of state including Illinois (8.3%) and Nebraska (2.5%). Over half (55.4%) of the visitors to PSP lived within 50 miles of the park. Figure

Figure 2. Residence of PSP Visitors by Zip Code

2 shows the residence of visitors by zip code.

USE PATTERNS

Trip Characteristics

The majority (76.1%) of visitors to PSP traveled less than a day's drive to visit the park (a day's drive is defined as 150 miles or less, not exceeding 300 miles round trip). Of those traveling less than a day's drive, 57.9% lived within 25 miles of the park. Within Missouri, 42.6% came from the immediate vicinity (within 15 miles) of the park, including Laclede and Brookfield. In fact, Brookfield accounted for one-fifth (20.8%) of the Missouri visitors. An average group of visitors at PSP consisted of 3.6 adults and 3.8 children.

Visit Characteristics

About two-thirds (64.6%) of the visitors to PSP were repeat visitors, with one-third (35.4%) of the visitors being first time visitors. The average number of times all visitors reported visiting PSP within the past year was 8.7 times.

Over half of the visitors (57.9%) to PSP during the study period indicated that they were day-users, while 42.1% indicating that they were staying overnight. Of those staying overnight during their visit, all (100%) stayed in the campground at PSP. Of those camping in the campground at PSP, 14.6% reported camping in a tent and 85.4% reported staying in a RV, trailer, or van conversion.

Of those reporting overnight stays, 20.5% stayed one night, 48.7% stayed

two nights, 12.8% stayed three, and 18% stayed four or more nights. The average stay for overnight visitors was 2.6 nights. The median number of nights was two nights, indicating that half of the overnight visitors stayed less than two nights and half of the overnight visitors stayed more than two nights. The highest percentage of visitors stayed two nights.

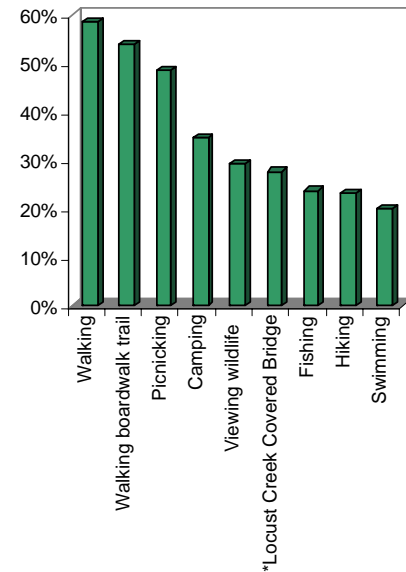
About half (46.6%) of the visitors to PSP visited the park with family. Twenty-two percent (22%) visited with family and friends, while 8.1% visited with friends, and 13% visited the park alone. Seven percent (7.3%) of visitors indicated visiting the park with a club or organized group.

RECREATION ACTIVITY PARTICIPATION

Respondents to the survey were asked what activities they participated in during their visit to PSP. Figure 3 shows the percentage of visitor participation in the seven highest activities. Walking was the highest reported (58.5%), walking the boardwalk trail was the second (53.8%), and picnicking was third (48.5%). Camping (34.6%), viewing wildlife (29.2%), visiting Locust Creek Covered Bridge Historic Site (27.7%), fishing (23.8%), hiking (23.1%), and swimming (20%) were next.

PSP visitors reported engaging in other activities, including visiting Pershing Boyhood Home Historic Site (16.9%), studying nature (15.4%), bird watching (13.8%), attending an interpretive program (10%), attending a special event (8.5%), and archery (3.1%). Five percent (5.4%) of visitors reported

Figure 3. Participation in Recreational Activities at PSP



* Visitors at PSP may have confused Locust Creek Covered Bridge State Historic Site with the old iron bridge in PSP that crosses Locust Creek at the boardwalk trail.

engaging in an "other" activity, including playing at the playground.

SATISFACTION MEASURES

Overall Satisfaction

When asked about their overall satisfaction with their visit, none of the visitors reported being dissatisfied or very dissatisfied with their visit. One hundred percent (100%) of PSP visitors were either satisfied or very satisfied. Visitors' mean score for overall satisfaction was 3.83, based on a 4.0 scale with 4 being very satisfied and 1 being very dissatisfied.

No significant difference (p<.05) was found in overall satisfaction between first time and repeat visitors, with mean

overall satisfaction scores of 3.79 and 3.85 respectively. Nor was there any significant difference in overall satisfaction between campers and non-campers, with mean overall satisfaction scores of 3.88 and 3.79 respectively. There was no significant difference between weekend and weekday visitors either, with mean overall satisfaction scores of 3.87 and 3.75 respectively.

Satisfaction with Park Features

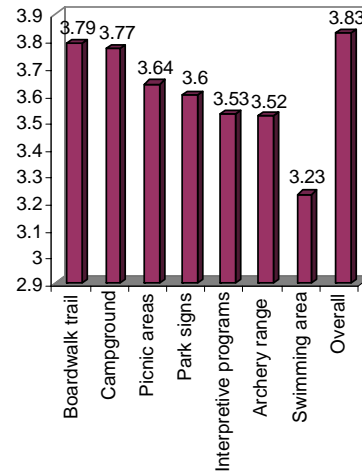
Respondents were also asked to express how satisfied they were with seven park features. Figure 4 shows the mean scores for the seven features and also for visitors' overall satisfaction. The satisfaction score for the boardwalk trail (3.79) was the highest, with the other scores ranging from 3.77 (campground) to the lowest of 3.23 (swimming area). A multiple linear regression analysis ($r^2=.86$) of the seven park features showed that all the variables combined to account for about 86% of the variation in overall satisfaction rating.

No significant differences were found in mean satisfaction ratings of park features between first time and repeat visitors or between campers and non-campers. Weekend visitors, however, were significantly ($p<.05$) more satisfied with the interpretive programs (3.66) than weekday visitors (3.18).

PERFORMANCE RATING

Visitors were asked to rate the park's performance of eight select park attributes (question 7): being free of

Figure 4. Satisfaction with PSP Features



litter and trash, having clean restrooms, upkeep of park facilities, having helpful and friendly staff, access for persons with disabilities, care of natural resources, interpretive programs, and being safe. Performance scores were based on a 4.0 scale, with 4 being excellent and 1 being poor.

No significant differences were found between first time and repeat visitors and their performance ratings of the eight park attributes. Campers, however, had a significantly higher ($p<.05$) performance rating (3.84) regarding upkeep of park facilities than had non-campers (3.65). Interestingly, weekend visitors had a significantly higher ($p<.01$) performance rating regarding park safety (3.78) than had weekday visitors (3.49). A multiple linear regression analysis ($r^2=.63$) showed that the eight performance attributes combined to account for about two-thirds of the overall satisfaction rating.

Table 3. Mean Performance and Importance Scores for Park Attributes

Attribute	Mean Performance Score*	Mean Importance Score*
A. Being free of litter/trash	3.80	3.83
B. Having clean restrooms	3.71	3.87
C. Upkeep of park facilities	3.73	3.79
D. Having helpful & friendly staff	3.71	3.69
E ₁ . Access for persons with disabilities	3.61	3.59
E ₂ . Access for persons with disabilities	3.33	3.57
F. Care of natural resources	3.62	3.75
G ₁ . Interpretive programs	3.60	3.31
G ₂ . Interpretive programs	3.54	3.50
H. Being safe	3.68	3.81

E₁ = All visitorsG₁ = All visitorsE₂ = Disabled visitors onlyG₂ = Visitors attending interpretive programs

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

IMPORTANCE-PERFORMANCE MEASURES

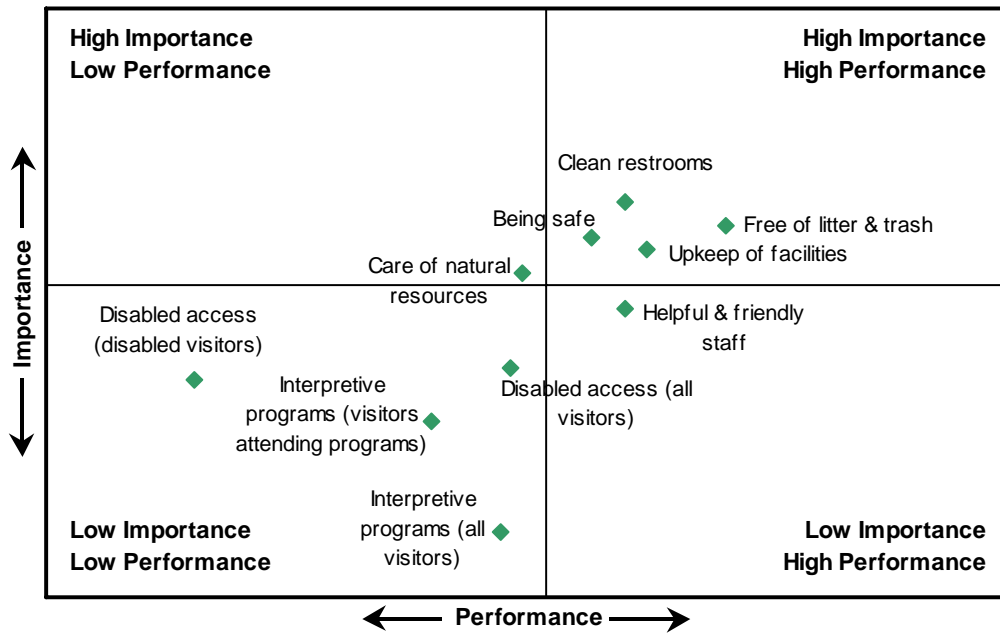
The Importance-Performance (I-P) Analysis approach was used to analyze questions 7 and 12. Mean scores were calculated for the responses of the two questions regarding visitors' ratings of the performance and importance of the seven select park attributes. Table 3 lists the scores of these attributes, which were based on a 4.0 scale of 4 being excellent and 1 being poor, and 4 being very important and 1 being very unimportant. 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 indicates that management may need to 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 managers, because they exhibit attributes that are not as important to visitors.

PSP was given high performance and importance ratings for being free of litter and trash, upkeep of park facilities, having clean restrooms, and being safe. The characteristic that visitors felt was important but rated PSP low on performance was care of the natural resources.

Figure 5. Importance-Performance Matrix of Park Attributes



CROWDING

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

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

Visitors’ overall mean response to this question was 1.4. Three-fourths (76.4%) of the visitors to PSP did not feel at all crowded (selected 1 on the scale) during their visit. The rest (23.6%) 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 15). Only seven visitors responded to this open-ended question (23% of those who indicated some degree of crowding). For a list of their responses, see question 16 in Appendix E. Of those who answered the open-ended question, most felt crowded either at the swimming area or the picnic areas. No significant differences in perceptions of crowding were found between first time and repeat visitors, between campers and non-campers, or between weekend and weekday visitors.

Crowding and satisfaction

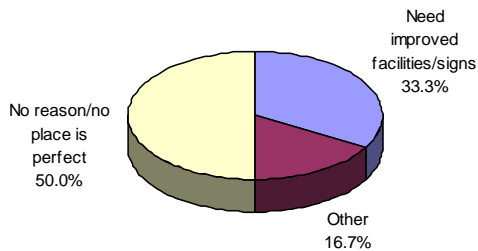
A significant difference (p=.001) was found in visitors’ mean overall satisfaction with their visit and whether they felt some degree of crowding or not. Visitors who did not feel crowded had a mean overall satisfaction score of 3.89, whereas visitors who felt some

degree of crowding had a mean overall satisfaction score of 3.63.

SAFETY CONCERNS OF VISITORS

One-third (34.9%) of the visitors to PSP did not rate the park as excellent for safety. Of those, 40.9% (18 visitors) noted what influenced their rating. Their comments were grouped into categories and are shown in Figure 6. Appendix E, question 8, provides a list of the comments.

Figure 6. Comments from Visitors Not Rating PSP Excellent on Safety

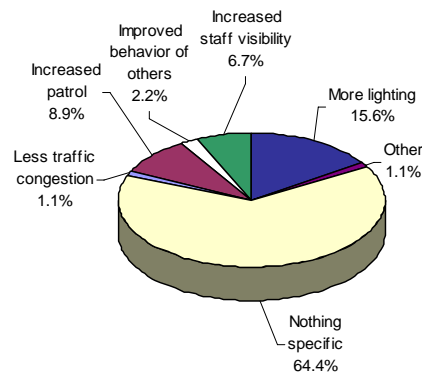


Half (50%) of the open-ended responses were from visitors who either had no reason for not rating safety excellent, or who felt that no place was perfect and could always improve. One-third (33.3%) of the open-ended responses, however, were from visitors who felt that the park needed improved facilities and/or signs.

Visitors were also given a list of nine attributes and were asked to indicate which of the nine would most increase their feeling of safety at PSP. Visitors chose only six of the nine attributes, and figure 7 shows the percentage of

responses given by visitors. Most (64.4%) felt that nothing specific would increase their feeling of safety, but 15.6% felt that more lighting would increase safety.

Figure 7. Percentage of Safety Attributes Chosen by Visitors



Visitors who felt that more lighting in the park would most increase their feeling of safety were asked to indicate where they felt more lighting was necessary. Thirteen (93%) of those visitors who felt more lighting would increase safety answered this open-ended question. Their comments include more lighting at the restrooms and shower houses, along the boardwalk trail, in the campground, and along the park roads.

There were no significant differences in the rating of safety by first time visitors versus repeat visitors or by campers versus non-campers. Weekend visitors had a significantly higher ($p < .01$) safety rating (3.78) than weekday visitors (3.49). Female visitors also gave park safety a significantly higher ($p < .05$) rating (3.77) than male visitors (3.58).

There were no significant differences ($p < .05$) in safety ratings by any of the other socio-demographic characteristics.

To determine if there were differences in perceptions of crowding, satisfaction with park features, and overall satisfaction, responses were divided into two groups based on how they rated PSP on being safe. Group 1 included those who rated the park excellent, and Group 2 included those who rated the park as good, fair, or poor.

There were no differences in crowding between the two groups, but Group 1 was significantly ($p < .001$) more satisfied overall (3.98) than Group 2 (3.60). Group 1 also had significantly ($p < .05$) higher satisfaction ratings for all of the satisfaction features than Group 2, as well as significantly higher ($p < .01$) performance ratings for all of the park attributes.

SUPPORT OF RESERVATION SYSTEM

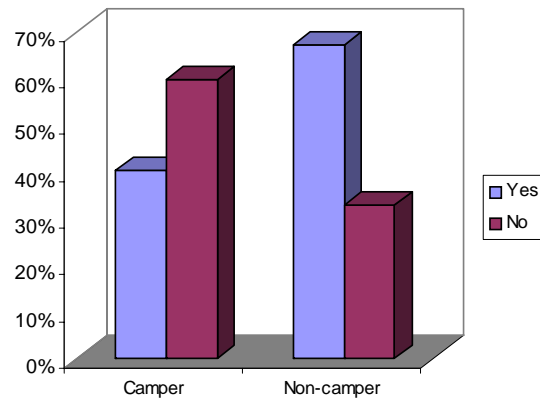
PSP visitors were asked whether they would support setting aside at least 50% of all campsites in a reservation system, and charging a reservation fee not to exceed \$7.00. Fifty-six percent (56.4%) of visitors would support such a system, while 43.6% reported that they would not.

There was no significant difference between first time and repeat visitors and the percentage of each that would or would not support a reservation system, both more likely to support (53.7% and 57.9% respectively) than oppose (46.3% and 42.1% respectively) a reservation system. Nor was there a significant difference between weekend and weekday visitors and their support of a reservation system. Both were more

likely to support (57.9% and 53.7% respectively) than oppose (42.1% and 46.3% respectively) such a system.

There was a significant difference ($p < .001$) between campers and non-campers, however, and the percentage of each that would or would not support a reservation system. Non-campers were much more likely to support (67.1%) than oppose (32.9%) a reservation system, while campers were more likely to oppose (59.6%) than support (40.4%) implementing a reservation system (Figure 8).

Figure 8. Comparison of Support of Reservation System Between Campers and Non-campers



SUPPORT OF “CARRY IN/CARRY OUT” TRASH SYSTEM

PSP visitors were also asked to indicate whether they would be willing for the park to establish a “carry in and carry out” trash removal system, thereby promoting recycling and reducing the burden of handling trash in the park. Visitors were more likely to support (56.3%) the carry in/carry out trash system than oppose it (43.7%).

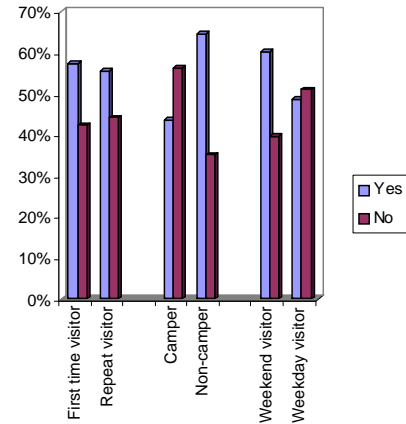
No significant difference were found between first time and repeat visitors and the percentage of each in support of a carry in/carry out trash removal system, with both more likely to support (57.5% and 55.7% respectively) than oppose (42.5% and 44.3%) the proposed system. No significant difference was found between the percentages of weekend and weekday visitors and whether each would support or oppose this type of trash system, although weekend visitors were more likely to support (60.3%) than oppose (39.7%) the system while weekday visitors were slightly more likely to oppose (51.2%) than support (48.8%) the system.

There was, however, a significant difference ($p < .05$) between campers and non-campers, and whether each group would support this type of trash system. Campers were more likely to oppose (56.3%) than support (43.8%) the proposed system, while non-campers were more likely to support (64.8%) the system rather than oppose it (35.2%). Figure 9 shows the percentage of support or opposition between each group.

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 PSP a better one (question 23). One-fifth (26%) of the total survey participants responded to this question,

Figure 9. Support for “Carry In/Carry Out” Trash System Between Groups



with 34 responses given by 32 respondents. The comments and suggestions were listed and grouped by similarities into 3 categories for frequency and percentage calculations. The list of comments and suggestions is found in Appendix G. Table 4 lists the frequencies and percentages of the comments and suggestions by category.

The majority (58.8%) of comments were general positive comments, such as: “Great place”, “Keep up the good work,” and “Very pretty park”. The rest of the comments were categorized based on similar suggestions or comments, such as comments or suggestions about needing improvement to present facilities or providing additional facilities and other suggestions not falling into any other category.

Table 4. Frequency and Percentage of Comments and Suggestions from PSP Visitors

Category	Frequency	Percent
1. General positive comments	20	58.8%
2. Need improved or additional facilities	9	26.5%
3. Other	5	6.8%
Total	34	100%

Discussion

MANAGEMENT IMPLICATIONS

The results of this study provide relevant information concerning PSP visitors. However, the results should be interpreted with caution. The surveys were collected only during the study period of June, July, August, and September 1999; 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, because much of the annual visitation occurs during this period.

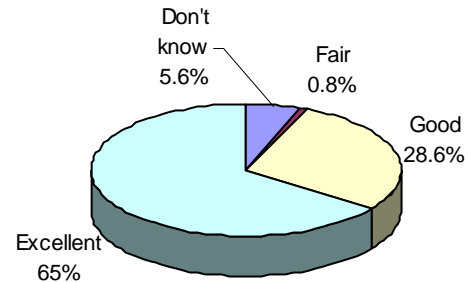
Satisfaction Implications

Four-fifths (82.5%) of visitors reported that they were very satisfied with their park visit. Williams (1989) states that visitor satisfaction with previous visits is a key component of repeat visitation. The high percentage of repeat visitation (64.6%) combined with their positive comments provide evidence that PSP visitors are indeed satisfied with their park experience.

Safety Implications

PSP managers should be commended for providing an atmosphere in which visitors feel safe. The I-P Matrix showed park safety having a high performance and importance rating, and only one-third of visitors did not give park safety an excellent rating (Figure 10). However, visitors' perception of safety should still be a management concern as visitors' safety concerns influenced their overall satisfaction (Figure 11). Improving park facilities

Figure 10. Safety Ratings of PSP.



and adding more lighting throughout the park were visitors' safety concerns and suggestions.

Crowding Implications

Crowding is not a significant issue at PSP. Visitors' perceptions of crowding at PSP were fairly low, with a mean crowded score of 1.4. Less than one-fourth (23.6%) of visitors reported feeling some degree of crowding.

Figure 11. Satisfaction Ratings by Safety Concerns

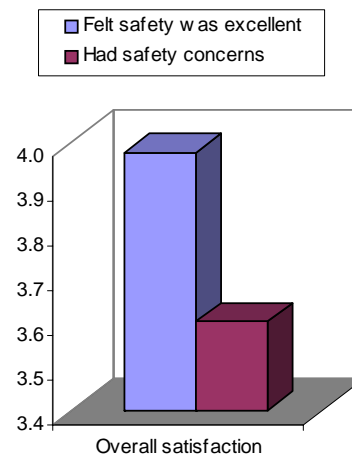
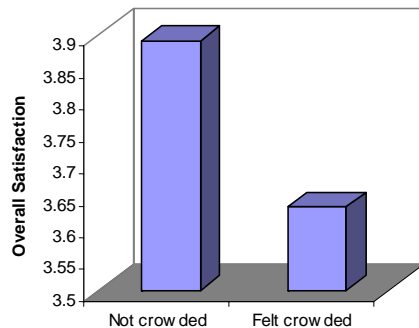


Figure 12. Overall Satisfaction is Lower for Those Who Felt Crowded



However, visitors' perceptions of crowding did influence their overall satisfaction at PSP, indicating that visitors' perceptions of crowding should still be a management concern. Visitors who felt crowded had a significantly lower overall satisfaction than visitors who did not feel crowded (Figure 12).

Crowding is a perceptual construct not always explained by the number or density of other visitors. Expectations of visitor numbers, the behavior of other visitors, and visitors' perception of resource degradation all play a significant role in crowding perceptions (Armistead & Ramthun, 1995; Peine et al., 1999). Further study of visitors could determine if crowding perceptions at PSP are due to the number of people or perhaps the behavior of those in the park.

Performance Implications

Visitors felt that care of the natural resources was very important but rated PSP lower in performance in this area. This lower performance rating may be due in part to the logjam present in Locust Creek. The logjam is fairly visible to visitors and, in fact, one visitor

commented on it and requested that it be removed. Managers should be commended, however, on the high performance and importance ratings given to clean restrooms and upkeep of facilities, particularly since restroom cleanliness and facility upkeep are often given lower ratings by visitors to state parks (Fredrickson & Moisey, 1999).



Logjam in Locust Creek at PSP.

Implications for PSP's Interpretive Programs

Another area of concern for managers is the low performance and importance ratings given by visitors regarding PSP's interpretive programs. Although 10% of visitors to PSP reported attending an interpretive program, when asked how satisfied they were with PSP's interpretive programs, 59% of visitors said they didn't know. When asked to give performance ratings for the interpretive programs at PSP, again over half (52.7%) of visitors didn't know how to rate this attribute. These results suggest that visitors may not be aware of the interpretive programs, and thus do not attend them.

Implementation of Reservation System

Although more than half (56%) of the visitors reported that they would support the proposed reservation system, campers (the users most likely to be affected by such a system) responded with a majority (60%) who would not support such a system. Further analysis of campers was conducted comparing tent and RV campers and the percentage of each in support of or opposed to a reservation system. RV campers (those campers who might be expected to use the reservation system more) were more likely to oppose (58%) than support (42%) the proposed reservation system, as were tent campers (33% for, 68% against). Both weekend and weekday campers were also more likely to oppose (59% and 60% respectively) a reservation system than support it (41% and 40% respectively).

Implementation of "Carry In and Carry Out" Trash System

Only a slight majority (56%) of visitors favored the proposed trash removal system. Further analysis of the users who might be most affected by this type of trash removal system (picnickers and campers) revealed that a slight majority (56%) of campers opposed the proposal while a slight majority (55%) of picnickers supported it.

Conclusion

PSP managers should be commended in that PSP visitors are very satisfied with PSP, as evidenced by the high percentage of visitors who were repeat visitors, and also by their high satisfaction ratings, high performance ratings, and low crowding perceptions. The results of the present study suggest

some important management and planning considerations for PSP. Even though PSP visitors rated their visits and the park features relatively high, felt fairly safe, and did not feel very crowded, continued attention to safety, facility upkeep and improvement, and care of the natural resources can positively effect these ratings.

Consideration should also be given as to whether implementation of a reservation system at PSP is necessary.

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 PSP. The frequency and percentage calculations of survey responses provide useful information concerning socio-demographic characteristics, use patterns, and satisfaction of PSP visitors. In addition, the "sub-analysis" of data is important in identifying implications for management of PSP. (The sub-analysis in the present study included comparisons using Chi-square and ANOVA between selected groups, multiple linear regression, 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.

Data collection should be on a continuum (Peine et al., 1999), which is why additional visitor surveys at PSP should also be conducted on a regular basis (e.g., every three, four, or five years). Future PSP studies can identify changes and trends in socio-demographic characteristics, use patterns, and visitors' satisfaction at PSP.

The methodology used in this study serves as a standard survey procedure that the DSP can use in the future. Because consistency should be built into the design of the survey instrument, sampling strategy and analysis (Peine et al., 1999), other Missouri state parks and historic sites 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 study period of June, July, August, and September 1999. Therefore, user studies at PSP and other parks and historic sites might be conducted during other seasons for comparison between seasonal visitors.

METHODOLOGY RECOMMENDATIONS AND CONSIDERATIONS FOR PSP AND OTHER PARKS

The on-site questionnaire and the methodology of this study were designed to be applicable to other Missouri state parks. Exit surveys provide the most robust sampling strategy to precisely define the visitor population (Peine et al., 1999); therefore, it is recommended that exit surveys be conducted at other

state parks and historic sites if at all possible.

Survey Administration

Achieving the highest possible response rate (within the financial constraints) should be a goal of any study. To achieve higher response rates, the following comments are provided. The prize package drawing and the one-page questionnaire undoubtedly helped attain the high response rate in the present study. Continued use of the one-page questionnaire and the prize package drawing is suggested. Also, the fact that the surveyor approached visitors on foot while they were in the various recreation areas greatly contributed to the high response rates. Many visitors expressed appreciation that they were being asked their opinion, and would often engage the surveyor in further conversation about the park. For this reason, and because the surveyor was required to walk a roving route in the various recreation areas, an assistant to help administer the surveys would be helpful.

Another recommendation would be to have self-addressed, stamped envelopes available in future surveys to offer to non-respondents only after they do not volunteer to fill out the survey on-site. This technique may provide higher response rates, 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 non-respondents.

References

- Armistead, J., & Ramthun, R. (1995). Influences on perceived crowding and satisfaction on the Blue Ridge Parkway. In Proceedings of the 1995 Northeastern Recreation Research Symposium (Forest Service General Technical Report NE-128, pp. 93-95). Saratoga Springs, NY: Department of Agriculture, Forest Service, Northeastern Forest Experiment Station.
- Driver, B.L., Dustin, D., Baltic, T., Elsner, G., & Peterson, G. (1996). Nature and the human spirit: Overview. In B.L. Driver, D. Dustin, T. Baltic, G. Elsner, & G. Peterson (Eds.), Nature and the human spirit: Toward an expanded land management ethic (pp. 3-8). State College, PA: Venture Publishing, Inc.
- Fink, D. A. (1997). Meramec State Park user survey. Unpublished master's research project, University of Missouri, Columbia.
- Fredrickson, D. K. & Moisey, R. N. (1999). 1998 Missouri State Parks Visitor Survey. Report submitted to the Missouri Department of Natural Resources.
- Folz, D. H. (1996). Survey research for public administration. Thousand Oaks, CA: Sage Publications.
- Holst, S., & Simms, L. (1996). Park & soils: A decade of success for camps and crops. Missouri Resources, 13(2), 8-15.
- Manning, R. E. (1986). Studies in outdoor recreation. Corvallis, OR: Oregon State University Press.
- Masek, M. L. R. (1974). A park user fee survey for the Missouri state parks. Unpublished master's thesis, University of Missouri, Columbia.
- McLellan, G., & Siehl, G. (1988). Trends in leisure and recreation: How we got where we are. Trends, 25 (4), 4-7.
- Missouri Department of Natural Resources (DNR) (1998). [Missouri state park attendance]. Unpublished raw data.
- Peine, J. D., Jones, R. E., English, M. R., & Wallace, S. E. (1999). Contributions of sociology to ecosystem management. In H. K. Cordell & J. C. Bergstrom (Eds.), Integrating social sciences with ecosystem management: Human dimensions in assessment, policy, and management (pp. 74-99). Champaign, IL: Sagamore Publishing.
- Statistical Package for the Social Sciences (SPSS) (1996). Version 6.1 [Computer software]. Chicago: SPSS.
- Tarrant, M. A., Bright, A. D., Smith, E., & Cordell, H. K. (1999). Motivations, attributes, preferences, and satisfactions among outdoor recreationists. In H. K. Cordell (Ed.), Outdoor recreation in American life: A national assessment of demand and supply trends (pp. 403-431). Champaign, IL: Sagamore Publishing.
- Williams, D. R. (1989). Great expectations and the limits to satisfaction: a review of recreation and consumer satisfaction research. Outdoor Recreation Benchmark 1988: Proceedings of the National Outdoor Recreation Forum, Tampa, Florida, 422-438.

Appendix A. Pershing State Park Visitor Survey



Pershing State Park



The Missouri Department of Natural Resources and the University of Missouri are seeking your evaluation of Pershing 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 Pershing State Park? (Check only one box.)
 yes no If no, how many times have you visited this park in the past year? _____

2. During this visit to the park, are you staying overnight? (Check only one box.)
 yes If yes, how many nights are you staying at or near the park during this visit? _____
 no (If no, skip to question 4.)

3. If staying overnight, where are you staying? (Check only one box.)
 campground in Pershing State Park
 tent RV/trailer/camper
 nearby lodging facilities
 nearby campground
 friends/relatives
 other (Please specify.) _____

4. With whom are you visiting the park? (Check only one box.)
 alone family and friends club or organized group
 family friends other (Please specify.) _____

5. Which recreational activities have you engaged in during this park visit? (Check all that apply.)
 picnicking walking walking boardwalk trail
 fishing archery attending interpretive program
 camping viewing wildlife attending special event
 hiking studying nature visiting Pershing Boyhood Home Historic Site
 swimming birdwatching visiting Locust Creek Covered Bridge Historic Site
 other (Please specify.) _____

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

	Very Satisfied	Satisfied	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"/>	<input type="checkbox"/>
c. picnic areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. swimming area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. archery range	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. boardwalk trail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. interpretive programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. How do you rate Pershing 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. interpretive programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. being safe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

9. Which of the following would most increase your feeling of being safe at Pershing State Park? (Check only one box.)

- more lighting where? _____
- improved behavior of others
- less crowding
- increased visibility of park staff
- nothing specific
- less traffic congestion
- improved upkeep of facilities
- other (Please specify.) _____
- increased law enforcement patrol

10. Do you support setting aside at least 50% of all campsites in a reservation system in order to guarantee a site, and charging a reservation fee not to exceed \$7.00? (Check only one box.) yes no

11. Do you support establishing a "carry in and carry out" system as a means of promoting recycling and reducing the burden of handling trash in this park? (Check only one box.) yes no

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

	Very Important	Important	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. interpretive programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. being safe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

Very Satisfied Satisfied Dissatisfied Very Dissatisfied

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

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

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

16. What is your age? _____ 17. Gender? female male

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

grade school vocational school graduate of 4-year college
 high school some college post-graduate education

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

Asian African American Native American/American Indian
 Hispanic Caucasian/White Other (Please specify.) _____

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

yes If yes, what disability or disabilities do you have?
 no _____

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

22. What is your annual household income?

less than \$25,000 \$50,001 - \$75,000
 \$25,000 - \$50,000 over \$75,000

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

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

Appendix B. Survey Protocol

Protocol for Pershing State Park Visitor 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 Pershing 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 \$100 worth of concession coupons. Your participation is voluntary, and your responses will be completely anonymous.

Your input is very important to the management of Pershing 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 \$100**

Enter a drawing to win \$100 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 November 1, 1999. Winners will be notified by telephone or mail. Redemption of gift certificates is based on dates of availability through August 31, 2000.

Name: _____

Address: _____

Phone #: () _____

Appendix D. Observation Survey

Date _____ Day of Week _____ Time Slot _____
 Weather _____ Temperature _____ Park/Site _____

	Survey #'s	# of Adults	# of Children	Area
1				
2				
3				
4				
5				
6				
7				
8				
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34				
35				

Time Slot Codes:

Time Slot 1 = 8:00 - 12:00 p.m.
 Time Slot 2 = 12:00 - 4:00 p.m.
 Time Slot 3 = 4:00 - 8:00 p.m.

Weather Codes (examples):

Hot & Sunny Windy
 Cold & Rainy Sunny
 Cloudy Humid

Appendix E. Responses to Survey Questions

Pershing State Park Visitor Survey

1. Is this your first visit to Pershing State Park? (n=130)

yes	35.4%
no	64.4%

If no, how many times have you visited this park in the past year? (n=73)

The responses from this open-ended question were grouped into the following 9 categories:

0	11.0%
1	12.3%
2	17.8%
3	8.2%
4-5	17.2%
6-10	12.3%
11-20	11.0%
21-50	20.0%
51+	1.4%

The average # of times repeat visitors visited the park in the past year was 8.7 times.

2. During this visit to the park, are you staying overnight? (n=126)

yes	42.1%
no	57.9%

If yes, how many nights are you staying overnight at or near the park during this visit? (n=39)

The responses from this open-ended question were grouped into the following 6 categories:

1	20.5%
2	48.7%
3	12.8%
5	12.8%
7-8	5.2%

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

3. If staying overnight, where are you staying? (n=50)

campground in Pershing State Park	100%
tent	14.6%
RV	85.4%
nearby lodging facilities	0.0%
nearby campground	0.0%
friends/relatives	0.0%
other	0.0%

4. With whom are you visiting the park? (n=123)

alone	13.0%	family & friends	22.0%	club or organized group	7.3%
family	49.6%	friends	8.1%	other	0.0%

5. Which recreational activities have you engaged in during this park visit?

picnicking	48.5%	walking	58.5%	walking boardwalk trail	53.8%
fishing	23.8%	archery	3.1%	attending interpretive program	10.0%
camping	34.6%	viewing wildlife	29.2%	attending special event	8.5%
hiking	23.1%	studying nature	15.4%	visiting Pershing Boyhood Home H.S.	16.9%
swimming	20.0%	birdwatching	13.8%	visiting Locust Creek Covered Bridge H.S.	27.7%
other	5.4%				

In addition to percentages of responses, a mean score was calculated for each feature in questions 6, 7, 12, and 13. The score is based on a 4.0 scale with 4 = very satisfied, 3 = satisfied, 2 = dissatisfied, and 1 = very dissatisfied (Q. 6 & 14); 4 = excellent, 3 = good, 2 = fair, and 1 = poor (Q. 7); and 4 = very important, 3 = important, 2 = unimportant, and 1 = very unimportant (Q. 13). The mean score is listed in parenthesis following each feature.

6. How satisfied are you with each of the following in Pershing State Park?

	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied	Don't Know	
a. campground (3.77)	63.4%	18.7%	0.0%	0.0%	17.9%	n=123
b. park signs (3.60)	60.8%	38.3%	0.8%	0.0%	0.0%	n=120
c. picnic areas (3.64)	59.6%	30.7%	0.9%	0.0%	8.8%	n=114
d. swimming area (3.23)	30.1%	28.2%	4.9%	4.9%	32.0%	n=103
e. archery range (3.52)	17.4%	10.9%	0.0%	1.1%	70.7%	n=92
f. boardwalk trail (3.79)	66.1%	15.6%	0.9%	0.0%	17.4%	n=109
g. interpretive programs (3.53)	23.7%	16.5%	0.0%	1.0%	58.8%	n=97

7. How do you rate Pershing State Park on each of the following?

	Excellent	Good	Fair	Poor	Don't Know	
a. being free of litter/trash (3.80)	80.0%	20.0%	0.0%	0.0%	0.0%	n=130
b. having clean restrooms (3.71)	63.3%	24.2%	0.8%	0.0%	11.7%	n=128
c. upkeep of park facilities (3.73)	71.9%	23.4%	1.6%	0.0%	3.1%	n=128
d. having a helpful/friendly staff (3.71)	65.9%	19.0%	3.2%	0.0%	11.9%	n=126
e. access for persons with disabilities (3.61)	41.7%	20.9%	0.9%	0.9%	35.7%	n=115
f. care of natural resources (3.62)	57.4%	32.0%	0.0%	0.8%	9.8%	n=122
g. interpretive programs (3.60)	32.1%	12.5%	1.8%	0.9%	52.7%	n=112
h. being safe (3.68)	65.1%	28.6%	0.8%	0.0%	5.6%	n=126

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

18 visitors (40.9% of those who did not rate the park as excellent on being safe) responded to this question. Their responses are as follows.

No reason/no place is perfect

- The unexpected always happens.
- Haven't spent enough time to know.
- I feel it is as safe as any public place.
- Not been here long.
- Not here long.
- Not sure.

Only been here one night--first impression only.
 Unfamiliar with the area.
 Unknown circumstances due to unknown cause of park personnel.

Need improved facilities and/or signs

Could possibly have a roped area in swimming area of a certain depth.
 Fire pits too close to camper pad. One way sign needs to be more noticeable.
 No camping sign on highway.
 No gates.
 Restrooms need security lights, otherwise it's great.
 The boardwalk needs rails in areas for small children.

Other

Coons.
 Just don't feel safe walking by myself.
 Only complaint is that bag worms were on the pecan trees in late summer.

9. Which of the following would most increase your feeling of being safe at Pershing State Park?

90 responses were given.

	<u>Frequency</u>	<u>Percent</u>
1. More lighting	14	15.6%
2. Less crowding	0	0.0%
3. Nothing specific	58	64.4%
4. Improved upkeep of facilities	0	0.0%
5. Increased law enforcement patrol	8	8.9%
6. Improved behavior of others	2	2.2%
7. Increased visibility of park staff	6	6.7%
8. Less traffic congestion	1	1.1%
9. Other	<u>1</u>	<u>1.1%</u>
Total	90	100.0%

13 visitors (93% of those who indicated more lighting would most increase their feeling of safety) reported where they felt more lighting was necessary. Their answers were grouped into the following 6 categories. Frequencies and percentages of each category are listed.

	<u>Frequency</u>	<u>Percent</u>
1. Restrooms/shower houses	6	46.2%
2. Along boardwalk trail	3	23.1%
3. Along park roads	2	15.4%
4. Campground	<u>2</u>	<u>15.4%</u>
Total	13	100.0%

10. Do you support setting aside at least 50% of all campsites in a reservation system in order to guarantee a site, and charging a reservation fee not to exceed \$7.00? (n=117)

yes 56.4%
 no 43.6%

11. Do you support a “carry in and carry” out system as a means of promoting recycling and reducing the burden of handling trash in this park? (n=119)

yes 56.3%
no 43.7%

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

	Very Important	Important	Unimportant	Very Unimportant	Don't Know	
a. being free of litter/trash (3.83)	82.4%	16.8%	0.0%	0.0%	0.8%	n=125
b. having clean restrooms (3.87)	87.3%	11.1%	0.8%	0.0%	0.8%	n=126
c. upkeep of park facilities (3.79)	78.2%	21.0%	0.0%	0.0%	0.8%	n=124
d. having a helpful/friendly staff (3.69)	70.2%	25.8%	2.4%	0.0%	1.6%	n=124
e. access for disabled persons (3.59)	53.0%	21.4%	4.3%	0.9%	20.5%	n=117
f. care of natural resources (3.75)	75.6%	22.8%	0.8%	0.0%	0.8%	n=123
g. interpretive programs (3.31)	37.8%	35.3%	8.4%	1.7%	16.8%	n=119
h. being safe (3.81)	81.9%	16.5%	0.0%	0.8%	0.8%	n=127

13. Overall, how satisfied are you with this visit to Pershing State Park?

	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied	
(Mean score = 3.83)	82.5%	17.5%	0.0%	0.0%	n=126

14. During this visit, how crowded did you feel? (n=127)

On a scale of 1-9, with 1 = Not at all crowded and 9 = Extremely crowded, the mean response was 1.4.

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

Only the seven following comments were given.

At the beach.	Picnic at times.
Swimming area.	Pulled a camper into picnic area and had no room to turn around.
Camper.	On the boardwalk.
There's just so many people and it's hot.	

16. What is your age? (n=123)

Responses were divided into the following 4 categories:

18-34	31.7%	55-64	11.4%
35-54	43.1%	65+	13.8%

(Average age = 43.9)

17. Gender? (n=119)

Female 56.3%
Male 43.7%

18. What is the highest level of education you have completed? (n=128)

grade school	2.3%	vocational school	9.4%	graduate of 4-year college	13.3%
high school	41.4%	some college	23.4%	post-graduate education	10.2%

19. What is your ethnic origin? (n=126)

Asian	0.0%	African American	1.6%	Native American/American Indian	2.4%
Hispanic	0.0%	Caucasian/White	95.2%	Other	0.0%

20. Do you have a disability that substantially limits one or more life activities or might require special accommodations? (n=124)

yes 5.6%
no 94.4%

If yes, what disability or disabilities do you have? (n=4)

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

Arthritis.
Can't walk far or climb stairs, etc.
Fibromyalgia.
Heart condition.

21. What is your 5-digit zip code (or country of residence, if you live outside the U.S.)? (n=121)

The states with the highest percentages of respondents were:

Missouri (83.5%)
Illinois (8.3%)
Nebraska (2.5%)

22. What is your annual household income? (n=117)

less than \$25,000	29.1%	\$50,001 - \$75,000	22.2%
\$25,000 - \$50,000	39.3%	over \$75,000	9.4%

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

32 of the 130 visitors (26%) responded to this question. A total of 34 responses were given, and were divided into 3 categories. Frequencies and percentages of responses in each category are listed.

	<u>Frequency</u>	<u>Percent</u>
1. General positive comments	20	58.8%
2. Need improved or additional facilities	9	26.5%
3. Other	<u>5</u>	<u>6.8%</u>
Total	34	100%

Appendix F. List of Responses for Additional Comments (Q 23)

Responses to Question #23

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

General positive comments

- A wonderful park for a reunion.
- Enjoyed our visit extremely.
- Good time had by all! Thank you!
- Great place!
- I like the new screened in areas at the shelter house.
- I live and work in the area. One of the prettiest drives in the country.
- I really enjoyed everything but it would be nice if you could camp by the swimming area.
- I really like coming down here fishing and picnicking.
- Keep up the good work. Looks great!
- Nice park.
- None. It's very nice. It makes you want to bring friends.
- Other than the lighting, our visit was very nice.
- Very nice to visit.
- Very pretty park.
- We are full-timers and as a whole Missouri has excellent state parks!
- We are very satisfied with all aspects of Pershing State Park. Convenience to home is a large part of frequent visits.
- We certainly liked having laundry facilities nearby. This is one of the neatest, well-kept parks we have visited.
- We love to come here to walk the boardwalk and swim. Keep up the good work.
- We truly enjoy the park as it is. Keep up the good work. We camp here nearly every other weekend.
- You need a skydiving area. I've been coming to this park since I was in grade school on field trips. Great work! Thanks.

Need improved or additional facilities

- I really enjoyed everything but it would be nice if you could camp by the swimming area.
- Just have light poles throughout the park and also need bathrooms for the boardwalk.
- More cement pads to park on.
- More water near or at the campsites.
- Need larger beach area.
- Need larger beach area.
- No playground at campground.
- Please, we need a basketball goal.
- You need a skydiving area. I've been coming to this park since I was in grade school on field trips. Great work! Thanks.

Other

- I don't feel as though my income has anything to do with camping or the use of this park.
- It would be nice to know of the additional walking trails. We would not have known about them if it was not for the naturalist. The Savannah trail was very enjoyable.
- Not this visit but 2 to 3 years ago the mosquitoes were AWFUL when we tried to camp. I hope you've done something about it.
- The logjam is a problem for the boardwalk and the environment around it. I would like to see the creek opened up.
- Would support 20-40% reservations but feel that 50% is too much.