

1998 Missouri State Parks Visitor Survey

Project Completion Report

Submitted to

Missouri Department of Natural Resources Division of State Parks

Prepared by

Dawn K. Fredrickson R. Neil Moisey Ph.D.

Department of Parks, Recreation, & Tourism School of Natural Resources University of Missouri-Columbia

Acknowledgements

Conducting and successfully completing a study of this magnitude and complexity could not have been accomplished without the cooperation of many individuals. About 3,900 visitors to Missouri State Parks participated in the 1998 Missouri State Parks Visitor Survey. In many cases these individuals graciously extended their stay at particular recreation sites so that they could complete the questionnaire. 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 numerous research assistants and students at the University of Missouri who collected the survey data and assisted in the coding and computer data entry of the questionnaires. They are: Li-cheng Lin, Tucker Fredrickson, Carrie Robinett, Chris Thoele, and Casey Thornton.

Special thanks also go the numerous surveyors who were part of the Katy Trail Volunteer Group. These volunteers put in countless hours over the summer administering questionnaires to the visitors at the Katy Trail State Park. The following lists the names of the Katy Trail Volunteers.

Bill Readnour	Janet Singleton	Jean Graebner	Ernestine Todd
Dick Raup	Wally Wilga	Jim Gast	Harlean Phillips
Ron Giljum	Joy Reven	Jim Smith	Dennis Hall
Ed Bielik	Bill Lee	Kathy Lee	Cindy Hall
Leroy Schramm	Bob Sapp	Larry Larson	Gene Cornell
Cameron Cox	Bradley Berendzen	Mark Lee	Reggie Cornell
Richard Crahen	Brett Barnes	Marti Kardinal	Kent Schroeder
Kelly White	Debbie Newby	Michelle Mitchell	Jerry-Ann Mayfield
Jeff Bequette	Donna Drew	Randy Mellerup	Rod Wulfert
Jim Orr	Doug Burns	Tiffany Lee	James Howard
Jerre Wright	Eliza Bettin	Todd Schapira	Tristan Lee

Table of Contents

Acknowledgements	11
Table of Contents	iii
List of Tables	iv
List of Figures	v
Introduction	1
Background	1
Need for Recreation Research	1
Study Purpose	2
Study Areas	2
Bennett Spring State Park	2
Hawn State Park	2
Johnson's Shut-Ins State Park	2
Katy Trail State Park	3
Mastodon State Historic Site	3
Pomme de Terre State Park	3
Watkins Woolen Mill State Historic Site and Park	3
Weston Bend State Park	3
Scope of Study	3
Methodology	4
Sampling Procedures	4
Questionnaire	4
Selection of Subjects	4
Data Collection	5
Results and Discussion	6
Surveys Collected & Response Rates	6
Profile of visitors	
Use Patterns	9
Visit Characteristics	9
Recreation Activity Participation	9
Satisfaction Measures	
Overall Satisfaction	9
Satisfaction with Park Features	10
Performance Rating	10
Crowding	12
Safety Concerns of Visitors	
Research Recommendations	13
References	
Appendix A. 1998 Missouri State Park & Historic Site Visitor Surveys	
Appendix B. Survey Protocol	
Appendix C. Prize Entry Form	
Appendix D. Observation Survey	

List of Tables

Table 1.	Surveys Collected by State Park and Historic Site	6
Table 2.	Socio-demographic Characteristics of Visitors	8
Table 3.	Satisfaction of Features for Each Park or Site	11
Table 4.	Performance Scores of Specific Park or Site Attributes	13

List of Figures

Figure 1.	Ethnic Origin of Visitors	7
-	Residence of Visitors by Zip Code	
_	Overall Satisfaction of Visitors	
Figure 4.	Satisfaction with Park and Site Features	12
Figure 5.	Performance Ratings of All Visitors	14
_	Mean Crowded Scores of Each Park and Site	

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 sites 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 and historic sites.

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 is to gain information about visitor use patterns, socio-demographic characteristics, and satisfaction with park programs, facilities, and services. This report compares the results of the visitor surveys conducted at Bennett Spring State Park, Hawn State Park, Johnson's Shut-Ins State Park, Katy Trail State Park, Mastodon State Historic Site, Pomme de Terre State Park, Weston Bend State Park, and Watkins Woolen Mill State Historic Site and Park.

STUDY AREAS

Bennett Spring State Park

One of the oldest state parks in Missouri, Bennett Spring State Park is a popular destination for trout fishermen. Because of this popularity, the 3,100-acre park offers many extra amenities besides the picnic areas and campgrounds: a motel, cabin rentals, a dining lodge, and a swimming pool. As visitors discover all this park has to offer, Bennett Spring has become increasingly crowded, a concern for managers.

Hawn State Park

Located in Ste. Genevieve County, Hawn State Park is perhaps one of the most beautiful parks in the Missouri State Park System. This 4,900-acre park, containing stands of native shortleaf pine and hardwoods, appeals to visitors who prefer a more remote and wild setting. Catering to these visitors, Hawn offers basic and RV campsites, picnic areas, primitive camping, and hiking on the Whispering Pine Trail and Pickle Creek Trail. The park's popularity is usually spread by word of mouth, thus crowding has yet to become a significant issue, except during the park's peak season during October.

Johnson's Shut-Ins State Park

Johnson's Shut-Ins State Park is an 8,470-acre park located in Reynolds County along the Black River.
Johnson's offers a unique recreation experience in the 'shut-ins' of the park and has become an extremely popular destination for visitors. This popularity has contributed to concerns of overcrowding and resource degradation and has created a need for a system of crowd control.

Katy Trail State Park

Katy Trail State Park is a 200 mile long hiking and biking trail that runs across the state from Sedalia in the West to St. Charles in the East. The park is built on the former railroad corridor of the Missouri-Kansas-Texas Railroad and the first section was converted to a recreation trail and named the Katy Trail State Park in 1991. Much of the gravel trail follows the Missouri River through the state, providing opportunities for hiking, biking, nature study and wildlife watching.

Mastodon State Historic Site

On the National Register of Historic Places, Mastodon State Historic Site contains the Kimmswick Bone Bed, a significant archaeological site.

Mastodon, located in Jefferson County south of St. Louis, is a day-use recreation area offering picnicking and hiking. A museum is also present at the site, with exhibits of ancient artifacts, fossils, and a mastodon skeleton replica. Mastodon has two recreation areas, the museum area, and a picnic area with a separate entrance.

Pomme de Terre State Park

Located in Hickory County, Pomme de Terre State Park lies on the banks of Pomme de Terre Reservoir. The park consists of two areas separated by an arm of the lake, one area near Pittsburg, MO and the other near Hermitage, MO. Although both areas offer campgrounds and public swim beaches, each area has a special appeal to different visitors, and this difference was taken into account during data analysis.

Watkins Woolen Mill State Historic Site and Park

Watkins Woolen Mill State Historic Site and Park is unique in that it is both a historic site and a state park. Located in Clay County, this 818-acre park offers camping, picnicking areas, a bicycling and hiking trail, and a 100-acre lake for swimming, fishing, and boating. The historic site houses the remainder of the mid-19th century Bethany Plantation, consisting of a house and outbuildings, a woolen factory and gristmill, and a nearby church and school. A visitor center with exhibits is also present at the site.

Weston Bend State Park

Weston Bend State Park is a 1,133-acre park located in Platte County along the Missouri River, in the heart of the largest tobacco region west of the Mississippi River. This tobacco heritage is represented at the park by several old tobacco barns and a kiosk describing to visitors the history of the area. The park also offers a campground, picnic areas and a shelter house, hiking and bicycling trails, a river overlook, and river access for fishing. Weston Bend's trails attract many day-use visitors, who use the trails daily.

SCOPE OF STUDY

The population of the visitor study at the eight state parks and historic sites consisted of all visitors who were 18 years of age or older (adults), and who visited these areas from June 1, to October 31, 1998. The results of this study only reflect visitors during the study period.

Methodology

The following is a brief description of the methodology used during the 1998 Missouri State Parks Visitor Survey. For a more complete explanation of the methodology used at each state park and historic site, please refer to their individual reports (Fredrickson & Moisey, 1999a, 1999b, 1999c, 1999d, 1999e, 1999f, 1999g; Moisey & Fredrickson, 1999).

SAMPLING PROCEDURES

A 95% confidence interval was chosen for each park and site. Margins of error ranged from plus or minus 5% to plus or minus 7% based on the sample sizes from each park and site survey. The study period for the 1998 Missouri State Parks Visitor Survey was from June 1 to October 31, 1998. A random sample of adult visitors (18 years of age and older) who visited the eight state parks and historic sites during the study period were the respondents for this study.

Three time slots were chosen for surveying: Time Slot 1 = 8 a.m. -12p.m., Time Slot 2 = 12 p.m. -4 p.m., and Time Slot 3 = 4 p.m. - 8 p.m. At all but Johnson's Shut-Ins State Park and due to time and travel constraints, surveying was conducted during two time slots per survey day. At Johnson's Shut-Ins State Park, only one 4-hour time slot was surveyed during each survey day. A time slot was randomly chosen for each of the eight parks and sites and assigned to the first of the scheduled survey dates for those parks and sites. Thereafter, time slots were assigned in ranking order based on the

first time slot. This method was chosen to allow each of the three time slots to be surveyed approximately the same number of times during the study period. This method was also chosen to allow visitors leaving the parks and sites at various times of the day an equal opportunity for being sampled.

QUESTIONNAIRE

The questionnaires used in this study were based on the questionnaire developed by Fink (1997) for the Meramec State Park Visitor Survey. Copies of the questionnaires for this study are provided in Appendix A.

SELECTION OF SUBJECTS

The surveys of visitors during the 1998 Missouri State Parks Visitor Survey were administered on-site, to eliminate the non-response bias of a mail-back survey. Where possible, exit surveys were conducted of visitors leaving the various parks. At these parks, a systematic sampling of all adults in every nth vehicle (pre-determined by past years' visitation data) was conducted as the vehicles exited. Because an exit survey was not always feasible at every park and site due to dangerous traffic, lack of areas for pulling over vehicles, etc., on-site surveys of identified recreation areas within these parks and sites were conducted. All adult visitors in these recreation areas were asked to participate in the survey.

DATA COLLECTION

The surveyors wore state park T-shirts and were either stationed at the entrances into the various parks or recreation areas or walked roving routes between the recreation areas at the parks and sites. During the selected time slot, the surveyors asked every visitor who was 18 years of age and older and at these areas 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 surveyors

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.

Observation surveys were 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 of survey participants; 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.

Results and Discussion

This section describes the results of the 1998 Missouri State Parks Visitor Survey. For a more in-depth examination of the results from the eight state park and historic site surveys, see the individual reports of each survey (Fredrickson & Moisey, 1999a, 1999b, 1999c, 1999d, 1999e, 1999f, 1999g; Moisey & Fredrickson, 1999). This section also provides relevant management implications and future research suggestions.

SURVEYS COLLECTED & RESPONSE RATES

A total of 3,832 surveys were collected during the 1998 Missouri State Parks Visitor Survey. Table 1 shows the number of surveys collected at each state park and historic site. The overall response rate was 86.3%. Overall response rates ranged from 66% to 100%.

The prize package drawing and the onepage questionnaire undoubtedly helped attain the high response rate of this study. 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 reasons that visitors declined to participate in the surveys were because of the heat and also because they were in a hurry. The majority of non-respondents were still very cooperative and many provided positive comments about the parks and sites. Some non-respondents even asked if they could take a survey and mail it back. For future studies, it is recommended that self-addressed stamped envelopes be made available to offer visitors 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 surveys on-site, and to only use the mail-back approach when it is certain visitors would otherwise be nonrespondents.

Table 1. Surveys Collected by State Park and Historic Site

Park or Site	Frequency	Percent
Katy Trail	1,411	36.8%
Bennett Spring	415	10.8%
Johnson's Shut-Ins	400	10.4%
Pomme de Terre	388	10.1%
Watkins Woolen Mill	348	9.1%
Hawn	305	8.0%
Mastodon	301	7.9%
Weston Bend	264	6.9%
Total	3,832	100%

PROFILE OF VISITORS

Table 2 lists the socio-demographic characteristics of all visitors across the eight state parks and historic sites. The average age of all adult visitors to the eight parks and sites was 43.01, with visitors to Johnson's Shut-Ins Park having the lowest average age (37.02) and visitors to Bennett Spring State Park having the highest average age (47.8). This difference in age may be due in part to the recreational resources at Johnson's Shut-Ins State Park attracting younger visitors and the recreational resources at Bennett Spring State Park attracting older visitors and retirees.

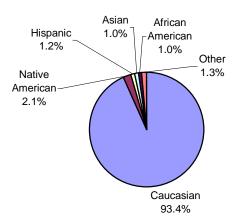
Visitors were almost equally male and female, with males comprising 53.2% of all visitors and females comprising 46.8% of all visitors. The majority (41.6%) of visitors indicated having a four-year college or post-graduate education, although visitors to Katy Trail State Park had the highest level of education with 57% having a four-year college or post-graduate education. This higher level of education at Katy Trail State Park is probably due to the proximity of one its management regions, the Rock Bridge management region, to the University of Missouri-Columbia. Visitors to Bennett Spring State Park had the lowest level of education with the majority (35.2%) of visitors having a high school education or less.

Most visitors (40.0%) reported having an annual income of between \$25,000 and \$50,000. Again, Katy Trail State Park visitors reported having higher annual incomes when compared to the other parks and sites. Although the largest percentage (35%) of Katy Trail visitors reported an annual income of between

\$25,000 and \$50,000, 26.7% of Katy Trail visitors indicated having an annual income of over \$75,000. Compare this with incomes reported by visitors to the other parks and sites, where visitors with annual incomes of more than \$75,000 accounted for between 10.3% and 18.8% of visitors reporting their incomes.

The vast majority (93.4%) of visitors to the parks and sites were Caucasian in ethnic background, whereas only 2.1% were Native American, 1.2% were Hispanic, 1.0% were Asian, and 1.0% were African American. Figure 1 depicts the ethnic origin of visitors to the eight state parks and historic sites surveyed during the 1998 Missouri State Parks Visitor Survey.

Figure 1. Ethnic Origin of Visitors



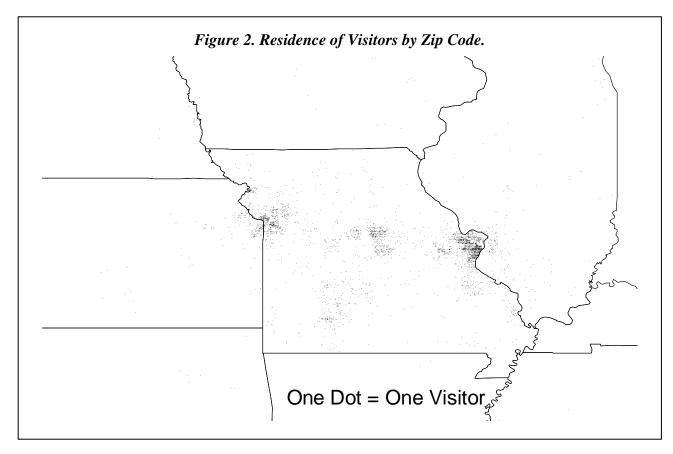
For the most part, the percentage of visitors by ethnicity across the eight state parks and historic sites represents the percentages of Missouri residents. For instance, Hispanic residents account for 1.2% of all Missouri residents, Asians account for 0.8%, and Native Americans account for 0.4% (Missouri State Census Data Center [MSCDC], 1990). However, African Americans account for almost 11% (10.7%) of all Missouri residents, and can be said to be the most

under-represented of all minority groups in the 1998 Missouri State Parks Visitor Survey sample.

Visitor diversity insures broad political support and funding for outdoor recreation areas, which is why managers should strive to serve this diversity (Burch, 1974; Thorne, Brown, & Witter, 1992). This is especially true for parks and sites such as Mastodon State Historic Site, Watkins Woolen Mill State Historic Site and Park, and Weston Bend State Park. These areas are located near large urban centers where there is an increase in overall population concentrations and in minority populations (Dwyer, 1994). Several suggestions for increasing minority participation at Missouri State Parks and Historic Sites include providing activities and programs that appeal to urban minority youth, hiring minority staff, training present staff to be

sensitive to and meet the needs of a diverse clientele, and to promote services and programs that appeal to a broader base of visitors.

Only 4.4% of all visitors indicated having some type of disability that substantially limited one or more life activities or that required special accommodations. And finally, most of the visitors (75.9%) were from Missouri; however, Weston Bend State Park had the highest percentage of out-of-state visitors with 23.9% of those out-of-state visitors residing in Kansas. Johnson's Shut-Ins State Park had the second highest out-of-state visitors with 17% of those visitors residing in Illinois. Figure 2 shows the residence of visitors by zip code.



USE PATTERNS

Visit Characteristics

Seven out of 10 visitors (72.7%) were repeat visitors. Bennett Spring State Park had the highest percentage of repeat visitors (81.2%), and only Mastodon State Historic Site had more first-time visitors (55.5%) than repeat visitors (44.5%). The average number of times visitors reported visiting the various parks and sites within the past year was 19.8 times, with a low of 1.6 times (Johnson's Shut-Ins State Park) and a high of 24.3 times (Katy Trail State Park). These differences are due to the fact the Johnson's Shut-Ins State Park may be viewed by visitors as a vacation spot, whereas Katy Trail State Park visitors often use the trail on a daily or weekly basis.

The majority (44.2) of visitors to the eight state parks and historic sites visited with family, and average group size was about 4 people per group. Group sizes ranged from a high of 6.1 (Hawn State Park) to a low of 2.1 (Weston Bend State Park). Hawn State Park's larger group size reflects the more frequent use of the park by organized groups, such as family reunions and clubs. Weston Bend State Park's smaller group size reflects the visitors who visited the park daily to use the trails.

Across the parks and sites, about twothirds (61.8%) of the visitors were dayusers (Mastodon State Historic Site is a day-use only site); however, Bennett Spring State Park and Pomme de Terre State Park both had a higher percentage of overnight visitors than day-use visitors. Almost 80% (77.2%) of visitors to Bennett Spring State Park were overnight visitors, and 76.2% of visitors to Pomme de Terre State Park also stayed overnight during their visit. Not all the parks and sites offered camping facilities, but 63.1% of overnight visitors indicated that they stayed in the campgrounds at the various parks that offered camping. Average overnight stays were three (3.0) nights.

Recreation Activity Participation

Although recreation activities differed across the eight state parks and sites, several activities were common to many of the parks and sites. For example, 32.2% of all visitors surveyed indicated that they bicycled during their visits, 28.4% said they hiked, and 24.9% said they picnicked. Almost 24% (23.5%) of visitors swam during their visits, 22.4% went camping, and 21.6% also participated in wildlife viewing.

SATISFACTION MEASURES

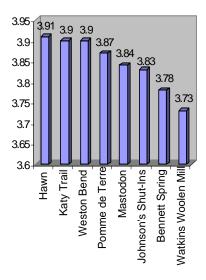
Overall Satisfaction

When asked about their overall satisfaction with their visit, less than 1% (0.3%) reported being very dissatisfied with their visit and only 0.7% reported being somewhat dissatisfied, whereas 11.8% of visitors were somewhat satisfied and 87.1% were very satisfied. Visitors' mean score for overall satisfaction was 3.86, based on a 4.0 scale with 4 being very satisfied and 1 being very dissatisfied. Figure 3 shows the mean overall satisfaction of visitors to each of the eight parks and sites.

Management should be commended that almost 99% of visitors reported being somewhat or very satisfied with their visits. Williams (1989) states that visitor

satisfaction with previous visits is a key component of repeat visitation. The high percentage of repeat visitation (72.7%) combined with their positive comments provide evidence that Missouri State Park and Historic Site visitors are indeed satisfied with their park and site experiences.

Figure 3. Overall Satisfaction of Visitors



Satisfaction with Park Features

Visitors to each of the state parks and historic sites were asked to express their satisfaction with various park features. Although these features differed at each of the parks and sites, several features

were common to most of the areas: campgrounds, picnic areas, trails, and park or site signs. Table 3 lists the mean satisfaction scores of these features for each park and site. Figure 4 is a pictorial representation of the satisfaction scores for each park and site.

Hawn State Park had the highest mean satisfaction score for campgrounds and Watkins Woolen Mill State Historic Site had the lowest: Pomme de Terre and Weston Bend State Parks had the highest satisfaction scores for picnic areas, while Johnson's Shut-Ins State Park had the lowest. Weston Bend State Park had the highest satisfaction score for park signs, Mastodon State Historic Site had the lowest. And finally, both Hawn and Weston Bend State Parks had the highest satisfaction scores for trails, whereas both Bennett Spring State Park and Mastodon State Historic Site had the lowest satisfaction scores.

PERFORMANCE RATING

Visitors to the eight state parks and historic sites were asked to rate the performance of each regarding certain attributes: being free of litter and trash, having clean restrooms, upkeep of

Table 3. Satisfaction of Features for Each Park or Site

	Campgrounds	Picnic Areas	Signs	Trails
Bennett Spring	3.68	3.77	3.71	3.64
Hawn	3.90	3.84	3.80	3.85
Johnson's Shut-Ins	3.70	3.66	3.67	
Katy Trail			3.63	3.75
Mastodon		3.71	3.48	3.64
Pomme de Terre	3.83	3.86	3.76	
Watkins Woolen Mill	3.69	3.72	3.71	3.79
Weston Bend	3.83	3.86	3.83	3.85

facilities, having helpful and friendly staff, accessibility for disabled visitors, caring for the natural resources, and being safe. Table 4 lists the mean performance scores of the attributes for each park or site, and Figure 5 illustrates these scores.

Weston Bend State Park was rated the highest on being free of litter and trash, whereas Johnson's Shut-Ins State Park was rated the lowest. Again, Weston Bend State Park was rated the highest on having clean restrooms, and Watkins Woolen Mill State Historic Site and Park was rated the lowest. Weston Bend State Park rated the highest on upkeep of park facilities as well, while Bennett Spring State Park rated the lowest. Weston Bend State Park was also rated the highest by all visitors regarding disabled accessibility, but Johnson's Shut-Ins State Park was given the lowest rating by all visitors regarding disabled accessibility. However, disabled visitors

gave Johnson's Shut-Ins State Park the highest rating for disabled access, while they gave Pomme de Terre State Park the lowest disabled access rating.

Weston Bend was given the highest rating regarding the care of natural resources, and Bennett Spring State Park was given the lowest. And finally, Weston Bend State Park was given the highest safety performance rating, while Johnson's Shut-Ins State Park was given the lowest.

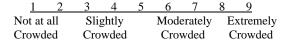
From Figure 5, it can be seen that having clean restrooms was the attribute given the lowest rating by far at each of the state parks and historic sites except Weston Bend State Park. Other management concerns include upkeep of facilities and disabled accessibility. In general, however, park and site staff were given high ratings for being helpful and friendly. Overall, care of natural resources and being safe were also given higher ratings.

Table 4. Performance Scores of Specific Park or Site Attributes

	_					_	Watkins	
	Bennett Spring	Hawn	Johnson's Shut-Ins	Katy Trail	Mastodon	Pomme de Terre	Woolen Mill	Weston Bend
Free of								
litter/								
trash	3.94	3.84	3.40	3.77	3.75	3.73	3.54	3.87
Clean								
restrooms	3.08	3.32	3.36	3.23	3.28	3.38	3.03	3.82
Upkeep	3.41	3.62	3.54		3.59	3.60	3.43	3.82
Helpful/								
friendly								
staff	3.55	3.72	3.66		3.69	3.64	3.52	3.77
Disabled								
access								
(all								
visitors)	3.53	3.66	3.39	3.45	3.42	3.62	3.48	3.74
Disabled								
access								
(disabled								
visitors)	3.62	3.56	3.75	3.54	3.40	3.31	3.50	3.56
Care of								
natural								
resources	3.50	3.76	3.58		3.63	3.59	3.58	3.78
Being								
safe	3.63	3.77	3.20	3.62	3.55	3.75	3.63	3.79

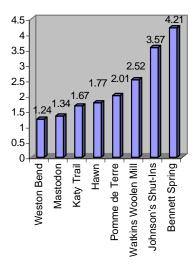
CROWDING

Visitors to each of the eight state parks and historic sites were asked how crowded they felt during their visit. The following nine-point scale was used to determine visitors' perceptions of crowding:



Visitors' overall mean response to this question was 2.21. Scores ranged from 1.24 (Weston Bend State Park) to 4.21 (Bennett Spring State Park). Figure 6 shows the mean crowded score for each park and site.

Figure 6. Mean Crowded Scores of Each Park and Site



While crowding was not a concern at all eight of the state parks and historic sites, overall it was an issue identified by many visitors as 58.8% reported feeling 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.

Particularly because visitors' perceptions of crowding can influence their overall satisfaction (Armistead & Ramthun, 1995), comparisons at each of the eight state parks and historic sites were made to determine if there were significant differences in overall satisfaction between visitors who felt some degree of crowding and those visitors who were not at all crowded. Visitors who felt crowded all had significantly lower overall satisfaction ratings than visitors who were not crowded, at Hawn State Park, Johnson's Shut-Ins State Park, Katy Trail State Park, Mastodon State Historic Site, Pomme de Terre State Park, and Watkins Woolen Mill State Historic Site and Park.

As perceptions of crowding are inversely related to overall satisfaction, park and site managers should address the issue of crowding. One option is to review comments from the individual parks and sites relating to crowding and consider options that would reduce crowding perceptions. Further study could also determine if crowding perceptions at the parks and sites are due to the number of people or perhaps the behavior of the visitors in those areas.

SAFETY CONCERNS OF VISITORS

Although safety was given a high rating overall, managers should not dismiss safety concerns of visitors. One-third (33.3%) of visitors did not give the parks and sites they were visiting an excellent rating regarding safety. Examination of comments relating to safety from each of the eight state parks and historic sites

can identify specific areas in which safety needs improvement. This is especially important as visitors with safety concerns had significantly lower overall satisfaction ratings, satisfaction ratings of park features, and lower performance ratings than visitors who felt safety to be excellent, at the following parks and sites: Bennett Spring State Park, Johnson's Shut-Ins State Park, Katy Trail State Park, Mastodon State Historic Site, Pomme de Terre State Park, Watkins Woolen Mill State Historic Site and Park, and Weston Bend State Park. Visitors who did not rate the parks and sites as excellent on being safe were also significantly more crowded than those visitors who did give excellent safety ratings, including visitors to Bennett Spring State Park, Johnson's Shut-Ins State Park, Katy Trail State Park, Mastodon State Historic Site, Pomme de Terre State Park, and Watkins Woolen Mill State Historic Site and Park.

RESEARCH RECOMMENDATIONS

The results of the present study serve as baseline visitor information for Bennett Spring State Park, Hawn State Park, Johnson's Shut-Ins State Park, Katy Trail State Park, Mastodon State Historic Site, Pomme de Terre State Park, Watkins Woolen Mill State Historic Site and Park, and Weston Bend State Park. The frequency and percentage calculations of survey responses from each of the eight parks and sites provide useful information concerning sociodemographic characteristics, use patterns, and satisfaction of Missouri

State Park and Historic Site visitors. In addition, the "sub-analysis" of data is important in identifying implications for management at each of these parks and sites. (The sub-analysis conducted for each survey included comparisons using t-tests, 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 at each of the eight parks and sites.

Additional visitor surveys at the eight state parks and historic sites should also be conducted on a regular basis (e.g., every three, four, or five years). Future studies can identify changes and trends in socio-demographic characteristics, use patterns, and visitors' satisfaction. User studies at these parks and sites might also be conducted during other seasons for comparison between summer visitors and visitors during other seasons.

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

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: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station.

Burch, W. R., Jr. (1974). In democracy is the preservation of wilderness. Appalachia, 4(2), 90-101.

Cordell, H. K., & Hartmann, L. A. (1983). Trends in outdoor recreation in the two decades since ORRRC.

Proceedings of the Southeastern

Recreation Researchers' Conference,

Asheville, North Carolina, 1-42.

Ditton, R. B., Fedler, A. J., Holland, S. M., & Graefe, A. R. (1982). A user/setting approach to understanding recreational experiences. Proceedings of the Southeastern Recreation Researchers' Conference, Asheville, North Carolina, 237-252.

Donnelly, M. P., Vaske, J. J., DeRuiter, D. S., & King, T. B. (1996). Personoccasion segmentation of state park visitors. <u>Journal of Park and Recreation Administration</u>, 14, 95-106.

Dwyer, J. F. (1994). <u>Customer diversity</u> and the future demand for outdoor recreation (General Technical Report RM-252). Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station.

Fink, D. A. (1997). Meramec State Park user survey. Unpublished master's research project, University of Missouri, Columbia.

Fredrickson, D. K. & Moisey, R. N. (1999a). 1998 Bennett Spring State Park Visitor Survey. Report submitted to the Missouri Department of Natural Resources.

Fredrickson, D. K. & Moisey, R. N. (1999b). 1998 Hawn State Park Visitor Survey. Report submitted to the Missouri Department of Natural Resources.

Fredrickson, D. K. & Moisey, R. N. (1999c). 1998 Johnson's Shut-Ins State Park Visitor Survey. Report submitted to the Missouri Department of Natural Resources.

Fredrickson, D. K. & Moisey, R. N. (1999d). 1998 Mastodon State Historic Site Visitor Survey. Report submitted to the Missouri Department of Natural Resources.

Fredrickson, D. K. & Moisey, R. N. (1999e). 1998 Pomme de Terre State Park Visitor Survey. Report submitted to the Missouri Department of Natural Resources.

Fredrickson, D. K. & Moisey, R. N. (1999f). 1998 Watkins Woolen Mill State Historic Site and Park Visitor Survey. Report submitted to the Missouri Department of Natural Resources.

Fredrickson, D. K. & Moisey, R. N. (1999g). 1998 Weston Bend State Park Visitor Survey. Report submitted to the Missouri Department of Natural Resources.

Holst, S. (1990). The mission: A question of balance. <u>Missouri Resources</u> Review, 7(2), 6-11.

Holst, S. (1991). Parks in peril. Missouri Resource Review, 8, (3), 2-7.

Holst, S., & Simms, L. (1996). Park & soils: A decade of success for camps and crops. Missouri Resources, 13(2), 8-15.

Lucas, R. C. (1985). <u>Visitor</u>
<u>characteristics, attitudes, and use</u>
<u>patterns in the Bob Marshall Wilderness</u>
<u>Complex, 1970-82</u> (Research Paper
INT-345). Ogden, UT: U.S.
Department of Agriculture, Forest
Service, Intermountain Research Station.

Manning, R. E. (1986). <u>Studies in outdoor recreation</u>. Corvallis, OR: Oregon State University Press.

Masek, M. L. R. (1974). <u>A park user</u> fee survey for the Missouri state parks. Unpublished master's thesis, University of Missouri, Columbia.

Missouri State Census Data Center (1990). Basic demographic trend report [Online]. Available: http://www.oseda.missouri.edu/mscdc/census/us/trend/states/S29MO.

Moisey, R. N. & Fredrickson, D. K. (1999). 1998 Katy Trail State Park Visitor Survey. Reported submitted to the Missouri Department of Natural Resources.

Reid, L. M. (1963). <u>Outdoor recreation</u> <u>preferences: A nationwide study of user</u> <u>desires.</u> East Lansing, MI: Michigan State University.

Thorne, D. H., Brown, E. K., & Witter, D. J. (1992). <u>Market information:</u> <u>Matching management with constituent demands.</u> Jefferson City, MO: Missouri Department of Conservation.

Tourism and Recreation Research Unit (TRRU). (1983). <u>Recreation site survey manual.</u> New York: E. & F. N. Spon.

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.

Yeosting, D. R. (1981). Research utilization in decision-making. In T. L. Napier (Ed.), <u>Outdoor recreation planning, perspectives, and research</u> (pp. 13-18). Dubuque, IA: Kendall/Hunt Publishing Company.

	1998 Missouri State Parks Visitor Survey
Appendix A. 1998 Missouri State Park &	A Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	A Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	A Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	A Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	A Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	a Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	A Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	Historic Site Visitor Surveys
Appendix A. 1998 Missouri State Park &	Historic Site Visitor Surveys

BENNETT SPRING STATE PARK

The Missouri Department of Natural Resources is seeking your evaluation of Bennett Spring 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.

1116	anaging un	s park. Than	ik you for your th	ne.						
1.	Is this you one box.)	ur first visit □ yes □ no	If no, how man	g State Park? (Check only y times have you visited this park ?						
2.	During t	his visit to tl	ne park, are you	staying overnight?						
		during this (If no, skip to	o question 5.)	_						
3.	If staying	g overnight,	where are you s	taying? (Check only one box.)						
_	State P cabin i motel	in Bennett Sp	oring State Park pring State Park	☐ nearby campground ☐ nearby lodging facilities ☐ other (<i>Please specify</i> .)						
4.		_	1 0	Park campground, did you use (Check only one box.)						
	□ yes	If yes, were box.) □ ye □ no	es	th the procedure? (Check only one ssatisfied you? (Please specify.)						
	□ no									
5.	With wh	om are you	visiting the park	? (Check only one box.)						
	□ alone □ family		ily and friends nds	☐ club or organized group☐ other (<i>Please specify</i> .)						

6.	Which recreativisit? (Check a	onal activities hav ll that apply.)	ve you	ı engaged i	n dur	ing this pa	ark
	☐ camping ☐ fishing	☐ studying nature ☐ rafting/canoein ☐ viewing wildlit ☐ swimming in p specify.)	ig fe ool		g spec n guid	ial event ed nature l	nike
7.		re you with each one box for each fed		_	n Ber	_	ng State
	aammara d	Satisfied S	omewh Satisfie	d Dissatisf		Very Dissatisfied	Don't Know
a.	campground				_		
b.	park signs	П			Ц	_	
c. d.	picnic areas Spring Branch a	_					H
u. e.	trails		H				H
f.	swimming pool	– –				Ä	Ä
g.	nature center						
h.	store						
i.	park office						
j.	dining lodge						
8.		te Bennett Spring for each feature.)					Don't
a.	being free of litt		xcellen	t Good □	Fair	Poor	Know
a. b.	having clean res		П				
c.	upkeep of park						
d.		l & friendly staff					
e.		ns with disabilities	. 🗆				
f.	•	natural resources					
g.	care of picnic ar	rea/green space					
h.	interpretive prog	grams					
i.	being safe						
9.	If you did not a your rating?	rate this park as e	xcelle	nt on being	g safe,	, what infl	uenced

PLEASE TURN SURVEY OVER.

10	If the amphitheater at E would you like to see it			te Park wa	as moved, wl	iere	17.	What is the highest level of education you have completed? (Check only one box.)
	☐ attached to the nature ☐ in the upper campgrou			r the pool er (<i>Please</i>	specify.)			☐ grade school ☐ vocational school ☐ graduate of 4-year college ☐ high school ☐ some college ☐ post-graduate education
<u>-</u> 11	. When visiting any state you? (Check one box for	_	_	ant are ea	ch of these ite	ems to	18.	What is your ethnic origin? (Check only one box.) □ Asian □ African American □ Native American/American Indian □ Hispanic □ Caucasian/White □ Other (Please specify.)
a. b. c.	being free of litter/trash having clean restrooms upkeep of park facilities	Very Important	Somewhat Important		Very It Unimportant □ □	Don't Know □ □	19.	Do you have a disability that substantially limits one or more life activities or might require special accommodations?
	having a helpful & friendly staff access for persons with							☐ yes ☐ no ☐ If yes, what disability or disabilities do you have?
f.	disabilities care of trails & natural						20.	What is your 5-digit zip code (or country of residence, if you live outside the U.S.)?
g.	resources care of picnic area/ green space						21.	What is your annual household income?
h. i.	interpretive programs being safe							□ less than \$25,000 □ \$50,001 - \$75,000 □ \$25,000 - \$50,000 □ over \$75,000
12	Very Somew Satisfied Satisfied	box.)	Somewhat Dissatisfi	at	very Dissatisfied □	ate	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 Bennett Spring State Park a better one.
13	During this visit, how c	rowded	did you fee	el? (Circle	e one number.)		
	1 2 3 4 t at all Slightly owded Crowded		Mod	7 erately owded	8 9 Extreme Crowde			
14	. If you felt crowded on t	his visit,	where did	you feel o	crowded?			THANK YOU FOR YOUR HELP. YOU ARE ALWAYS WELCOME IN MISSOURI STATE PARKS.
15	What is your age?		16. Gen	der? □	female □ n	nale		

	campgrour picnic area				5.	Which recrea visit? (Check			you e	ngaged i	in duri	ng this	park
			HAWN STAT	E PARK		,	11 2	,					
The Missouri Department of Natural Resources is seeking your evaluation of Hawn 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.					6.	 □ picnicking □ backpacking □ attending special event □ hiking □ studying nature □ going on guided nature hike □ camping □ viewing wildlife □ attending nature program □ other (Please specify.) How satisfied are you with each of the following in Hawn State Parks 							
1.	Is this y	our f	irst visit to Hawn State P	Park? (Check only one box.)		(Check one bo	x for eacn feat	ture.)					
	□ yes □ no	If n	o, how many times have	you visited this park in the past		campground park signs	Very Satisfied □	Somewh Satisfie		omewhat ssatisfied	Dissa	ery atisfied	Don't Know
		jea			c.	picnic areas							
2.	During	g this	visit to the park, are you	staying overnight?	d.	*							
	 □ yes If yes, how many nights are you staying at or near the park during this visit? □ no (If no, skip to question 4.) 					How do you r one box for ea							Don't
			•			1	· / 1	Ex		Good	Fair	Poor	Know
3.	If stayi	ing ov	vernight, where are you s	taying? (Check only one box.)	a. h	being free of li having clean re							
		by car	nd in Hawn State Park mpground latives	□ nearby lodging facilities □ other (<i>Please specify</i> .)	c. d. e. f.	upkeep of park having a helpf access for pers care of natural being safe	c facilities ul & friendly s sons with disal						
4.	With w	vhom	are you visiting the park	? (Check only one box.)				_					-
	□ alon □ fami	e ☐ family and friends ☐ club or organized group			8.	If you did not your rating?	rate this par	k as exc	ellent	on bein	g safe,	what ir	itluence

PLEASE TURN SURVEY OVER.

HAWN STATE PARK

								only one box.)
9.		When visiting any state park, how important are each of these items to you? (Check one box for each feature.)						☐ grade school ☐ vocational school ☐ graduate of 4-year college ☐ high school ☐ some college ☐ post-graduate education
b. c. d.	being free of litter/trash having clean restrooms upkeep of park facilities having a helpful & friendly staff access for persons with disabilities care of natural resources being safe		Somewhat Important		Very Unimportan	Don't tt Know		What is your ethnic origin? (Check only one box.) □ Asian □ African American □ Native American/American Indian □ Hispanic □ Caucasian/White □ Other (Please specify.) Do you have a disability that substantially limits one or more life activities or might require special accommodations? □ yes □ yes □ no
10.	Overall, how satisfied a (Check only one box.) Very Somew	vhat	Some	what	Very			What is your 5-digit zip code (or country of residence, if you live outside the U.S.)? What is your annual household income?
11.	Satisfied Satisfied During this visit, how		Dissati □ I did you		Dissatisfied □ e one numb			□ less than \$25,000 □ \$50,001 - \$75,000 □ \$25,000 - \$50,000 □ over \$75,000
No		4 y	5 6 M	7 oderately Crowded		emely	20.	Please write any additional comments about your park visit or suggestions on how the Missouri Department of Natural Resources can make your experience in Hawn State Park a better one.
12.	If you felt crowded on	this visi	t, where d	lid you feel	crowded?			
13.	What is your age?							
14.	What is your gender?		female	□ mal	e			THANK YOU FOR YOUR HELP. YOU ARE ALWAYS WELCOME IN MISSOURI STATE PARKS.

15. What is the highest level of education you have completed? (Check

JOHNSON'S SHUT-INS STATE PARK

The Missouri Department of Natural Resources is seeking your evaluation of Johnson's Shut-Ins 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 for only one box.)	nut-Ins State Park? (Check w many times have you visited this he past year?						
2.	During this	visit to the park, are you							
	•	es, how many nights are	e you staying at or near the park						
		no, skip to question 4.)	_						
3.	If staying ov	If staying overnight, where are you staying? (Check only one box.)							
	☐ campgrou State Park ☐ nearby ca ☐ friends/re	mpground	□ nearby lodging facilities □ other (Please specify.)						
4.	With whom	are you visiting the par	k? (Check only one box.)						
	□ alone □ family	☐ family and friends☐ friends	☐ club or organized group☐ other (<i>Please specify</i> .)						
5.		eational activities have y k all that apply.)	ou engaged in during this park						
	□ hiking □ fishing	backpacking □ swimming/wading □ viewing wildlife □ studying nature	☐ attending special event ☐ going on guided nature hike ☐ attending nature program ☐ other (Please specify.)						
6.	Which of th		nilability would you support?						
	□ some cam	ites first-come, first-serve psites reserved beforehan ites reserved beforehand t	d						

7.	State Park? (Ch				ın Joh	nson's	Shut-In	ıS
a. b. c. d. e. f.	campground park signs picnic areas shut-ins area trailhead store	Very Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Diss	ery satisfied	Don't Know	
8.	How do you rate following? (Che				on eac	h of the	;	
a. b. c. d. e. f.	being free of litte having clean rest upkeep of park fa having a helpful a access for person care of natural re being safe	r/trash rooms acilities & friendly s s with disab	Excelle:	·	Fair	Poor	Don't Know	
9.	If you did not rayour rating?	te this parl	x as excelle	ent on being	g safe,	what in	ıfluence	d
	During this visit wait in line to en ☐ yes ☐ yes, ☐ no If you knew ahe have come to Jo	iter the par how long d ad of time t	k? (Check id you wai chat you w	only one bo	o wait,	would	you sti	11
	nave come to go.	□ yes	_	no	neen O	my one	υσλ.)	

PLEASE TURN SURVEY OVER.

JOHNSON'S SHUT-INS STATE PARK

12.	2. During this visit, how crowded did you feel? (Circle one number.)							19.	9. What is the highest level of education you have completed? (Check only one box.)					
	1 2 tat all	3 Slightly Crowded		N	5 7 Moderately Crowded	8 9 Extre Crow	mely		☐ grade scho		ocational school ome college	☐ graduate of 4-year college☐ post-graduate education		
12	TC C14	ou felt crowded on this visit, where did you feel crowded?							What is you	r ethnic o	origin? (Check or	nly one box.)		
13.		owaea on t	mis visit	, wnere		i crowded:						ive American/American Indian er (Please specify.)		
14.	Currently the help protect t the following	he natura	l resour	ces and t	to reduce c	rowding. W		21.				ially limits one or more life ommodations? (Check only one		
		e visitors to				though it cou	ld result		□ no □ yes	If yes, wh	nat disability or o	disabilities do you have?		
	□ keep the n	keep the number of visitors about the same										ommodations that would		
☐ allow fewer visitors to reduce crowding and resource impact, even though it could result in increased waiting time						even			increase	the enjoyment of	f your visit?			
15.	When visiting you? (Check				ortant are e	each of these	items to	22.	What is you the U.S.)?	ır 5-digit z	zip code (or coun	try of residence, if you live outside		
				Somewhat		Don't	23.	What is you	r annual l	household incom	ne?			
b.	being free of l having clean r	itter/trash estrooms				nt Unimportant Know			□ less than \$ □ \$25,000 -			0,001 - \$75,000 r \$75,000		
c. d.	upkeep of parl having a helpf	ful &	Ц					24.				about your park visit or		
Δ.	friendly staff access for pers	cone with										rtment of Natural Resources 's Shut-Ins State Park a better		
f.	disabilities care of natural being safe								one.	ом. Спрост		2 22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
16.	Overall, how State Park?	satisfied a	re you v y one bo	with this	visit to Joh	nnson's Shut	-Ins							
	Very Satisfied	Somew Satisfic	hat	Some Dissa	ewhat tisfied	Very Dissatisfied □			YOU ARE A		NK YOU FOR Y WELCOME IN	OUR HELP. MISSOURI STATE PARKS.		

17. What is your age? _____ **18. Gender?** □ female

 \square male

KATY TRAIL STATE PARK

The Missouri Department of Natural Resources is seeking your evaluation of Katy Trail 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.

thi	s park. T	hank you f	or your time.					
	Is this your first visit to Katy Trail State Park? (Check only one box.)							
	☐ yes ☐ no ☐ show the past year?							
2.	Did you access a trailhead today to enter the Katy Trail?							
	□ yes (If yes, continue with question 3.) □ no (If no, skip to question 4.)							
3.	Which trailhead did you access today to enter the Katy Trail? (Check only one box.)							
	☐ Clifte ☐ Pilot ☐ Boom ☐ New ☐ Roch	on City Grove wille Franklin	☐ Hartsburg ☐ N. Jefferson ☐ Tebbetts ☐ Mokane ☐ Portland ☐ McKittrick ☐ Treloar					
4.			ı did not access a tr	ailhead, where did you enter the				
5.	On this	trip, wher	e are you planning	on exiting the Katy Trail?				
6.	During	this visit t	o the trail, are you s	staying overnight?				
	□ yes	•	w many nights are y	you staying near the trail during				
	□ no		p to question 8.)					

7. If stay	ing over	night, wher	e are you	staying? (Cl	neck only one	e box.)
☐ frie	nds/relati		□ nearby b	community lo		ies
8. With	whom ar	e you visiti	ng the trail	? (Check on	ly one box.)	
□ alo □ fan		☐ family ar ☐ friends	nd friends		or organized (<i>Please spec</i>	
		ional activi trail visit?		ou engaged i that apply.)	in or will be	engaging
□ hik	lking ing	☐ running☐ jogging☐ viewing☐ studyin	g g wildlife	☐ picnicking ☐ attending ☐ other (Ple	special event	t
				rmally trave		l during a
		are you with one box for		he following re.)	in Katy Tra	il State
e. benchd. parkir12. If you	oms igns ng water es	Very Satisfied □ □ □ □ □ □ □ □ □ □ □		Dissatisfied		
		ssatisfica v	itii aiiy oi	the above, w	my were you	1
dissa	tisfied? _		thi any or	me above, w	——————————————————————————————————————	

PLEASE TURN SURVEY OVER

_	u rate Katy Trail Sta box for each feature.)	te Park on each o	of the following?	19. If you felt crowded on this visit, where did you feel crowded?
a. being free ofb. having clearc. access for ped. being safe	f litter/trash		Don't	 20. What is your age? 21. Gender? □ female □ male 22. What is the highest level of education you have completed? (Check only one box.)
•	ot rate the trail as exc ?			☐ grade school ☐ vocational school ☐ graduate of 4-year college ☐ high school ☐ some college ☐ post-graduate education
	ional facilities or serv Trail State Park?			23. What is your ethnic origin? (Check only one box.) □ Asian □ African American □ Native American/American Indian □ Hispanic □ Caucasian/White □ Other (Please specify.)
	ng any state park, ho	ture.)		24. Do you have a disability that substantially limits one or more life activities or might require special accommodations?
b. having clear	Important Im f litter/trash □ n restrooms □	mewhat Somewhat portant Unimportan	Very Don't t Unimportant Know □ □	☐ yes ☐ no ☐ If yes, what disability or disabilities do you have?
c. access for pedisabilitiesd. being safe	ersons with			25. What is your 5-digit zip code (or country of residence, if you live outside the U.S.)?
	ow satisfied are you w ly one box.) Somewhat	rith this visit to K Somewhat	aty Trail State Park? Very	26. What is your annual household income? ☐ less than \$25,000 ☐ \$50,001 - \$75,000 ☐ \$25,000 - \$50,000 ☐ over \$75,000
Satisfied	Satisfied ☐ s visit, how crowded d	Dissatisfied	Dissatisfied □ ccle one number.)	27. Please write any additional comments about your park visit or suggestions on how the Missouri Department of Natural Resources can make your experience in Katy Trail State Park a better one.
1 2 Not at all Crowded	3 4 5 Slightly Crowded	6 7 Moderately Crowded	8 9 Extremely Crowded	

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

MASTODON STATE HISTORIC SITE

The Missouri Department of Natural Resources is seeking your evaluation of Mastodon State Historic Site. 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 Mastodon State Historic Site? (Check only one box.) \square yes If no, how many times have you visited this park in the past □ no 2. With whom are you visiting the park? (Check only one box.) \square alone ☐ family and friends □ club or organized group \square other (*Please specify.*) \square family ☐ friends 3. Which recreational activities have you engaged in during this park **visit?** (Check all that apply.) □ picnicking □ visiting museum □ going on interpretive trail ☐ hiking \square viewing wildlife \square going on guided nature hike □ studying nature □ special event \square other (*Please specify.*) 4. How satisfied are you with each of the following in Mastodon State **Historic Site?** (Check one box for each feature.) Very Somewhat Somewhat Very Don't Dissatisfied Dissatisfied Know Satisfied Satisfied a. museum exhibits b. park signs

П

П

П

picnic areas

d. interpretive trail

5.	<u> </u>	How do you rate Mastodon State Historic Site on each of the following? (Check one box for each feature.)							
a. b. c.	being free of litter/trash having clean restrooms upkeep of park facilities having a helpful &		ent Good	Fair	Poor	Don't Know			
d.	friendly staff								
e.	access for persons with disabilities								
f.	care of natural resources	s 🗆							
g.	being safe								
6.	If you did not rate this influenced your rating	_	excellent (on being	safe, what	<u> </u>			
7.	When visiting any stat to you? (Check one box	-	_	tant are o	each of the	ese items			
		Very Important	Somewhat Important		Very nt Unimporta	Don't ant Know			
a.	being free of litter/trash								
b.	having clean restrooms								
c. d.	upkeep of park facilities having a helpful &	S L	Ц	Ш	Ц	Ц			
	friendly staff								
e.	access for persons with disabilities	П	П	П	П	П			
f.	care of natural resources	_							
g.	being safe								
8.	Overall, how satisfied a Historic Site? (Check of	-		isit to Ma	stodon St	ate			
	Very Somey Satisfied Satisfi		Somewh Dissatis		Very Dissatisfi	ied			

PLEASE TURN SURVEY OVER.

MASTODON STATE HISTORIC SITE

9. I	Ouring this v	isit, hov	v crowd	led did y	ou feel?	? (Circle	e one 1	number.)
Not	1 2 at all wded	3 Sligh Crow		5	6 Mode Crow	7 erately eded	8	9 Extremely Crowded
10.	If you felt cr	owded o	on this v	visit, wh	ere did	you feel	crow	ded?
11.	What is you	r age? _						
12.	What is you	r gende	r?	☐ fema	ıle	□ ma	le	
13.	What is the highest level of education you have completed? (Check only one box.)							
	☐ grade sch ☐ high scho					_	•	year college education
14.	What is you	r ethnic	origin	? (Checi	k only or	ne box.)		
	☐ Asian ☐ Hispanic							ean Indian
15.	Do you have activities or		•		•			more life
	□ yes □ no	If yes,	what di	sability	or disab	oilities d	o you	have?
16.	What is your 5-digit zip code (or country of residence, if you live outside the U.S.)?							

17. What is your annual nous	what is your annual nousehold income:								
☐ less than \$25,000 ☐ \$25,000 - \$50,000	□ \$50,001 - \$75,000 □ over \$75,000								
suggestions on how the Mi	al comments about your park visit or issouri Department of Natural Resources in Mastodon State Historic Site a better								

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

	Pittsburg Hermitage POMME DE TERRE STATE PARK				6.	Which recreate visit? (Check			nave yo	u enga	nged in	durin	g this j	park
Po	The Missouri Department of Natural Resources is seeking your evaluation of Pomme de Terre 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.					☐ picnicking ☐ hiking ☐ camping ☐ boating	□ boat r □ swim □ viewi □ study	ming ng wild	[life [□ goin □ atter	nding sp g on gu nding na r (<i>Pleas</i>	ided na ature pi	ature h ogran	
	1. Is this your first visit to Pomme de Terre State Park? (Check only one box.) □ yes □ no If no, how many times have you visited this park in the past year?				7.	How satisfied State Park? (Pomr	ne de	Terre
2.	□ yes If d	yes, how uring this	the park, are you st many nights are yo		b. c. d.	campground park signs picnic area lake access are	S	Very atisfied	Somewh Satisfie		satisfied		sfied k 	Oon't Know
3.	• 0	ound in Po	, where are you stay	ying? (Check only one box.) ☐ nearby campground ☐ nearby lodging facilities ☐ other (Please specify.)	8.	How do you ra (Check one bo	ox for each		e.)	cellent	Good	ach of Fair		□ llowing Don't Know □
4.	are you sta	aying here	e because you were	in Pomme de Terre State Park, unable to get a campsite at an? (Check only one box.)	b. c.	being free of li having clean re upkeep of park having a helpfu access for pers care of natural being safe	estrooms c facilities ul & friend cons with c	lisabilit						
5.	□ yes □ no 5. With whom are you visiting the park? (Check only one box.)					If you did not your rating?	rate this	park as	s excell	ent on	being s	safe, w	hat in	fluence
	□ alone □ family	□ far □ frie	nily and friends ends	☐ club or organized group ☐ other (<i>Please specify</i> .)										

PLEASE TURN SURVEY OVER.

POMME DE TERRE STATE PARK

	only one box.)
10. Which of the following campsite availability would you support (Check only one box.)	? □ grade school □ vocational school □ graduate of 4-year college □ high school □ some college □ post-graduate education
 □ all campsites first-come, first-serve □ some campsites reserved beforehand □ all campsites reserved beforehand 	18. What is your ethnic origin? (Check only one box.)
11. When visiting any state park, how important are each of these is you? (Check one box for each feature.)	Asian ☐ African American ☐ Native American/American Indian ☐ Hispanic ☐ Caucasian/White ☐ Other (Please specify.) ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
Very Somewhat Somewhat Very Important Important Unimportant Unimportant a. being free of litter/trash □ □ □ □	19. Do you have a disability that substantially limits one or more life activities or might require special accommodations?
b. having clean restrooms □ □ □ □ □ □ □ c. upkeep of park facilities □ □ □ □ □ □ □ d. having a helpful &	☐ ☐ yes ☐ no ☐ If yes, what disability or disabilities do you have?
friendly staff	□ 20. What is your 5-digit zip code (or country of residence, if you live outside the U.S.)?
f. care of natural resources g. being safe	□ □ 21. What is your annual household income?
12. Overall, how satisfied are you with this visit to Pomme de Terro	□ less than \$25,000 □ \$50,001 - \$75,000 □ \$25,000 □ \$25,000 □ over \$75,000
Park? (Check only one box.) Very Somewhat Somewhat Very Satisfied Dissatisfied Dissatisfied □ □ □	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 Pomme de Terre State Park a better one.
13. During this visit, how crowded did you feel? (Circle one number	r.)
1 2 3 4 5 6 7 8 9 Not at all Slightly Moderately Extrem Crowded Crowded Crowded Crowded	
14. If you felt crowded on this visit, where did you feel crowded?	
15. What is your age? 16. Gender? □ female □	THANK YOU FOR YOUR HELP. wale YOU ARE ALWAYS WELCOME IN MISSOURI STATE PARKS.

17. What is the highest level of education you have completed? (Check

WATKINS WOOLEN MILL STATE HISTORIC SITE AND PARK

The Missouri Department of Natural Resources is seeking your evaluation of
Watkins Woolen Mill State Historic Site and 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.

Wa	atkins Wo	poolen Mill State Historic Site and anonymous. Your cooperation is pout managing this park. Thank y	Park. This survey is voluntary and important in helping us make						
1.	Is this your first visit to Watkins Woolen Mill State Historic Site and Park? (Check only one box.)								
	□ yes □ no	If no, how many times have yo	u visited this park in the past year						
2.	During	this visit to the site, are you stay	ying overnight?						
	□ yes	If yes, how many nights are yo this visit?	u staying at or near the site during						
	□ no	(If no, skip to question 4.)							
3.	If stayir	ng overnight, where are you stay	ying? (Check only one box.)						
	State	ground in Watkins Woolen Mill Historic Site and Park ds/relatives	□ nearby campground □ nearby lodging facilities □ other (<i>Please specify</i> .)						
4.	With w	hom are you visiting the site? (Check only one box.)						
	□ alone □ famil	3	☐ club or organized group ☐ other (Please specify.)						

5.	Which recreation (Check all that a		s have you	ı enga	aged in	during	g this v	isit?
	□ picnicking □ bicycling □ running □ jogging □ hiking □ camping	☐ horsebac ☐ boating ☐ fishing ☐ swimmin ☐ viewing ☐ studying	g wildlife	□ to □ at □ at □ ge	tending outling outling of the control of the contr	istoric specia nature guideo	buildin al event e progra l nature	gs am
6.	How satisfied a Mill State Histo	•			_			
a. b. c. d. e. f.	campground park signs picnic areas lake access area trails visitor center	Very Satisfied □ □ □ □ □ □	Somewhat Satisfied		mewhat satisfied		ery atisfied	Don't Know
7.	How do you rate						te and l	Park on
a. b. c. d. e. f. g.	being free of litte having clean rest upkeep of park fa having a helpful access for person care of natural re being safe	rooms acilities & friendly st as with disabi	aff lities	ellent	Good	Fair	Poor	Don't Know
8.	8. If you did not rate this park as exc your rating?				being s	safe, w	hat inf	luenced
		PLEASE T	URN SUR	EVEY	OVER	<u>.</u>		

WATKINS WOOLEN MILL STATE HISTORIC SITE AND PARK					16.	What is the high only one box.)	est level of edu	cation	you have completed? (Check		
9.	increase the enjoyment demonstrations in the k	During this visit, did viewing the "living history" demonstrations increase the enjoyment of your visit (eg. staff in period costumes and demonstrations in the kitchen, heirloom garden, and with the livestock)? (Check only one box.)						☐ grade school ☐ high school	□ vocational s □ some colleg		☐ graduate of 4-year college ☐ post-graduate education
	iivestock): (Check only					17.	What is your eth	nnic origin? (C	heck or	ıly one box.)	
	A Lot Some		Not A		Didn't :	See		☐ Asian ☐ A ☐ Hispanic ☐ C			ive American/American Indian
10. When visiting any state park, how important are each of these items to you? (Check one box for each feature.)					items to	10	-				
		-		Unimportant	Very Unimportant		18.	Do you have a di activities or migl			ially limits one or more life ommodations?
a. b. c.	having clean restrooms							□ yes □ no □ If ye	es, what disabil	lity or	disabilities do you have?
	having a helpful & friendly staff access for persons with						19.	What is your 5-d the U.S.)?			try of residence, if you live outside
f.	disabilities care of natural resources						20.	What is your and		incom	e?
g. 11	being safe 1. Overall, how satisfied a							□ less than \$25,0 □ \$25,000 - \$50,			0,001 - \$75,000 r \$75,000
	State Historic Site and	Park?	(Check only	y one box.))		21.				about your park visit or
	Very Somew Satisfied Satisfie □ □		Somewh Dissatis		Very Dissatisfied				rience in Watk		artment of Natural Resources can olen Mill State Historic Site and
12	2. During this visit, how o	crowded	did you fe	eel? (Circl	le one numbe	r.)					
Cı	1 2 3 ot at all Slightly rowded Crowded 3. If you felt crowded on to	d	Cro	7 derately owded	8 9 Extrem Crowded?	•			FHANK YOU! AYS WELCO!		OUR HELP. MISSOURI STATE PARKS.

□ male

☐ female

14. What is your age? _____ 15. Gender?

WESTON BEND STATE PARK

The Missouri Department of Natural Resources is seeking your evaluation of Weston Bend 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.

□ yes □ no	If no, how many times have year?	you visited this park in the past
Durin	g this visit to the park, are you	staying overnight?
□ yes		you staying at or near the park
□ no	during this visit?(If no, skip to question 4.)	_
If stay □ can Stat	(If no, skip to question 4.)	
☐ can Stat	(If no, skip to question 4.) ring overnight, where are you so appround in Weston Bend e Park	taying? (Check only one box.) ☐ nearby campground ☐ nearby lodging facilities ☐ other (Please specify.)

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

□ hiking □ s	ature rildlife	vent	☐ viewing barns & exhibits ☐ going on guided nature hike ☐ other (Please specify.)				
How satisfied a Park? (Check o					in Weston	Bend St	
campground park signs picnic areas trails	Very Satisfied	Somewh Satisfied		Somewhat Dissatisfied	Very Dissatisfied □ □	Don't Know	
How do you rat (Check one box)			tate F	Park on ea	ch of the fol	lowing?	
being free of litte having clean resupkeep of park f	er/trash trooms acilities	Excellent	Good	l Fair	Poor	Don't Know	
having a helpful friendly staff							
access for person disabilities care of natural re being safe							
If you did not rayour rating?	ate this p	ark as ex	kcelle	nt on bein	g safe, what	t influe r	

PLEASE TURN SURVEY OVER.

WESTON BEND STATE PARK

9.	When visiting any state you? (Check one box for	_	_	tant are eac	ch of these i	tems to			☐ Caucasian/White	☐ Other (Please specify.)
2	being free of litter/trash	Very Important	Somewhat Important		Very Unimportant	Don't Know	17.	•	a disability that submight require specia	stantially limits one or more life l accommodations?
b. c.	having clean restrooms upkeep of park facilities having a helpful &							□ yes □ no	If yes, what disabilit	ty or disabilities do you have?
	friendly staff access for persons with						18.		5-digit zip code (or	country of residence, if you live outside
f. g.	disabilities care of natural resources being safe						19.	,	annual household in	ncome?
10.	Overall, how satisfied a	re vou	with this v	risit to West	on Bend St	ate		□ less than \$2 □ \$25,000 - \$	·	□ \$50,001 - \$75,000 □ over \$75,000
	Park? (Check only one Very Somew Satisfied Satisfied □ □ During this visit, how	box.) what	Somev Dissatis	vhat sfied	Very Dissatisfied □		20.	suggestions o	on how the Missouri	nents about your park visit or Department of Natural Resources can Bend State Park a better one.
No: Cro	1 2 3 t at all Slightly owded Crowde	4 :	5 6 Mo	7 oderately rowded	8 9 Extrem Crowd	nely				
12.	If you felt crowded on	this visit	, where di	id you feel c	erowded?					
13.	What is your age?		14. Gend	ler? □ f	emale [☐ male				
15. What is the highest level of education you have completed? (Check only one box.)						heck		YOU ARE AI		OR YOUR HELP. E IN MISSOURI STATE PARKS.
16.	e	cational me colle rigin? (6	ge [☐ graduate o☐ post-graduate of one box.)	•	•				

1000 1	Missouri	Ctata	Danka	I Zi aida a	C
1998 /	VIISSOUPI	State	Parks	Visitor	Survey

Appendix B. Survey Protocol

Protocol for 1998 Missouri State Parks 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 State Park/Historic Site
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 ofState Park/Historic Site. 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.

1000 1	Missouri	Ctata	Danka	I Zi aida a	C
1998 /	VIISSOUPI	State	Parks	Visitor	Survey

Appendix C. Prize Entry Form

WIN A PRIZE PACKAGE OF CONESSION 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 many 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, 1998. 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 #:	()		

1002	Missouri	Ctata	Darks	Vicitor	Cuman
1998	WHISSOUT	STATE	Parks	Visitor	Survey

Appendix D. Observation Survey

Date	Day of Week	Time Slot	
Weather	Temperature	Park/Site	

	Survey #'s	# of Adults	# of Children	Type of Vehicle	Additional Axles	# of Exits	Exit/ Area
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							
26							
27							
28							
29							
30							

Time Slot Codes:

Weather Codes (examples):

Time Slot $1 = 8:00$ a.m $12:00$ p.m.	Hot & Sunny	Windy
Time Slot $2 = 12:00 - 4:00 \text{ p.m.}$	Cold & Rainy	Sunny
Time Slot $3 = 4:00 - 8:00 \text{ p.m.}$	Cloudy	Humid