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TECHNICAL REPORT R-92-3

US Army Corps  
of Engineers

# SUMMARY OF THE 1990 CAMPGROUND RECEIPT STUDY

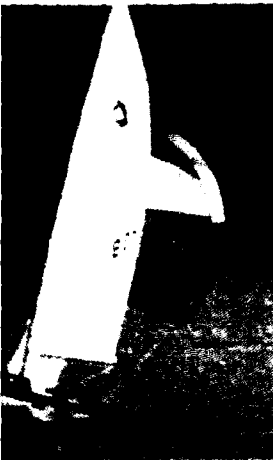
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# Preface

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The work reported herein was conducted as part of the Natural Resources Research Program (NRRP). The NRRP is sponsored by the Headquarters, US Army Corps of Engineers (HQUSACE), and is assigned to the US Army Engineer Waterways Experiment Station (WES) under the purview of the Environmental Laboratory (EL). Funding was provided under Department of the Army Appropriation No. 96X3121, General Investigation. The NRRP is managed under the Environmental Resources Research and Assistance Programs (ERRAP), Mr. J. L. Decell, Manager. Dr. A. J. Anderson was Assistant Manager, ERRAP, for the NRRP. Technical Monitors during this study were Ms. Judy Rice and Mr. Robert Daniel, HQUSACE.

This report was prepared by Ms. Terè DeMoss and Ms. Tracy C. Trichell, Resource Analysis Group (RAG), EL. Mr. Sammy Franco, RAG, contributed technical expertise to this report. Review and comments were provided by Mr. H. Roger Hamilton and Mr. John P. Titre, Jr., RAG.

The report was prepared under the general supervision of Mr. Hamilton, Chief, RAG; Dr. Conrad J. Kirby, Chief, Environmental Resources Division; and Dr. John Harrison, Chief, EL.

At the time of publication of this report, Director of WES was Dr. Robert W. Whalin. Commander and Deputy Director was COL Leonard G. Hassell, EN.

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# 1 Introduction

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## Purpose

This is the tenth in a series of reports that summarize the results of the Campground Receipt Study (CRS). The CRS has undergone continual improvement in procedures and in the application of data analysis. Changes in procedures are generally found in the earlier reports (1980-82), while improvements in special data applications tend to be found in the later reports (1982-90). The main purpose of each report, however, is to describe the CRS data so that a database can be established to analyze trends in camping use each year. This summary uses the 1990 data and examines the trends from 1984 through 1990.

## Background

In 1978, the Recreation Research and Demonstration System (RRDS) was established under the Natural Resources Research Program of the US Army Corps of Engineers. The RRDS units serve as permanently designated outdoor laboratories at which information on recreation and resource aspects of lake management can be systematically gathered. In constructing a representative sample of sites, Title V economic development and physiographic regions<sup>1</sup> were combined to produce 30 physiologic regions. Twenty-four units were selected from these regions, representing approximately 5 percent of the then 465 Corps projects. From these 24 units, the 16 projects with fee camping programs agreed to participate in the CRS (Figure 1). The 24 projects were chosen to represent a wide variety of multipurpose reservoirs, locks and dams, and dry lakes. A US Army Engineer Waterways Experiment Station (WES) publication (Hart 1981) contains a detailed explanation of the RRDS units and their selection. Specific criteria for selection are provided below.

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<sup>1</sup> Title V, Public Works and Economic Development Act of 1964.

- a. Full range of activities.
- b. Spectrum of resource characteristics.
- c. Nationwide distribution of units.
- d. Range of conditions at multipurpose projects.
- e. Planning, design, and management tasks.

One of the main uses of the RRDS has been the CRS. Through the CRS, a database has been developed on one of the Corps' most popular activities: camping. Four factors guided the development of the CRS (Curtis and Hansen 1982):

- a. The procedures and instruments developed were to place a minimum burden on project personnel.
- b. The procedures were to have a minimum impact on the recreation visitor when registering at the campground.
- c. The monitoring procedures were intended to be cost-effective and efficient.
- d. The data collected were designed to be valid and reliable.

Two important distinctions concerning the CRS database should be noted. First, the information gathered, as a subset of the CRS, includes only fee campers; therefore, these campers do not describe the "Corps visitor" per se. Second, the analyses are done to illustrate potential uses rather than to provide a definitive portrayal of all possible applications. Users are encouraged to further utilize the database as the management tool for which it was intended.

## **Study Procedures**

Data collection for this study was done by rangers and campground gate attendants as campers registered. Most of the data were collected through observation, so impact on the visitor was minimal. Data were recorded on Engineer Form 4457-1. A thorough discussion of the development of this form was provided in the 1983 Campground Receipt Study report by Akers-Fritschen (1985). Since 1988, several research and development units have implemented the Automated Use Permit System to register campers and collect CRS data.

After the CRS data were collected and sent to the corresponding Corps District offices for keypunching, they were forwarded to WES for analysis. For the analysis, a FORTRAN program, the Recreation Analysis Program (RAP), was developed. This program generates two reports. The Area Report provided a summary of the CRS data for each recreation area, while the Site-Specific Data Report provided most of the same information for each campsite. District offices that participated in the CRS were provided with a copy of the RAP for their own analysis purposes.

For the 1986-90 analysis, data from the RAP output were transferred into the Statistical Analysis System (SAS). SAS is an advanced data manager and statistical software package. The creation of SAS data sets for the CRS provides greater options for examining the data with specific research questions.

## **Multiyear Procedural Development**

Data gathered at the research and demonstration units have undergone three distinct phases of development. Initially, the study focused attention on the campground receipt in terms of defining how and what types of data were to be collected. Forms went through improvements and were finalized during the early part of the study. Comparison of key variables across projects has provided an assessment of campground market behavior in the Corps.

A second stage of development has been the documentation of general results over time, such as reporting on the changes in types of camping equipment. Important trends are highlighted in the report series (e.g., an increase in camping parties with tents and camping parties with powerboats during the years 1981 through 1984) (Lawrence and Akers-Fritschen 1986).

The third stage of CRS development has included the use of data for analyses beyond routine summaries. The present report is an extension of previous efforts, as it reports on key trends while illustrating management applications. These are aimed at improving the efficiency of project operations, which will provide for a general understanding of the Corps customer who stays overnight at a Corps campground.



## 2 Data Analysis

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### 1990 CRS Data

The data summarized in this report were collected from the nine projects that participated in the CRS during 1990. The CRS data were analyzed as independent recreation areas and projects, and then for the entire sample of projects. In this section, both the individual project and entire sample data are described. The recreation area data can be found in Appendix A.

#### Data limitations

In 1986 and 1987, the supply of Engineer Form 4457-1 was inadequate to meet the needs of all CRS projects. In 1986, the number of camping permits decreased to 81,499 (from 146,087 in 1985). In 1987, the number of projects participating decreased to nine, and the number of permits decreased to 44,531. In 1988, nine projects participated (only seven of the nine from 1987), but the permits increased to 114,042. In 1989, nine projects participated, with total permits of 61,630. In 1990, nine projects participated with a slight decrease of permits to 60,591. Since the lack of forms was not a problem in 1985, Table 1 includes the 1985 data instead of the 1986-87 permit summary. Readers are advised to compare the number of permits issued in 1990 to the number issued in 1985 and 1989 to judge how completely the data in this table represent camping use during that time period.

#### 1990 data

Campers at the CRS recreation areas accounted for 457,864 recreation days<sup>1</sup> of use in 1990 (Table 2). The average occupancy rate ranged from 12.1 at Milford Lake to 68.6 at Lake Ouachita. The average for the entire CRS in 1990 was an occupancy rate of 36.6, with a rate of 28.8 on the weekdays and 55.0 on the weekends.

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<sup>1</sup> A recreation day was defined as a visit by one individual to the project for recreation purposes during all or any reasonable portion of the 24-hr period.

**Table 1  
1990 Camping Permit Summary<sup>1</sup>**

Project	Number of Permits				Number of Groups, 1990
	1985	1988	1989	1990	
Lake Barkley, KY	5,939	— <sup>2</sup>	4,033	5,002	4,726
Hartwell Lake, GA/SC	8,455	—	7,130	7,601	5,566
Milford Lake, KS	4,408	4,088	—	2,967	2,242
Mississippi Pool 16, IA	1,873	2,581	2,113	3,545	2,977
Lake Oahe, SD <sup>3</sup>	8,086	11,883	2,653	1,714	1,438
Lake Ouachita, AR	8,621	7,555	7,842	9,396	6,116
Lake Shelbyville, IL	18,405	10,254	13,708	15,166	13,190
Shenango River Lake, PA	7,618	7,270	3,655	7,137	4,443
West Point Lake, GA	8,876	10,336	6,176	8,063	6,692
CRS total	(72,281) <sup>4</sup>	(53,967)	(47,310)	60,591	47,390

<sup>1</sup> In 1986 and 1987, the supply of Engineer Form 4457-1 was inadequate to meet the needs of all CRS projects. This was not a problem in 1985. By comparing the number of permits issued for each project to the 1985 record, changes in 1990 data (increases or decreases) can be noted.

<sup>2</sup> Project did not report for that particular year.

<sup>3</sup> Incomplete data set that represents only July and August of this season.

<sup>4</sup> Totals given in parentheses are for the projects reporting in 1990, not the total permits for 1985, 1988, or 1989.

**Table 2  
1990 Calculated Use Characteristics**

Project	Recreation Days <sup>1</sup>	Occupancy Rate		
		Mean <sup>2</sup>	Weekends <sup>3</sup>	Weekdays <sup>3</sup>
Lake Barkley	42,596	33.2	43.8	28.8
Hartwell Lake	64,319	24.9	39.4	18.4
Milford Lake	17,817	12.1	22.8	7.6
Mississippi Pool 16	19,552	57.2	83.7	46.2
Lake Oahe	8,544	26.9	41.4	20.5
Lake Ouachita	70,120	68.6	93.1	58.3
Lake Shelbyville	112,988	39.0	64.0	29.2
Shenango River Lake	53,981	38.9	59.6	30.3
West Point Lake	67,947	28.2	47.1	20.3
CRS total	457,864	36.6	55.0	28.8

<sup>1</sup> Recreation days of use was calculated by multiplying the number in the group times the length of stay for each fee receipt. Each individual recreation day was then added to produce a project total. Any receipts not showing the number in group or length of stay were deleted from the calculations. Therefore, this measure of use may be conservative.

<sup>2</sup> The occupancy rate is calculated by the number of permits divided by (the number of nights × the number of sites) for the entire project.

<sup>3</sup> The weekend was represented by Friday night and Saturday night. Other is counted as weekday.

The average length of stay ranged from 2.2 to 3.4 nights (Table 3). The average for the entire CRS in 1990 was 3.0 nights. The size of the camping parties in 1990 averaged 3.3 persons, ranging from 2.4 at Mississippi Pool 16 to 3.7 at Hartwell Lake. Nationwide, 79.7 percent of the parties had previously visited the project. This variable tends to show a broad range in variation between projects, as evidenced by the value of 98.7 percent at Milford Lake and 47.7 percent at Lake Barkley. Also, 89.9 percent of the camping parties at CRS projects indicated that the project was the primary destination for their trip. However, at Lake Shelbyville, 97.3 percent of the camping parties reported the project as the primary destination for their trip. At the individual projects, the lowest percentage of Golden Age passports was found at Lake Ouachita (16.0 percent) and the highest at Mississippi Pool 16 (47.8 percent).

**Table 3**  
**1990 General Use Characteristics**

Project	Mean Length of Stay, nights	Mean Number in Group	Percent Prior Visits <sup>1</sup>	Percent Primary Destination <sup>1</sup>	Percent Golden Age Passport
Lake Barkley	3.3	2.8	47.4	51.4	33.6
Hartwell Lake	3.2	3.7	85.4	94.5	25.5
Milford Lake	2.4	3.3	98.7	96.5	20.7
Mississippi Pool 16	2.9	2.4	76.8	96.5	47.8
Lake Oahe	2.2	2.8	69.1	73.2	28.6
Lake Ouachita	3.4	3.4	69.4	89.8	16.0
Lake Shelbyville	2.7	3.2	86.6	97.3	17.9
Shenango River Lake	3.4	3.5	89.6	97.1	18.4
West Point Lake	3.0	3.4	84.0	92.0	20.4
CRS mean	3.0	3.3	79.7	89.9	22.8

<sup>1</sup> Percent of camping parties.

For the cumulative 1990 data, an analysis of the type of vehicle(s) used by camping parties (Table 4) indicates that more parties used trucks (49.1 percent) than cars (33.9 percent). The highest percentage of truck use was at West Point Lake (60.9 percent), while the lowest percentage of car use was at Lake Oahe (17.0 percent). Relatively few of the camping groups arrived in vans (14.7 percent), motor homes (19.5 percent), or via other modes of transportation (0.8 percent). The exception was Mississippi Pool 16, where 40.3 percent of the camping parties reported using motor homes.

During 1990, as shown in Table 5, the most popular type of camping equipment at the CRS projects was a tent (32.2 percent nationwide). At Lake Ouachita, 45.8 percent of the camping parties used at least one tent. It must be noted that the equipment categories are not mutually exclusive;

**Table 4  
1990 Distribution of Vehicle Types (Percent of Camping Groups)<sup>1</sup>**

Project	Car	Truck	Van	Motor Home	Other <sup>2</sup>
Lake Barkley	18.7	31.1	7.3	12.3	1.7
Hartwell Lake	36.9	52.6	14.0	19.0	0.8
Milford Lake	30.2	56.0	16.1	15.8	0.4
Mississippi Pool 16	36.3	43.9	12.0	40.3	0.4
Lake Oahe	17.0	55.9	11.8	24.1	0.6
Lake Ouachita	33.6	56.4	13.4	14.8	1.0
Lake Shelbyville	36.2	45.6	19.8	17.4	0.8
Shenango River Lake	47.6	44.8	16.3	16.7	0.0
West Point Lake	32.7	60.9	11.6	26.2	0.6
CRS total/mean	33.9	49.1	14.7	19.5	0.8

<sup>1</sup> These categories are not mutually exclusive. Camping groups could bring with them multiple types of camping equipment, which may account for nationwide totals that exceed 100 percent.

<sup>2</sup> This category includes any mode of transportation that was not listed, including motorcycles, bicycles, etc.

**Table 5  
1990 Distribution of Camping Equipment and Powerboats (Percent of Camping Groups)<sup>1</sup>**

Project	Tent	Pop-Up Trailer	Pickup Camper	Travel Trailer	Powerboat
Lake Barkley	16.2	4.1	4.5	17.4	21.1
Hartwell Lake	30.1	11.9	2.3	33.5	23.2
Milford Lake	30.2	5.9	7.8	31.4	42.9
Mississippi Pool 16	6.3	5.3	3.5	42.5	12.2
Lake Oahe	23.6	6.8	13.6	27.9	38.6
Lake Ouachita	45.8	10.6	4.0	25.7	39.2
Lake Shelbyville	39.7	11.8	5.3	23.9	40.5
Shenango River Lake	38.1	10.7	5.7	23.4	34.4
West Point Lake	27.9	7.4	3.9	24.2	43.6
CRS total/mean	32.2	9.3	4.8	26.3	34.5

<sup>1</sup> These categories are not mutually exclusive. Camping groups could bring with them multiple types of camping equipment, which may account for nationwide totals that exceed 100 percent.

therefore, tents may not necessarily be the principal means of camping for those groups that reported using them. Overall, the nationwide averages of other types of camping equipment included travel trailers (26.3 percent), pop-up trailers (9.3 percent), and pickup campers (4.8 percent). In terms of other recreation equipment, more than one third (34.5 percent) of all camping parties brought a powerboat to CRS projects.

## Trend Analysis

One of the primary purposes of the CRS was to create a database that would enable the prediction of trends in recreational use. Each year of data collection improves the predictability of a trend analysis. A comparison of the CRS databases for the years 1984 through 1990 is presented in Figures 2-15. Where no bars appear on the bar charts, data were unavailable or missing. Because of the inadequacy of forms for the 1986-87 data (DeMoss and Titre 1991), Lake Oahe was not included in the 1987 analysis. Also, because of a very high rate of no response at Lake Barkley, Lake Ouachita, and Lake Shelbyville (1987), the values in Figures 7-15 are extremely low. Lake Barkley and Hartwell Lake did not participate in the 1988 study (DeMoss 1991). Therefore, the figures will also reflect this lack of information in all charts.

Across the nine projects, mean party size has not changed dramatically since 1984 (Figure 2). For Shenango Lake, the averages continued to decrease from 3.8 in 1984 to 3.6 in 1986, but returned to 4.0 in 1989 (DeMoss 1992) and decreased again in 1990 to 3.5. Mississippi Pool 16 reported some of the smallest party sizes, with a steady decrease from 2.7 in 1984 to 2.4 in 1990. Less than a 1-percent difference was noted between the highest and lowest years. Mean length of stay (Figure 3) exhibits greater variation among the projects than mean group size. The averages ranged from a low of 1.7 nights for 1984 at Milford Lake to a high of 4.5 during 1986 at Lake Shelbyville.

From 1984 to 1990 a general increase occurred in the percentage of campers with prior visits to the project and with the project as their primary destination (Figures 4 and 5). However, Lake Barkley showed a decrease, from 78.3 percent in 1989 to 47.7 percent in 1990. For Lake Barkley, the percentage of campers with primary destination decreased from 93.4 in 1989 to 51.4 in 1990.

Golden Age passport use tended to be highly variable between projects, yet fairly stable within projects with a few exceptions (Figure 6). Percentages ranged from 49.3 percent for Shenango Lake in 1985 to 3.1 percent for Lake Oahe in 1990 (Lake Oahe's data are for 2 months only). The 0.0 and 3.0 percent values reported at Mississippi Pool 16 in 1986-87 tended to be low for this project. Mississippi Pool 16 and Shenango Lake (1985) displayed relatively high percentages.

Parties with cars displayed consistent patterns over the 7-year period (Figure 7). Each project showed a decrease in the use of cars. Hartwell Lake had the largest variation, with a range from 58.3 to 29.4 percent. Parties with trucks (Figure 8) exhibited a different pattern of increases and decreases. The use of trucks tended to increase slightly except for Lake Barkley, where it decreased in 1990 only.

Figure 9 shows a slight increase in the use of vans by camping parties except at Lake Barkley and West Point Lake. Lake Barkley showed an increase from 9.1 to 10.6 percent and a decrease to 7.3 percent in 1990. Hartwell Lake decreased 1.6 percent in 1985; however, there has been an increase since then (8.8 to 14.0 percent in 1990).

Motor home use exhibited considerable variability across projects as can be seen in Figure 10. The highest use occurred at Mississippi Pool 16, where the data showed a steady increase to 41.2 percent in 1989 with a slight drop to 40.3 in 1990. Overall, the use of motor homes as camping vehicles was low compared to other types of camping equipment.

As shown in Figure 11, for the category parties with tents, a stable pattern within projects was evident. However, the pattern among projects displayed a decrease in use or a very slight increase. For example, the lowest use occurred at Mississippi Pool 16, where about 6.3 percent of the camping parties in 1990 used tents. The highest occurrence was 65.4 percent, in 1984, for parties at Lake Ouachita, with a decrease to 45.8 percent in 1990.

The use of pop-up trailers tended to be fairly stable across and within projects, with the exception of a single high value of 62.3 percent at Hartwell Lake in 1985 (Figure 12). There was a general decrease, with the exception of West Point Lake and Lake Shelbyville. This was similar to camping parties with pickup campers (Figure 13), in which a pattern of decrease was shown within each project. The use of this type of camping equipment was very low for projects such as Hartwell Lake (2.0 percent in 1989); in contrast, pickup campers were more popular at Lake Oahe, with a high of 20.0 percent of the camping parties in 1985 using them.

In contrast to the previous figure, Mississippi Pool 16 shows the overall highest use of travel trailers, with percentages ranging from 39.9 to 49.4 (Figure 14). Most projects report the use of this equipment to be an average of about 25 percent.

Except for the 1986-87 data record, the use of powerboats tended to be relatively uniform across projects, except Hartwell Lake, which had a steady decrease from 37.4 to 23.2 percent (Figure 15). Powerboat use by camping parties decreased at Lake Barkley from 48.8 percent in 1989 to 21.1 percent in 1990.

## Potential Uses of CRS Database

### Analysis of visitor origin

In Figures 16-24, an analysis was performed using Zip Codes to reveal the origin of camping parties to CRS projects. The figures show how projects differ in relation to their ability to draw visitors from different parts of the country. For each figure, the first map (Figure 16a, for example) illustrates all visitors, while the second map (Figure 16b) shows only visitors that claimed this project as their primary destination. Figure 17 illustrates that Hartwell Lake, on the eastern border of Georgia, received visitors from the Mid-Atlantic, Great Lakes area, Southeast, California, and Texas. The majority of these users, however, were from just four states: Georgia, Florida, and North and South Carolina. In contrast, Lake Oahe (Figure 20), which is located in North and South Dakota, received visitors from over almost all of the states. In addition, the majority of those users were from a six-state region rather than a four-state region. In four campgrounds, there was no visual difference between the two maps. The removal of the primary destination visitors did not change the percentage in any of the states for Hartwell Lake, Milford Lake, Mississippi Pool 16, and Lake Shelbyville.

### Occupancy rates

Additional uses of the CRS include an examination of occupancy rates. Occupancy rates are a key indicator of economic viability in the hotel-motel industry. They were also used successfully to reveal a decline of 19 percent in average daily occupancy rates for nationwide camping during the 1978 fuel shortage (LaPage and Cormier 1979).

Occupancy rates were examined by year and month and on a daily basis (Appendix B). A calendar was used to show how camping is distributed throughout the month (Figure 25). The month of July was chosen since the months of June, July, and August are usually the months of highest usage. However, the three highest months were used to calculate monthly and yearly occupancy rates. For most projects, the months of June, July, and August were the highest months. There were exceptions, such as Lake Barkley, where the three highest months were May, June, and July. A special event such as flooding or drought could decrease the monthly occupancy rates; however, Figure 25 shows the most "normal" occupancy rate. It shows a high occupancy rate for the first week of July (a holiday). The following weeks of July return to the "normal" rates, with lower values on Sunday through Thursday and a jump to high values on weekends (Friday and Saturday).

This type of analysis can be useful in helping managers evaluate utilization patterns at campgrounds with a view toward improving efficiency.

## Fee paid per site

In Table 6, the average fee revenue generated per campsite was calculated for each project. This statistic was calculated by taking the total fee revenue generated at each project and dividing that amount by the total number of campsites at each project. This formula can be found in Appendix C, along with other formulas used in analyzing 1990 CRS data. Lake Barkley had the highest revenue per site at \$105.03, and Lake Milford was the lowest at \$30.70. Lake Oahe was mathematically lower than the other projects, because the fee paid per site represented 2 months instead of 3 months. This information can be used to show on an average how much revenue each site is contributing to the project and to compare the efficiency of fees collected at different projects.

<b>Project</b>	<b>Fee Paid per Site<sup>1</sup></b>
Lake Barkley	105.03
Hartwell Lake	46.80
Milford Lake	30.70
Mississippi Pool 16	93.78
Lake Oahe <sup>2</sup>	26.72
Lake Ouachita	90.64
Lake Shelbyville	84.37
Shenango River Lake	95.65
West Point Lake	69.29

<sup>1</sup> Represents the total fee paid at each project for the three highest months divided by the number of sites at each project.  
<sup>2</sup> Lake Oahe figures are based on only two months of data.



## **3 Conclusions and Recommendations**

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### **Conclusions**

The recent availability of computer technology at the field level has dramatically changed the possibilities regarding data entry and retrieval for analysis and reporting of campground information. The development of the Automated Use Permit System (AUPS) (Akers-Fritschen 1988) was an advancement in the direction of computer-aided management information systems. AUPS allows campground attendants to use microcomputers to register campers and collect and track camping fees. It was designed to incorporate the data requirements of the CRS so that any Corps project utilizing AUPS can collect CRS data. CRS-related questions are displayed by AUPS while campers register according to whether a program "switch" was set. This capability eliminates the need for keypunching and error checking and provides some onsite data analysis capability.

Currently, field-level personnel can use dBASE software to generate reports on variables such as site occupancy, average length of stay, Zip Codes, average group size, and number of Golden Age and Access permit holders. AUPS provides data that managers can review to resolve problems in a timely manner or to improve the efficiency of operating and maintaining campgrounds. These data can be useful to planners when evaluating future recreation area designs, as well as rehabilitation projects. For example, District planners can compare key variables such as site occupancy across projects and recreation areas, since the data have been gathered using the same methods.

The applications illustrated in this report are merely examples for managers to use to identify additional applications. The transition from paper forms to the AUPS will enhance future management applications of the data.

## **Recommendations**

The data in the CRS and the AUPS have reached the point at which project managers and District personnel can make decisions rapidly in response to on-the-ground changes in the use of Corps areas. This AUPS/CRS combined system has been shown to improve overall efficiency and can address current problems by giving resource managers better information in order to manage within a constantly changing environment. It is recommended that the CRS effort continue and that researchers and managers search for common ground in devising strategies to better serve the Corps visitor, based on current information.

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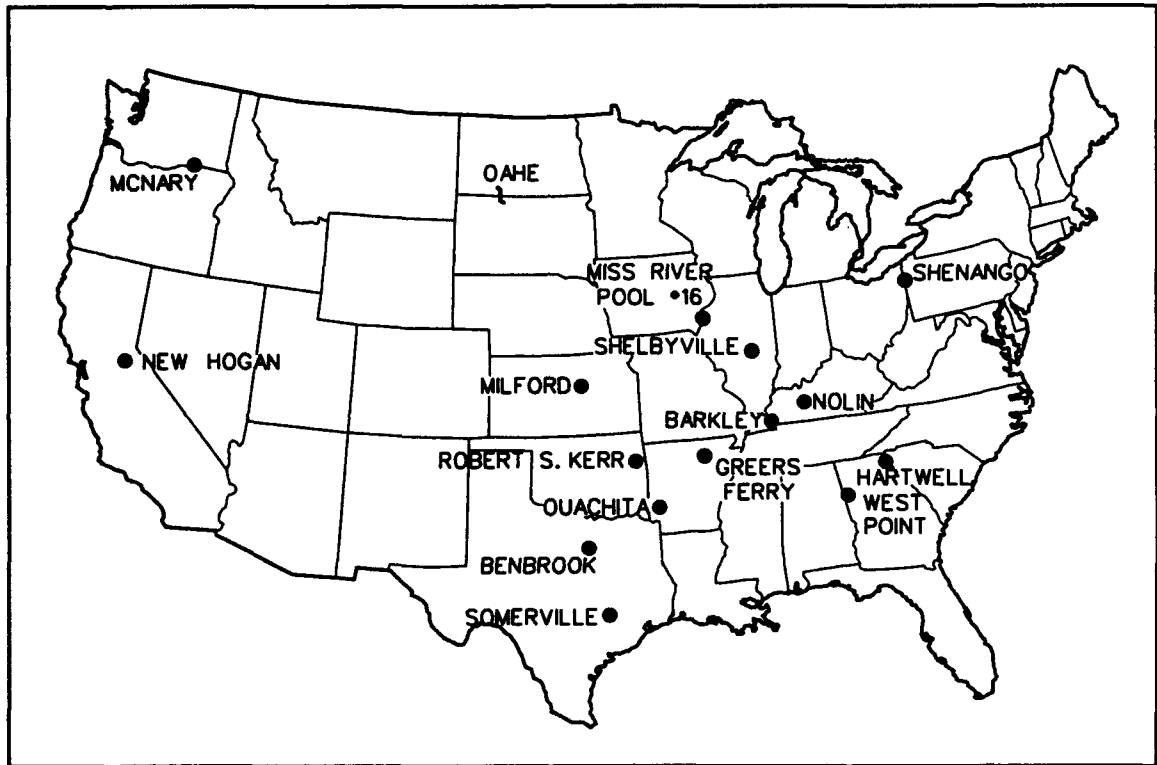


Figure 1. Campground Receipt Study project locations

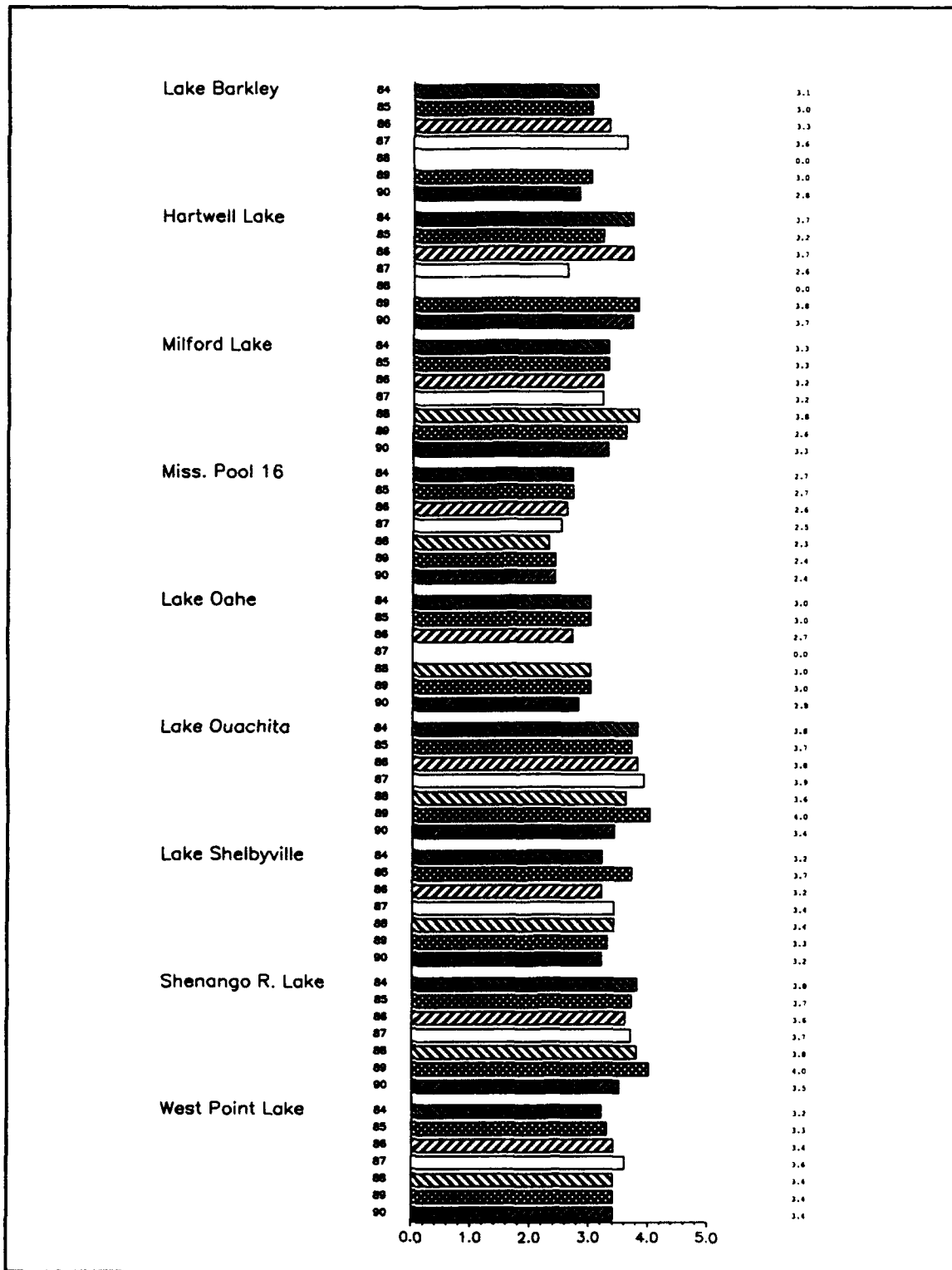


Figure 2. Mean number in party, 1984-90

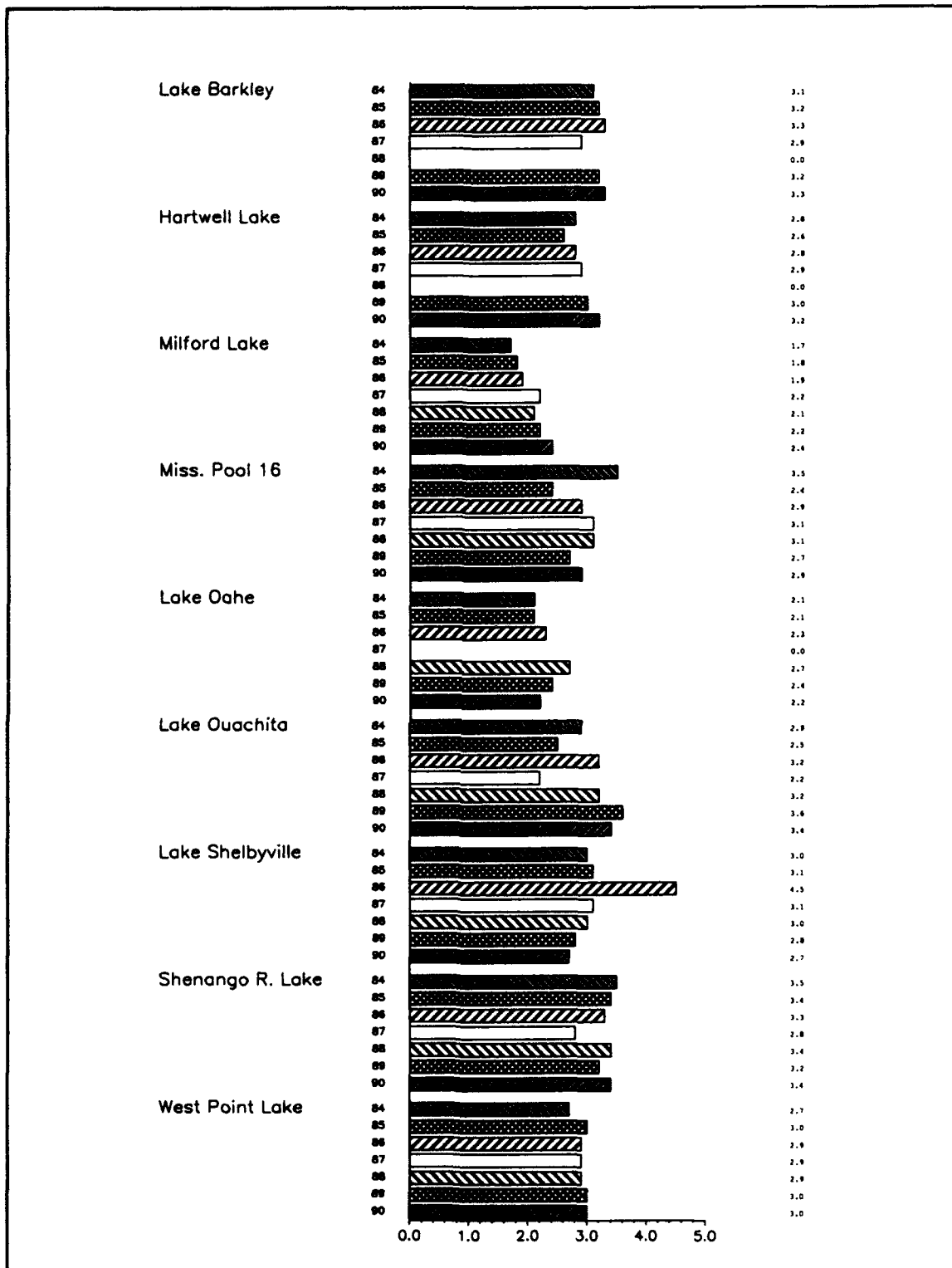


Figure 3. Mean length of stay (in days), 1984-90

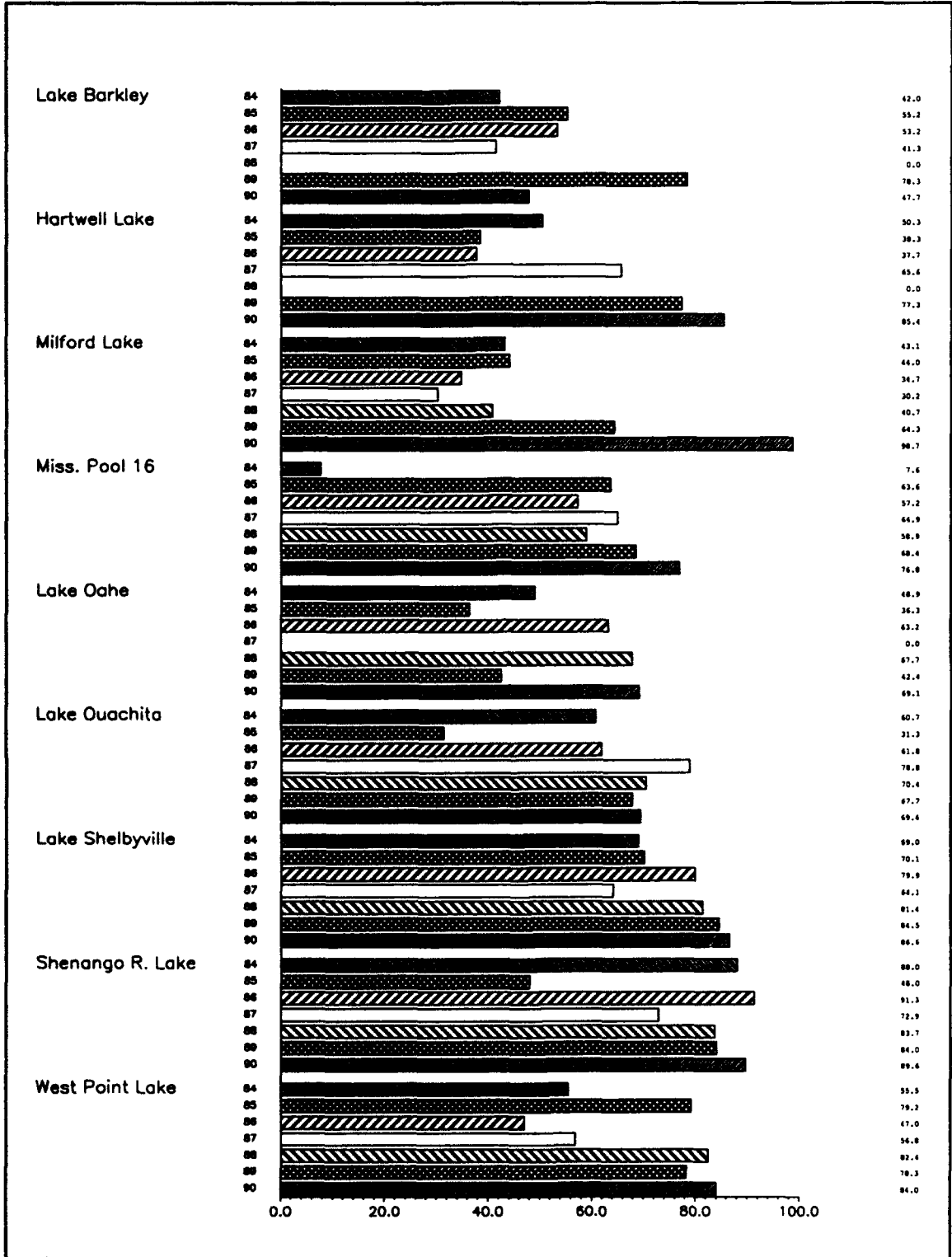


Figure 4. Percent of camping parties with prior visits to the project, 1984-90

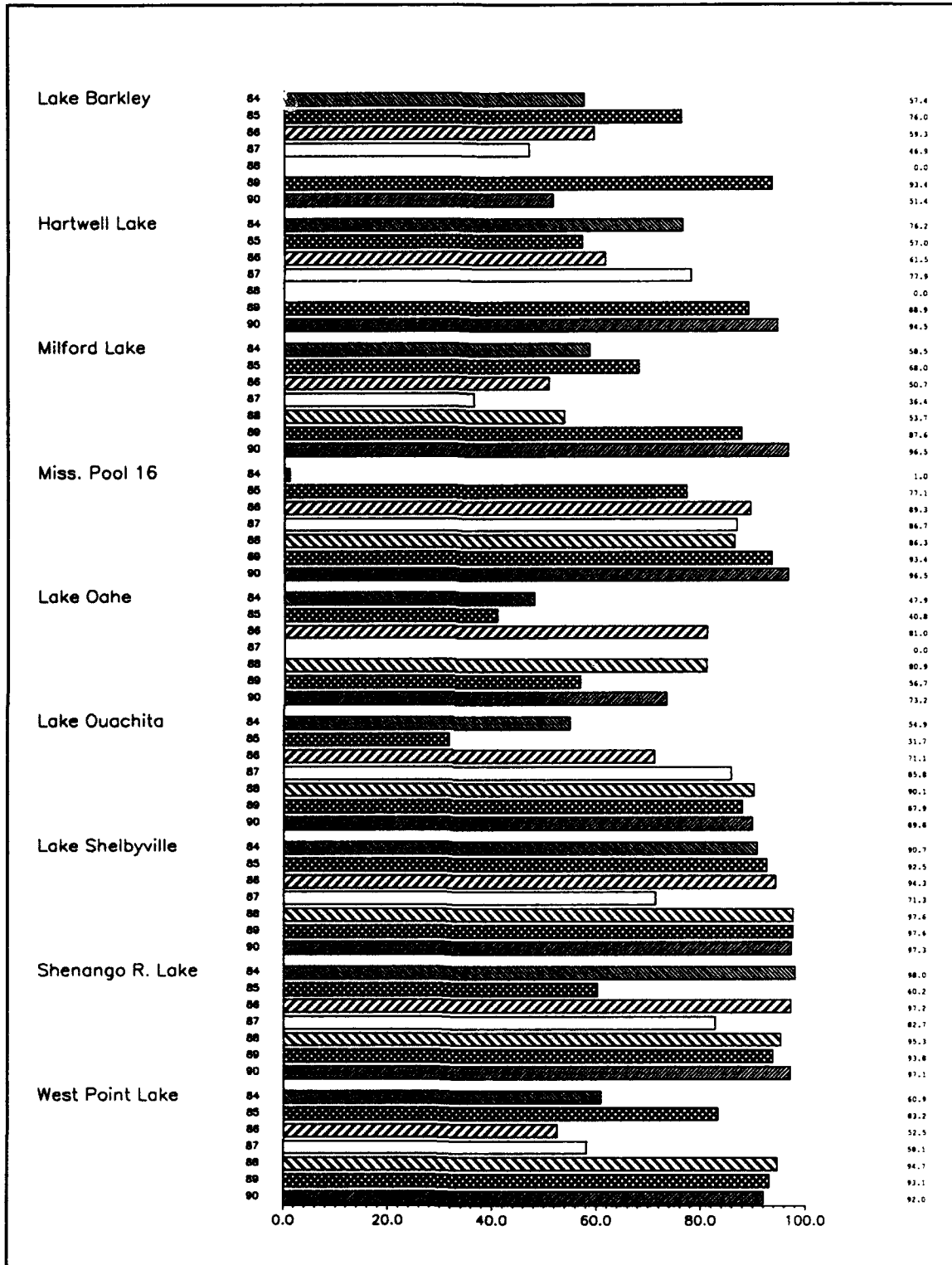


Figure 5. Percent of camping parties having the project as their primary destination, 1984-90



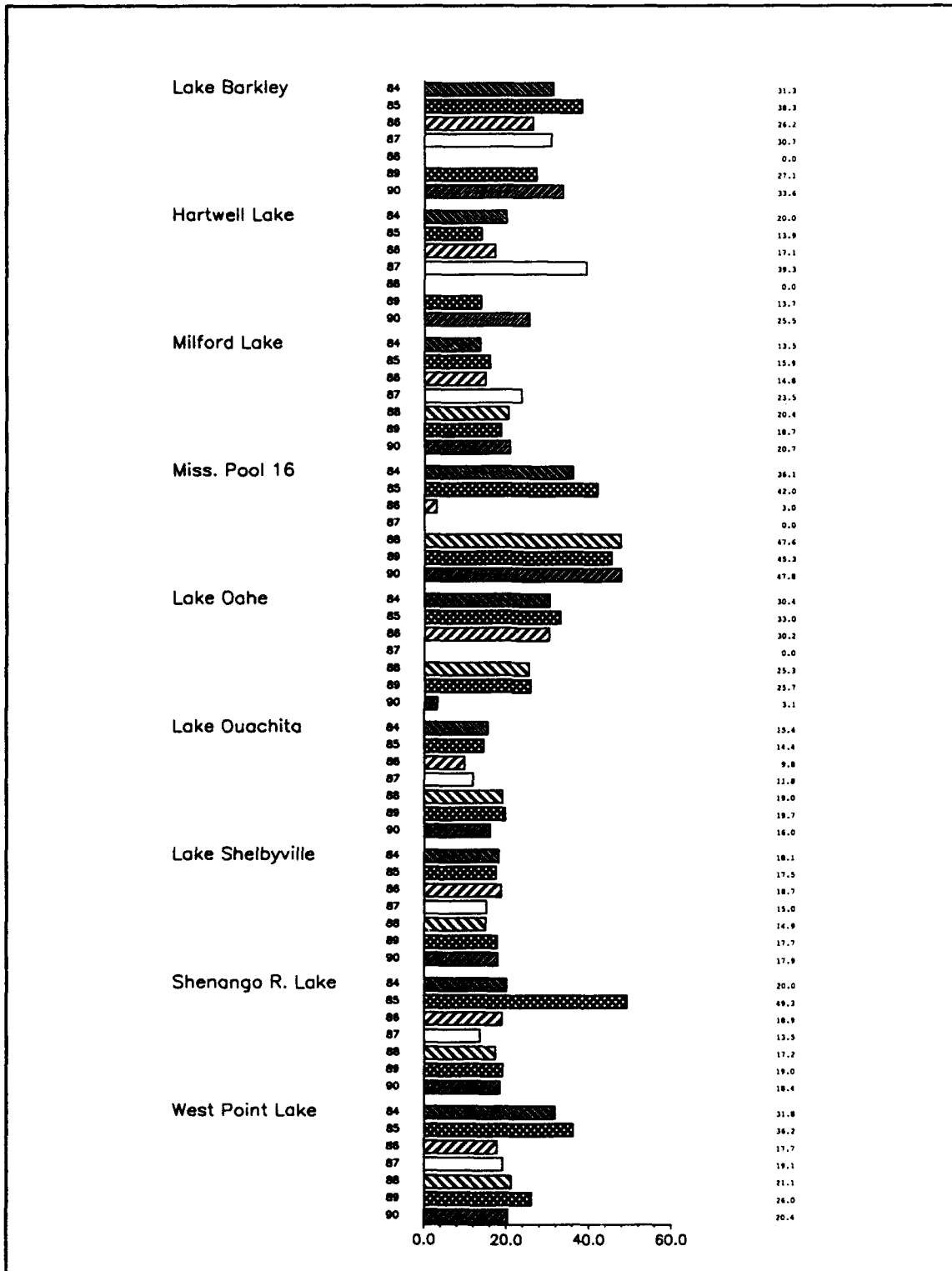


Figure 6. Percent of camping parties using Golden Age passports, 1984-90

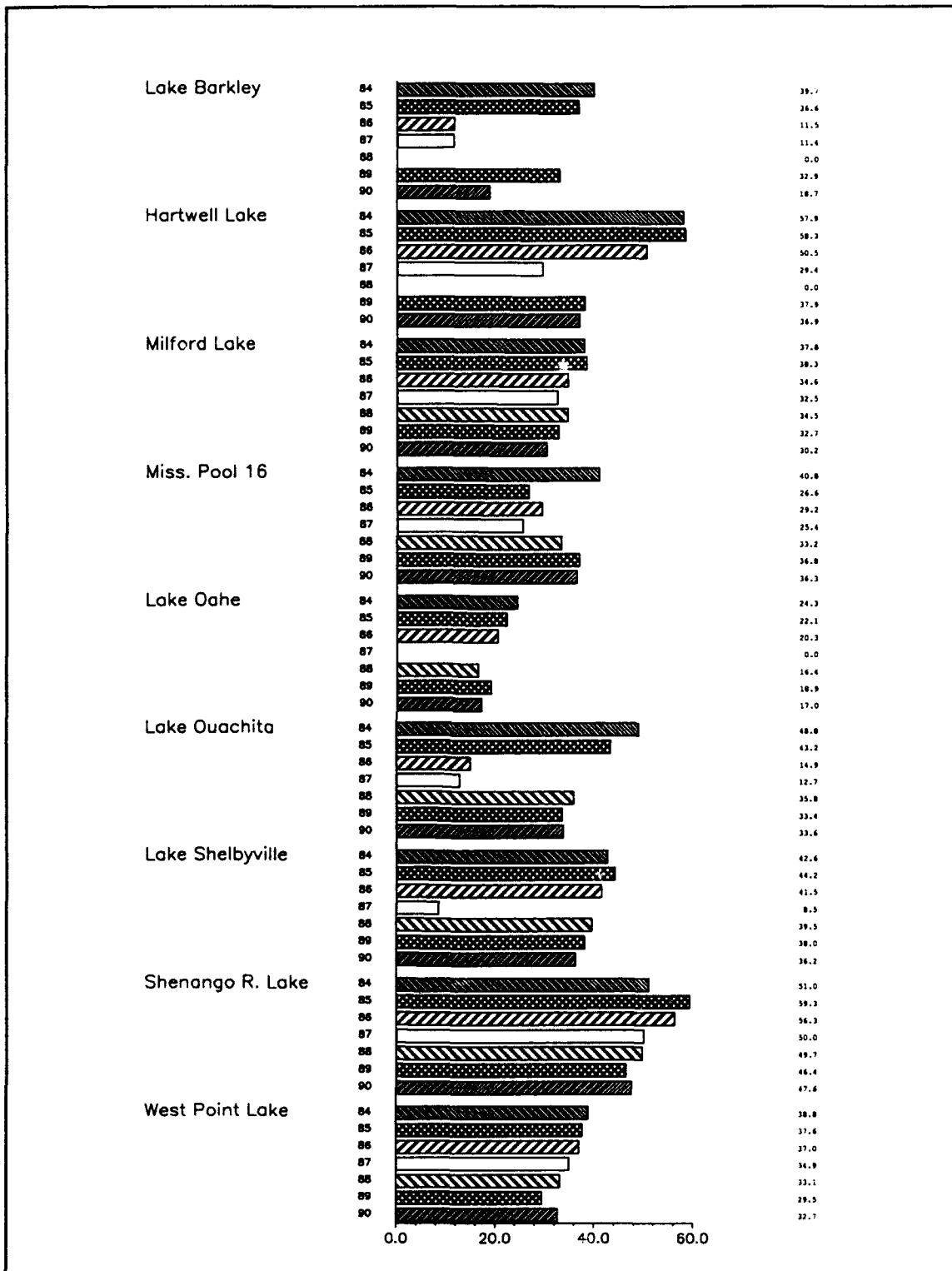


Figure 7. Percent of camping parties with cars, 1984-90

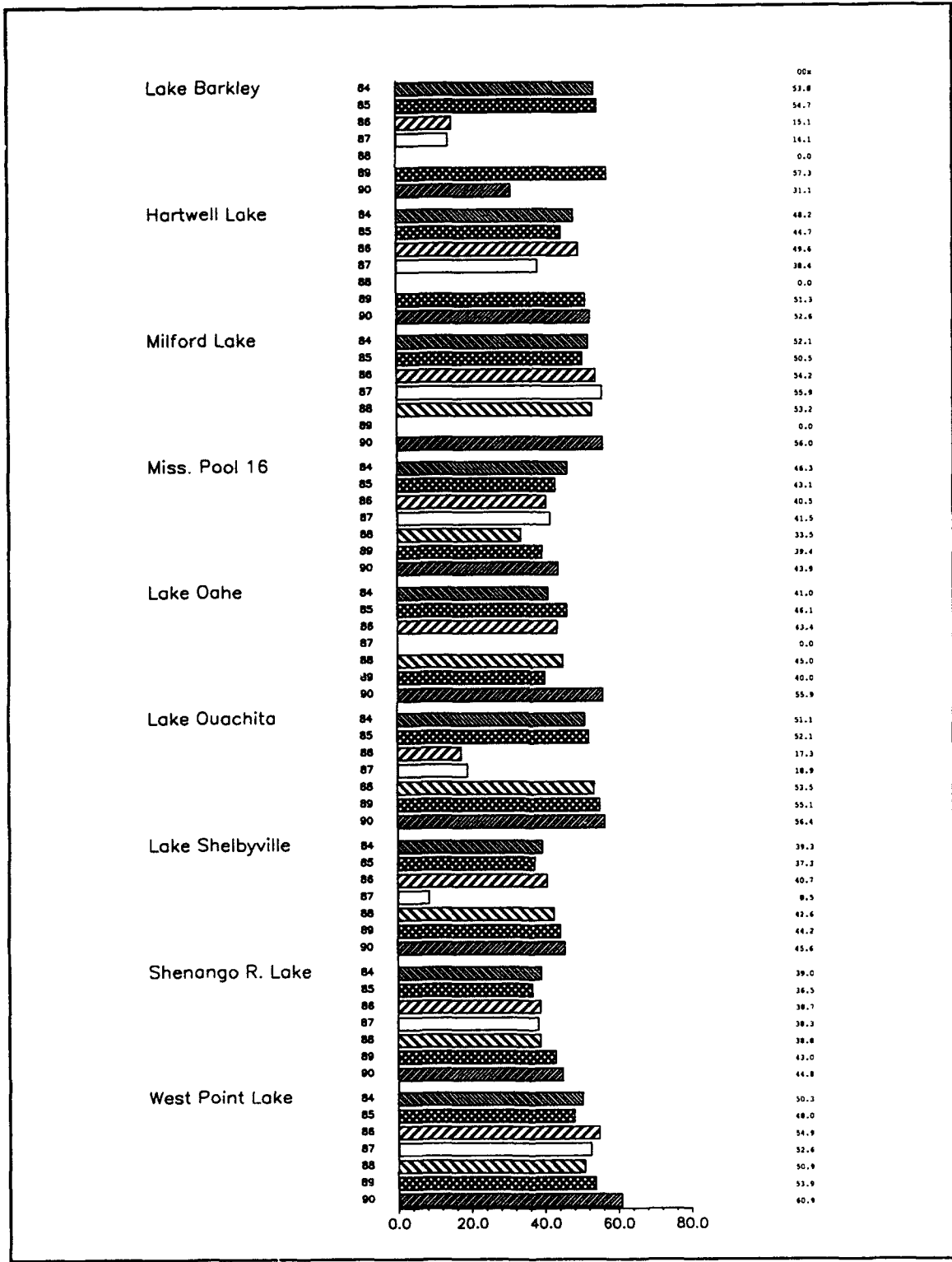


Figure 8. Percent of camping parties with trucks, 1984-90

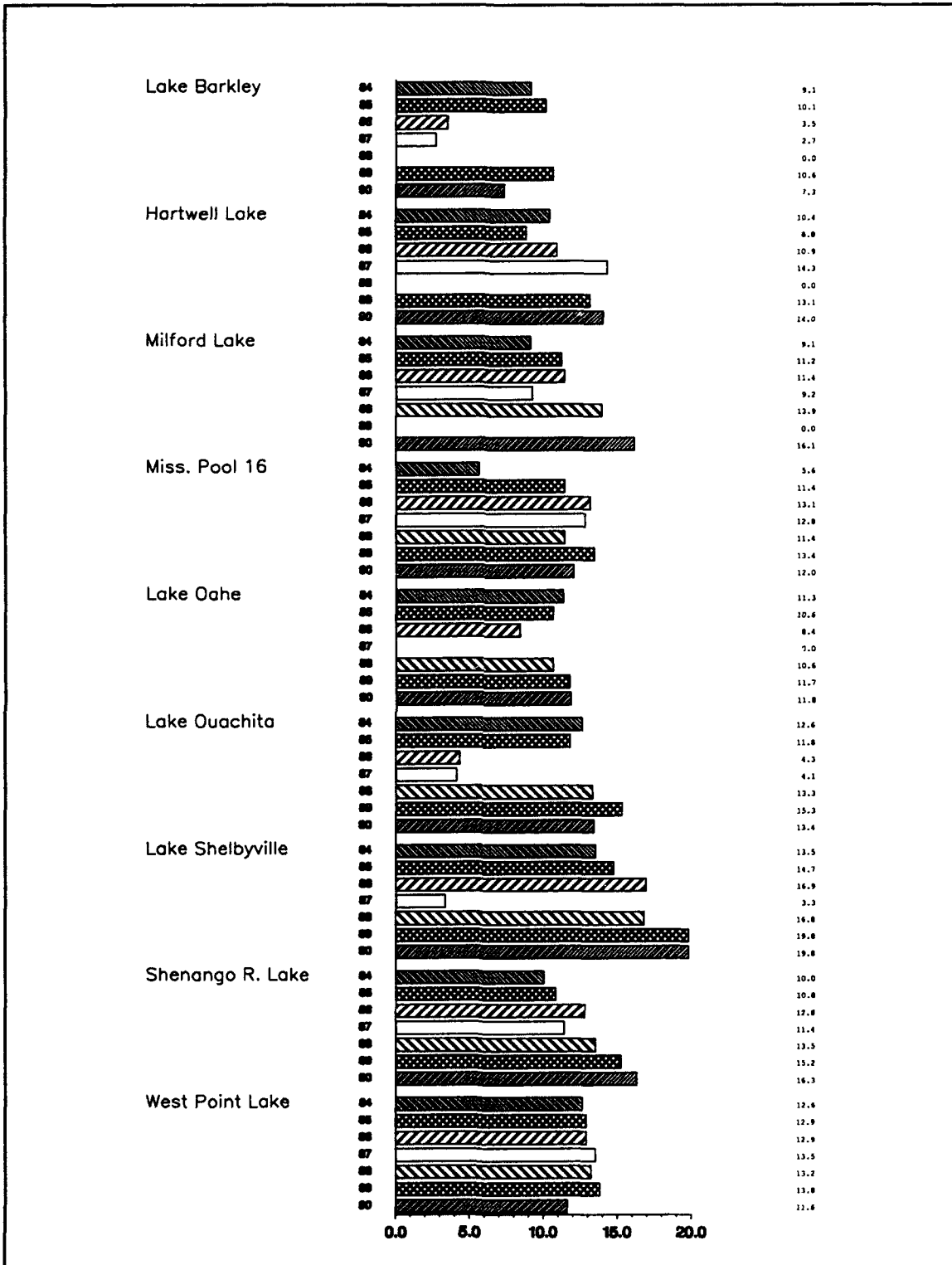


Figure 9. Percent of camping parties with vans, 1984-90

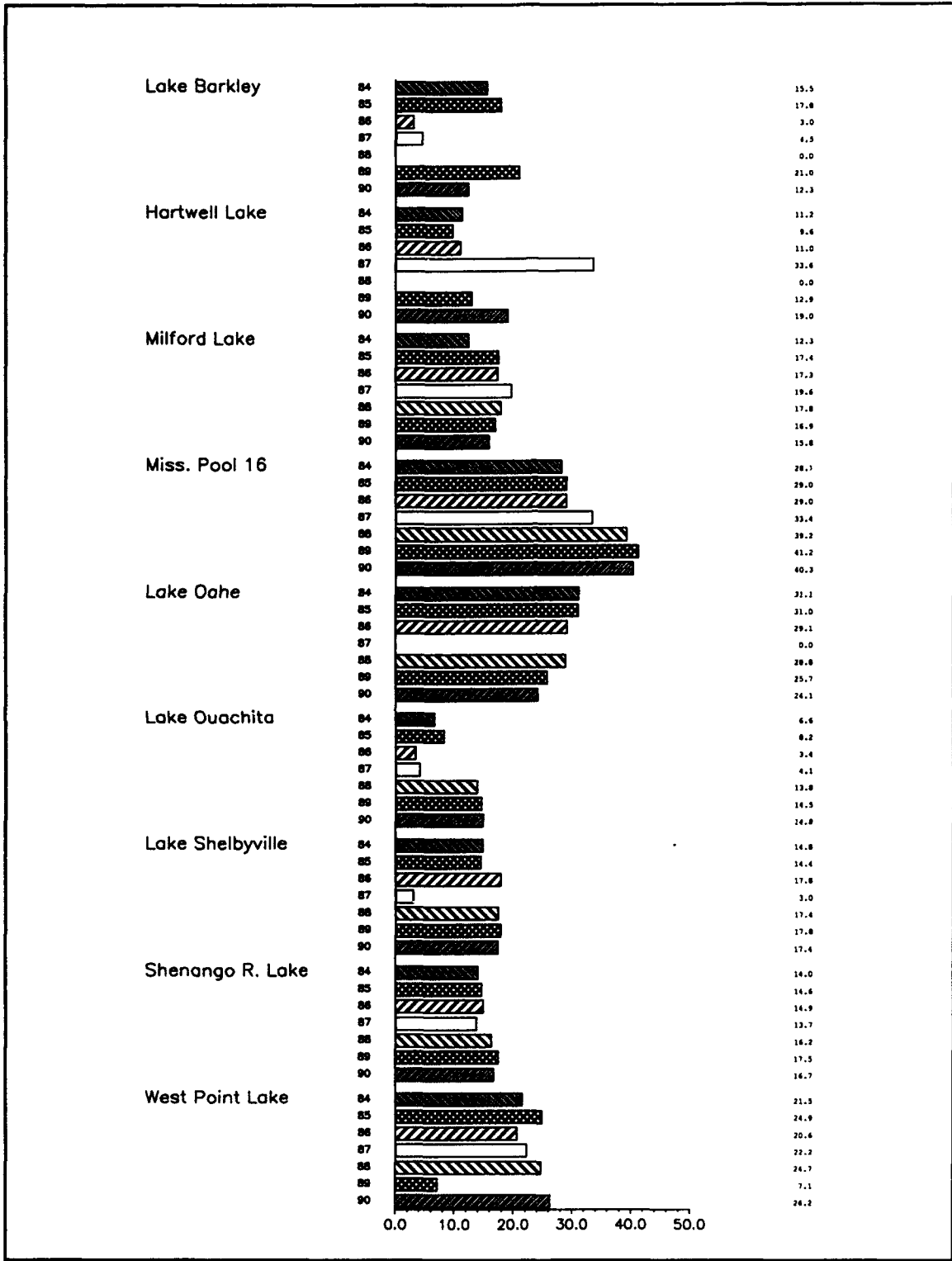


Figure 10. Percent of camping parties with motor homes, 1984-90

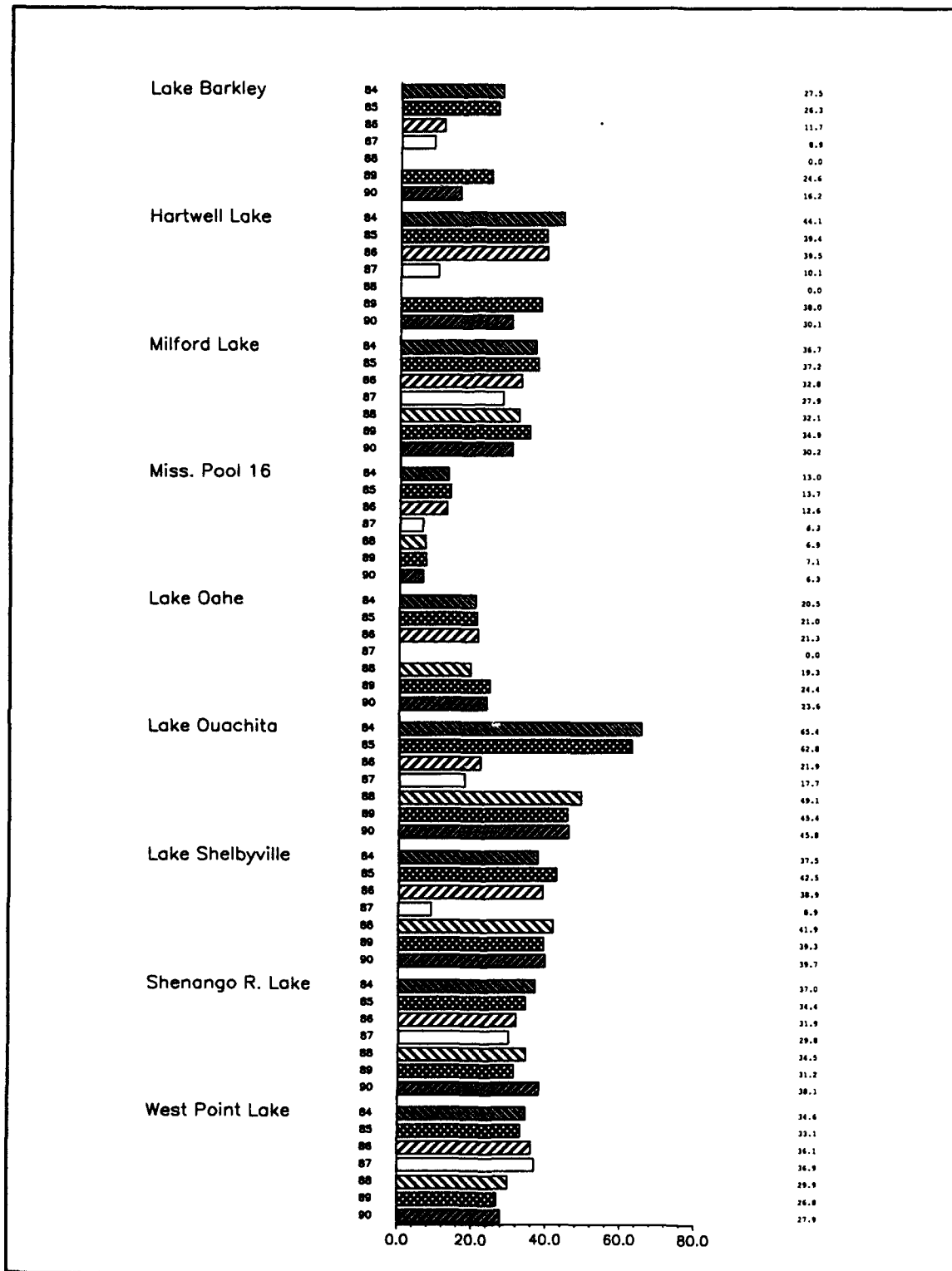


Figure 11. Percent of camping parties with tents, 1984-90

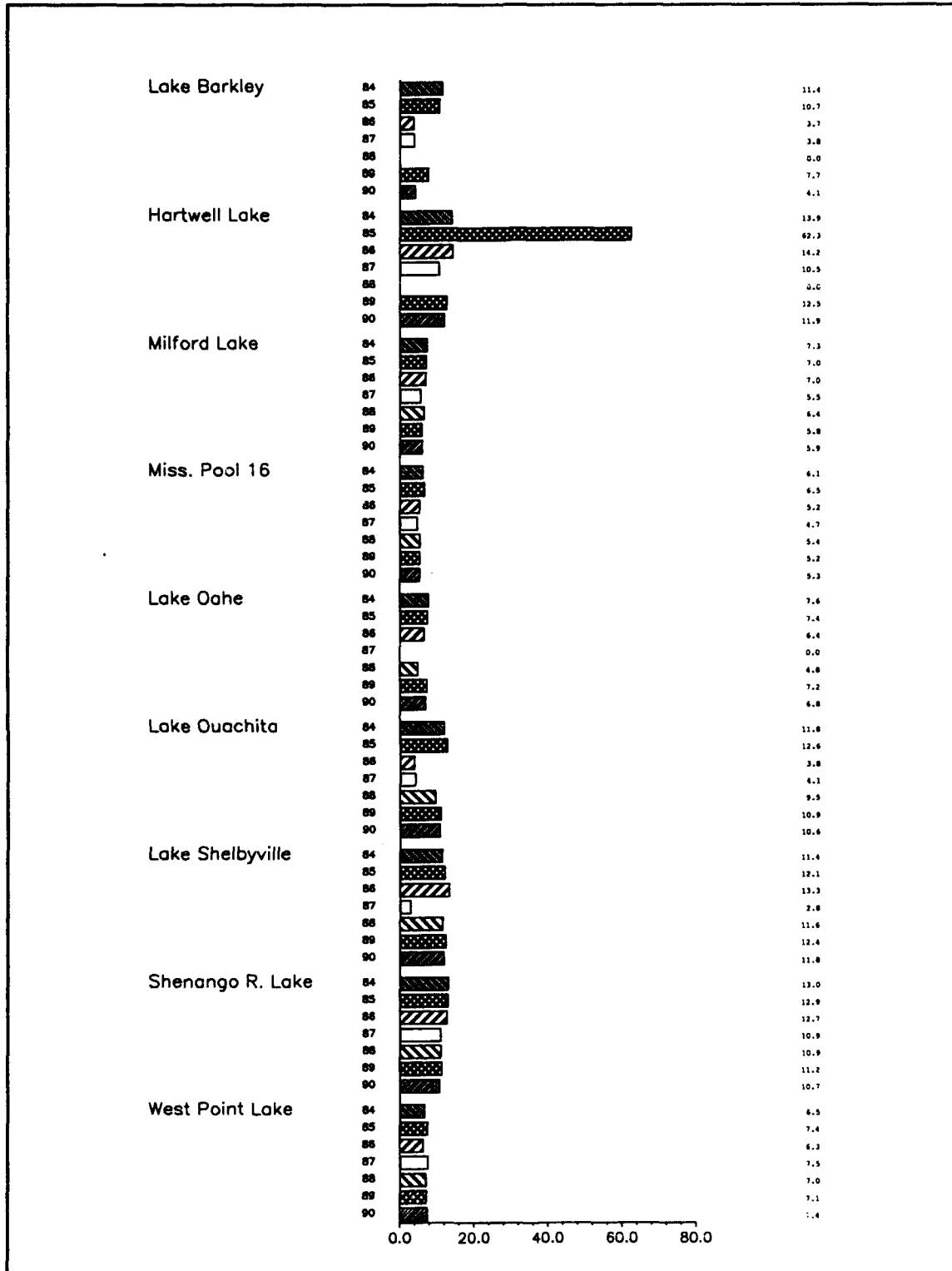


Figure 12. Percent of camping parties with pop-up trailers, 1984-90

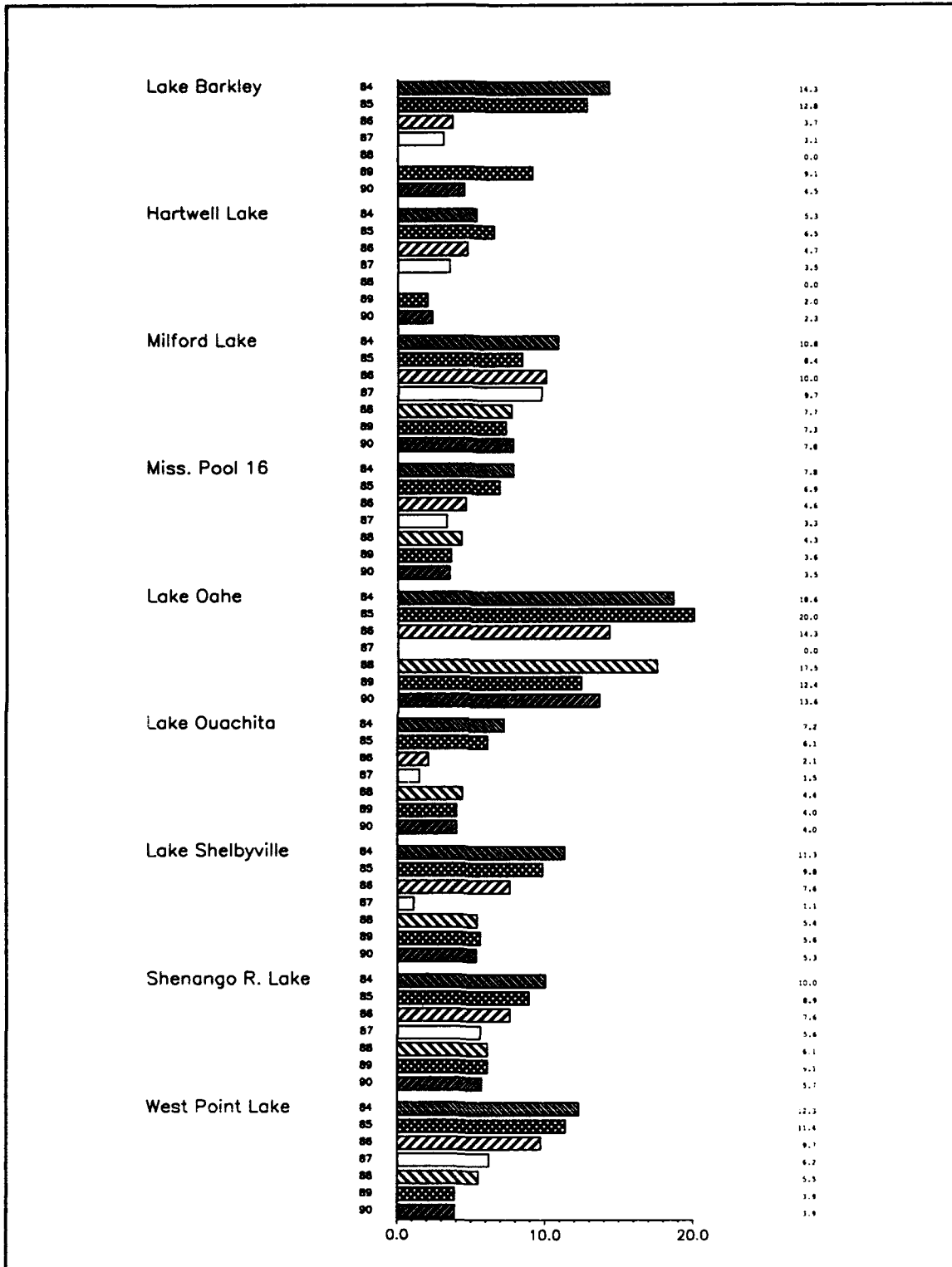


Figure 13. Percent of camping parties with pickup campers, 1984-90



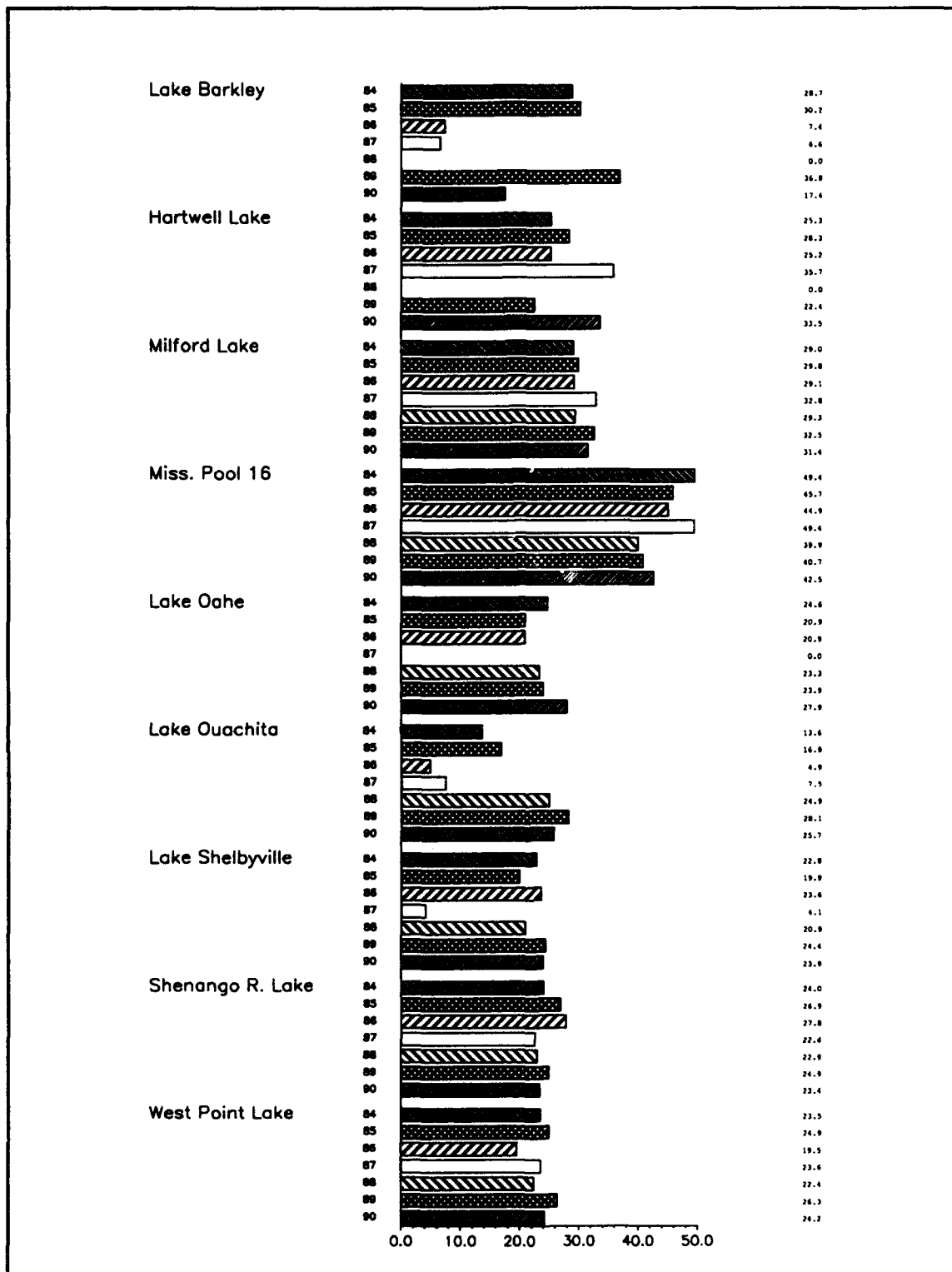


Figure 14. Percent of camping parties with travel trailers, 1984-90

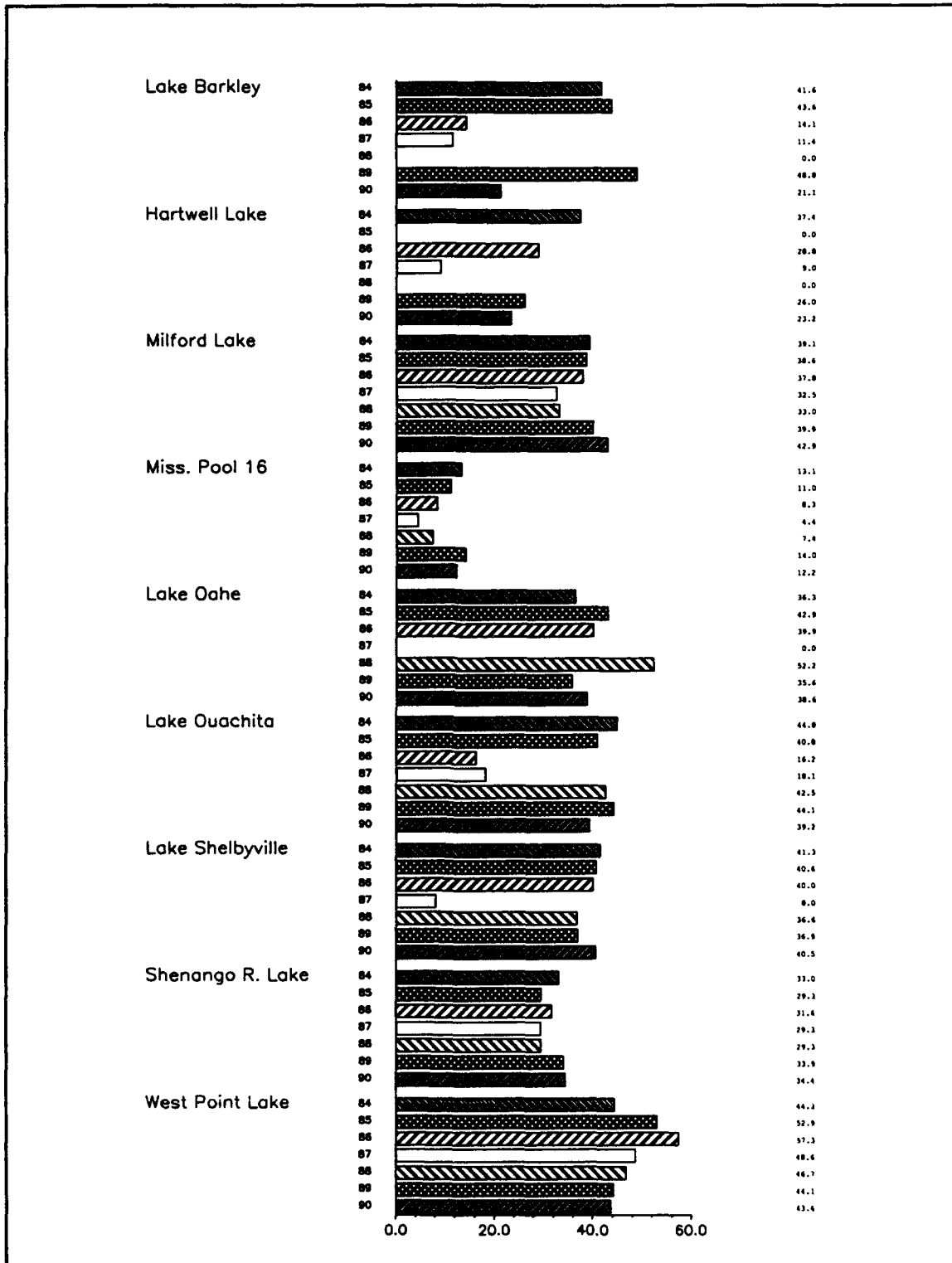


Figure 15. Percent of camping parties with powerboats, 1984-90

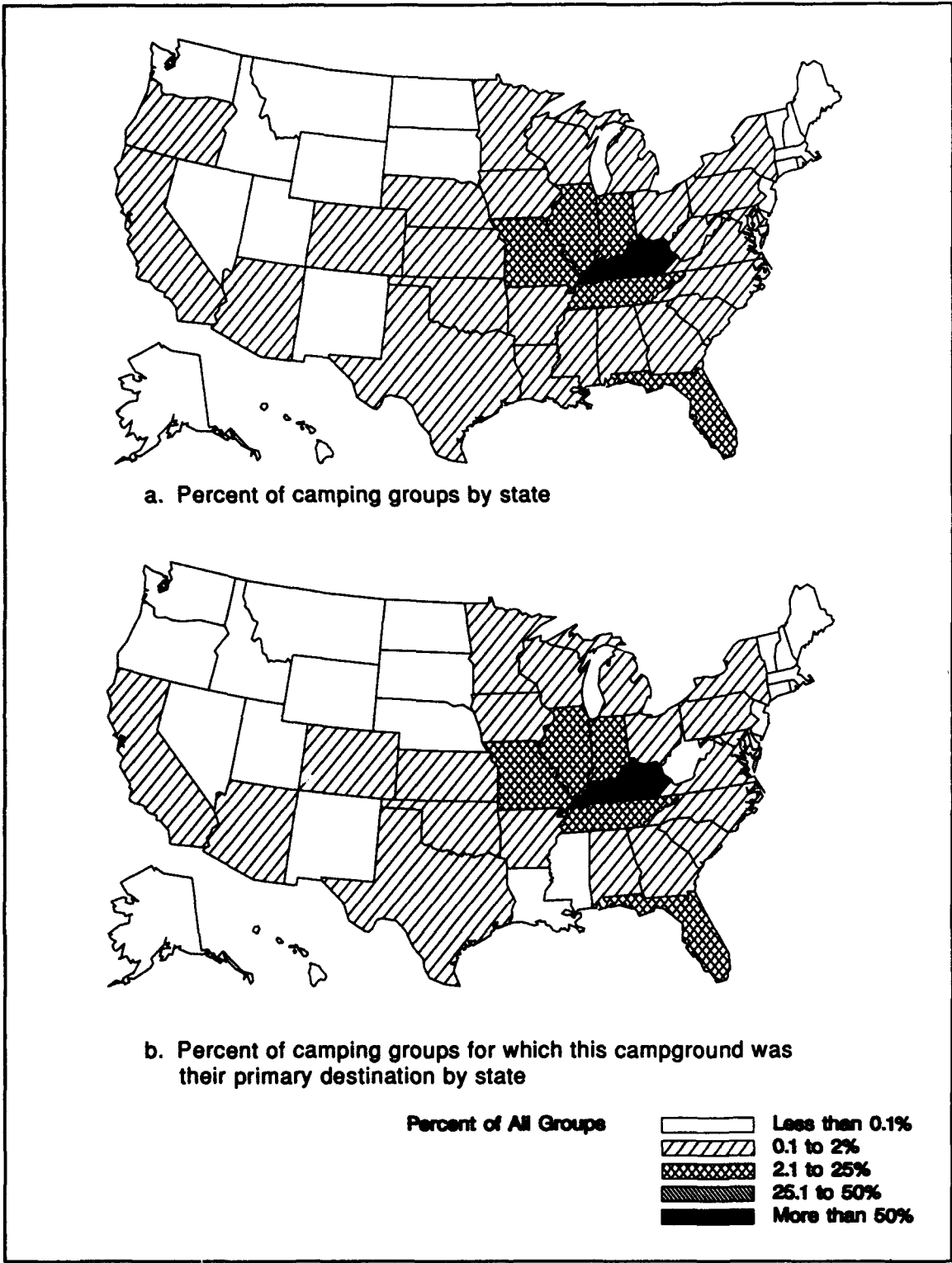
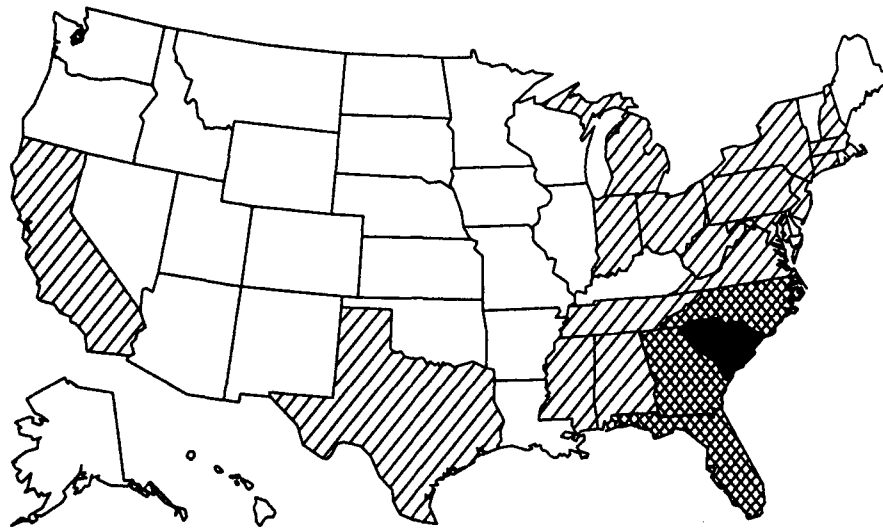
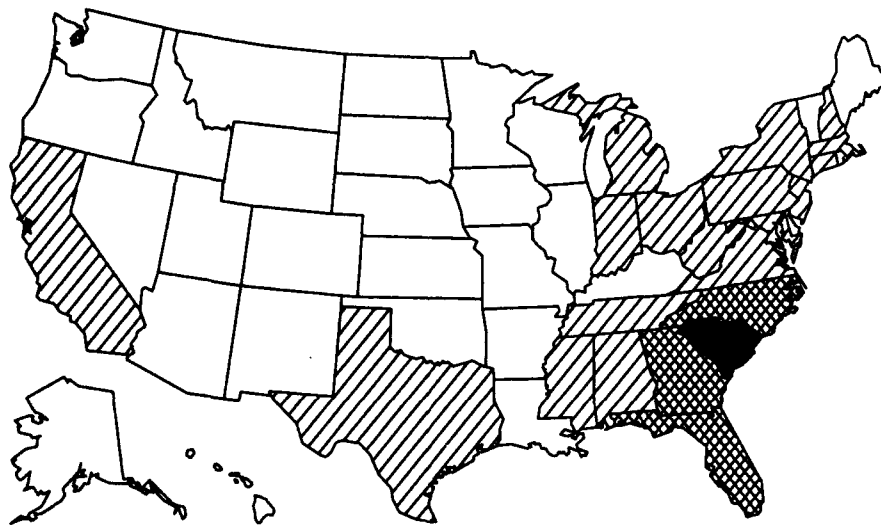


Figure 16. Lake Barkley, 1990



a. Percent of camping groups by state



b. Percent of camping groups for which this campground was their primary destination by state

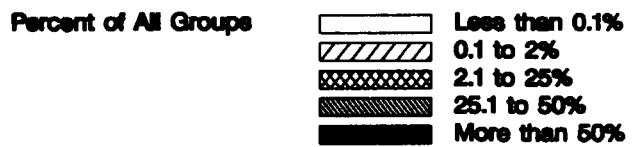


Figure 17. Hartwell Lake, 1990

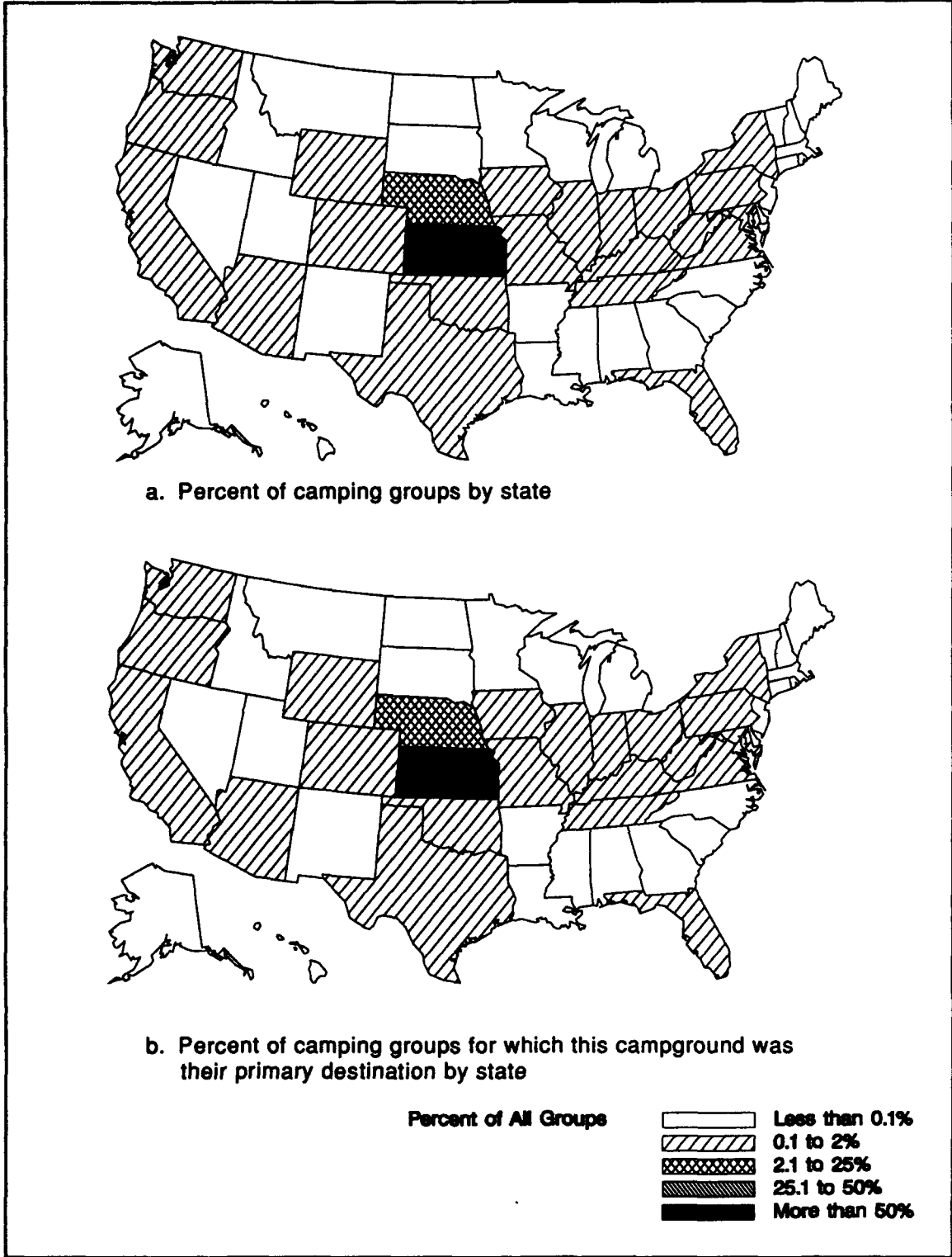
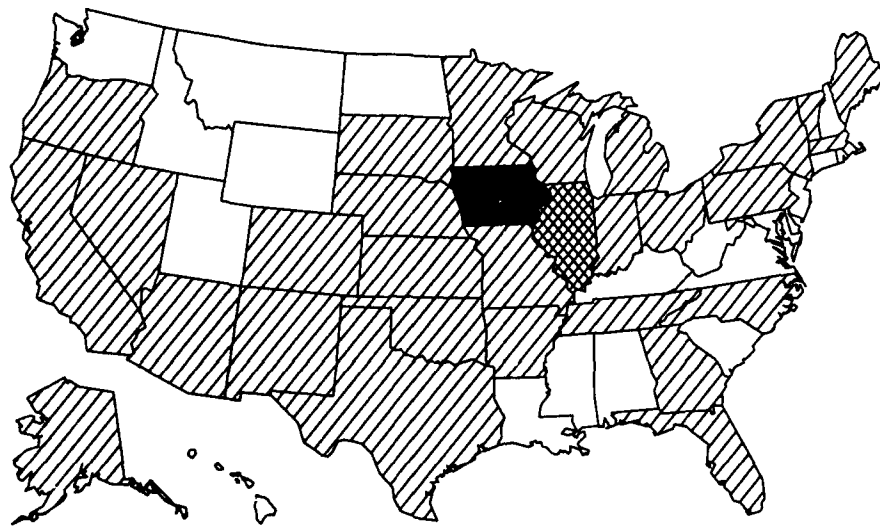
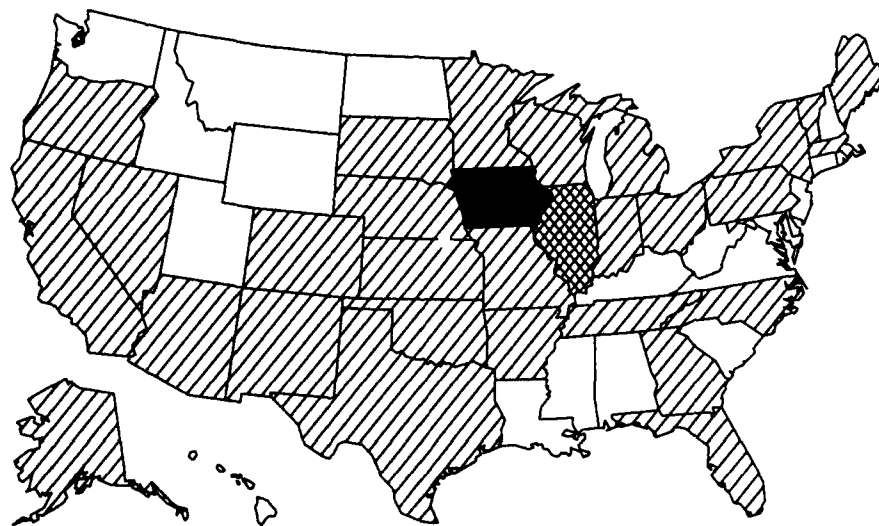


Figure 18. Milford Lake, 1990



a. Percent of camping groups by state



b. Percent of camping groups for which this campground was their primary destination by state

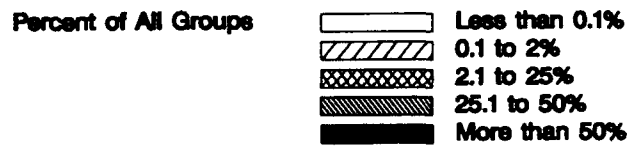
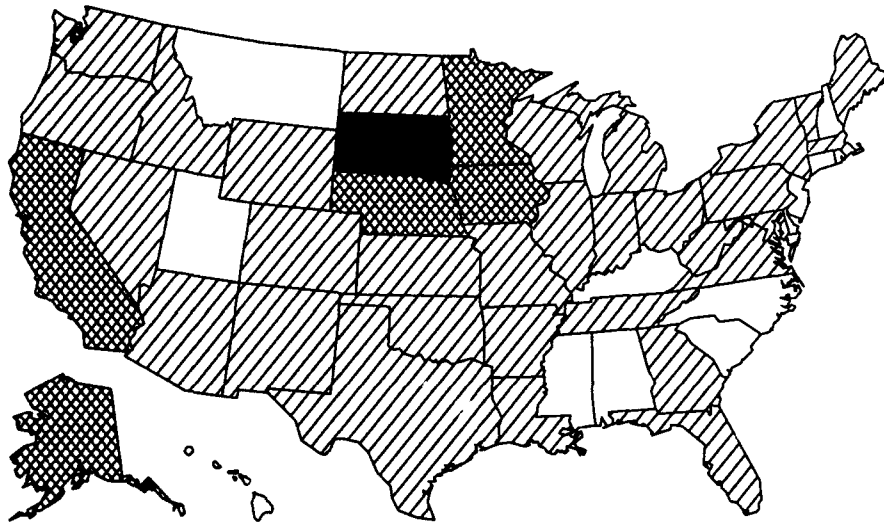
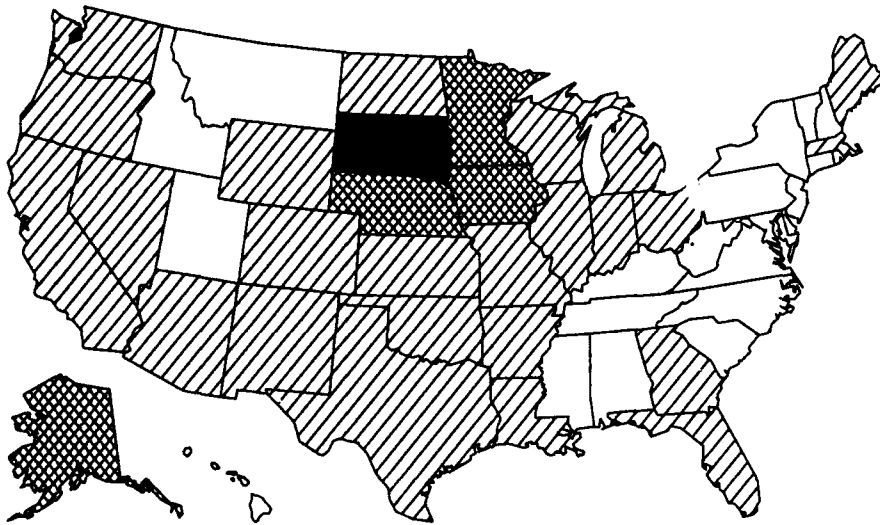


Figure 19. Mississippi Pool 16, 1990



a. Percent of camping groups by state



b. Percent of camping groups for which this campground was their primary destination by state

Percent of All Groups

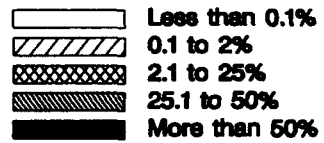


Figure 20. Lake Oahe, 1990

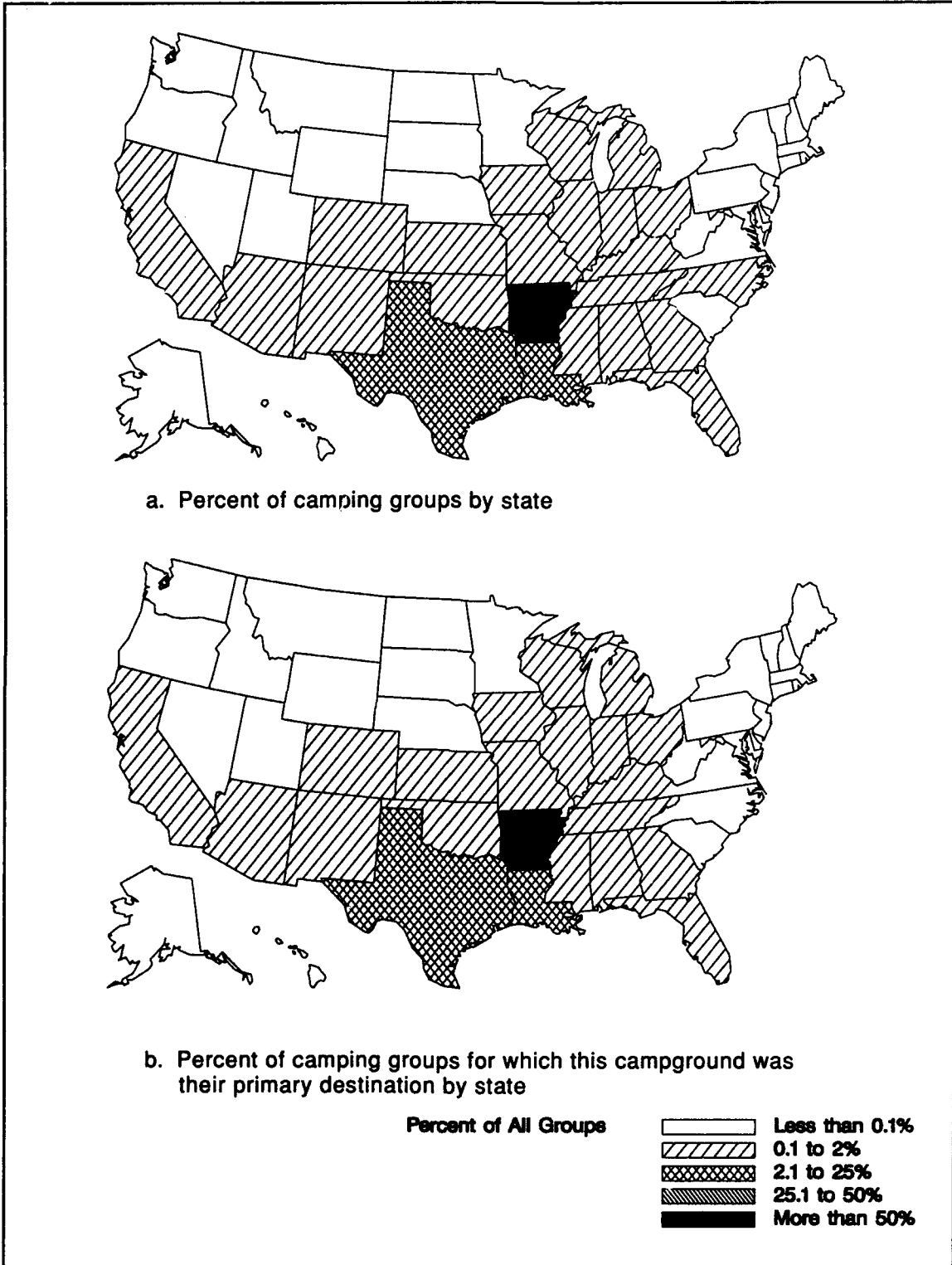


Figure 21. Lake Ouachita, 1990



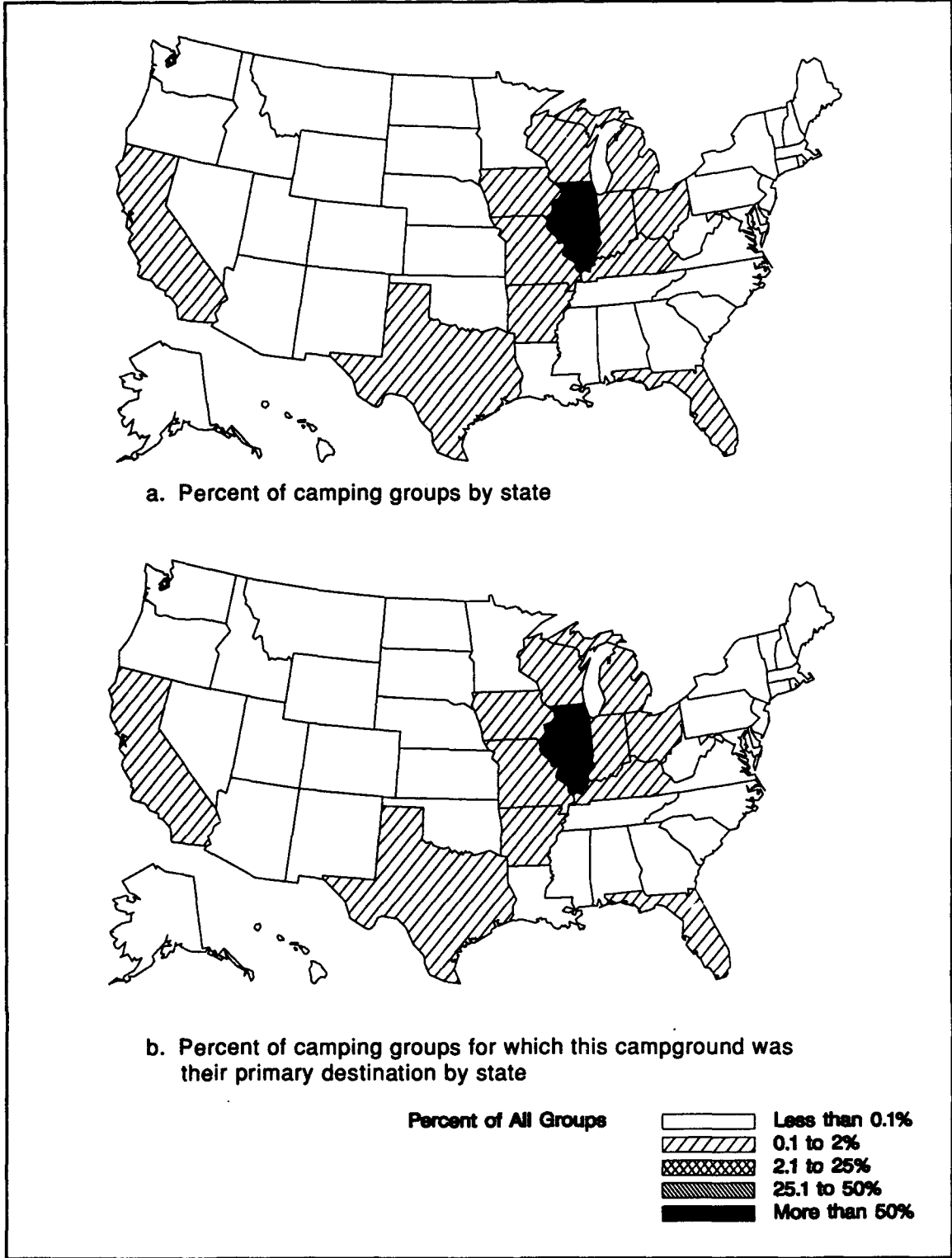


Figure 22. Lake Shelbyville, 1990

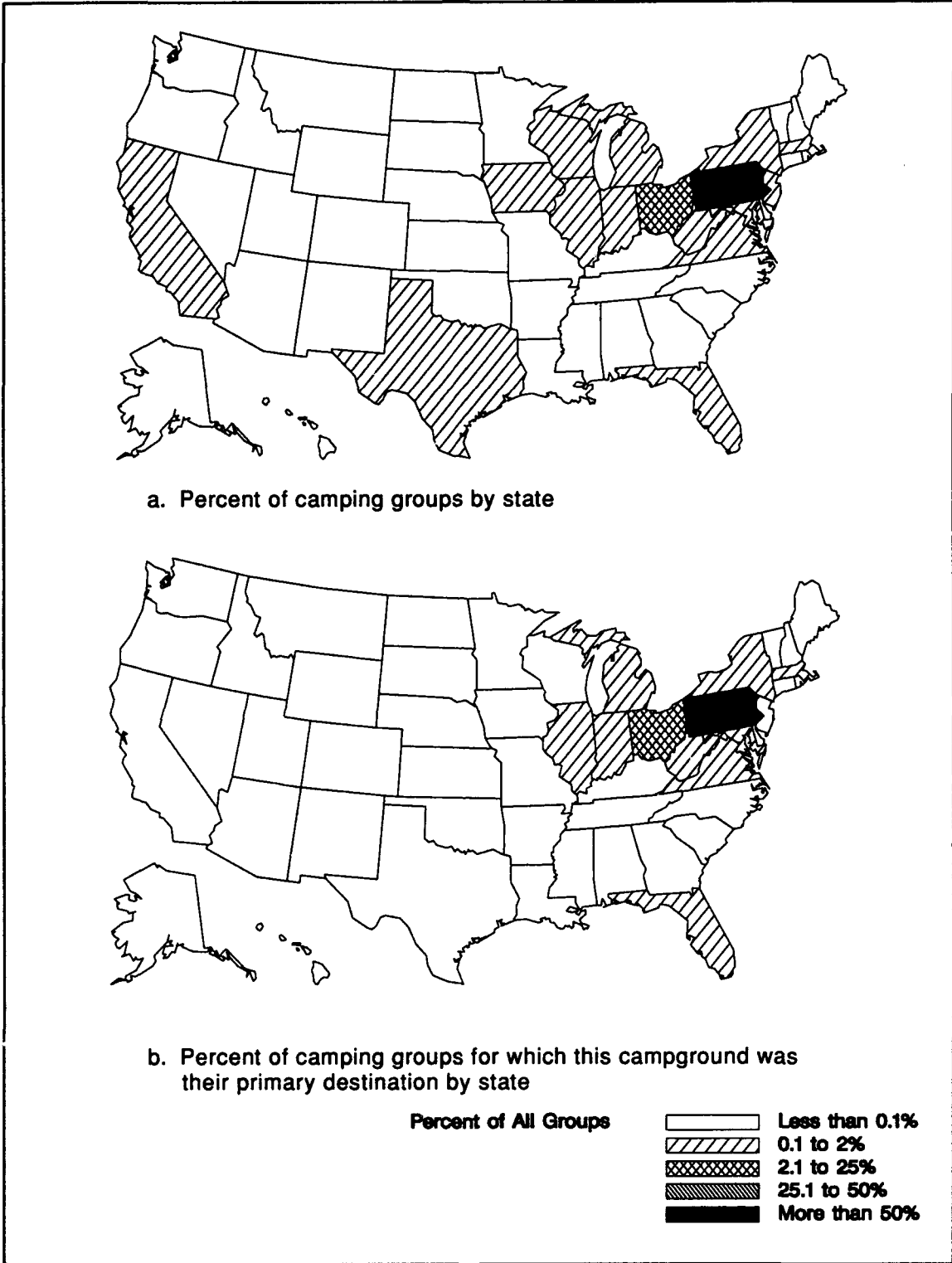


Figure 23. Shenango River Lake, 1990

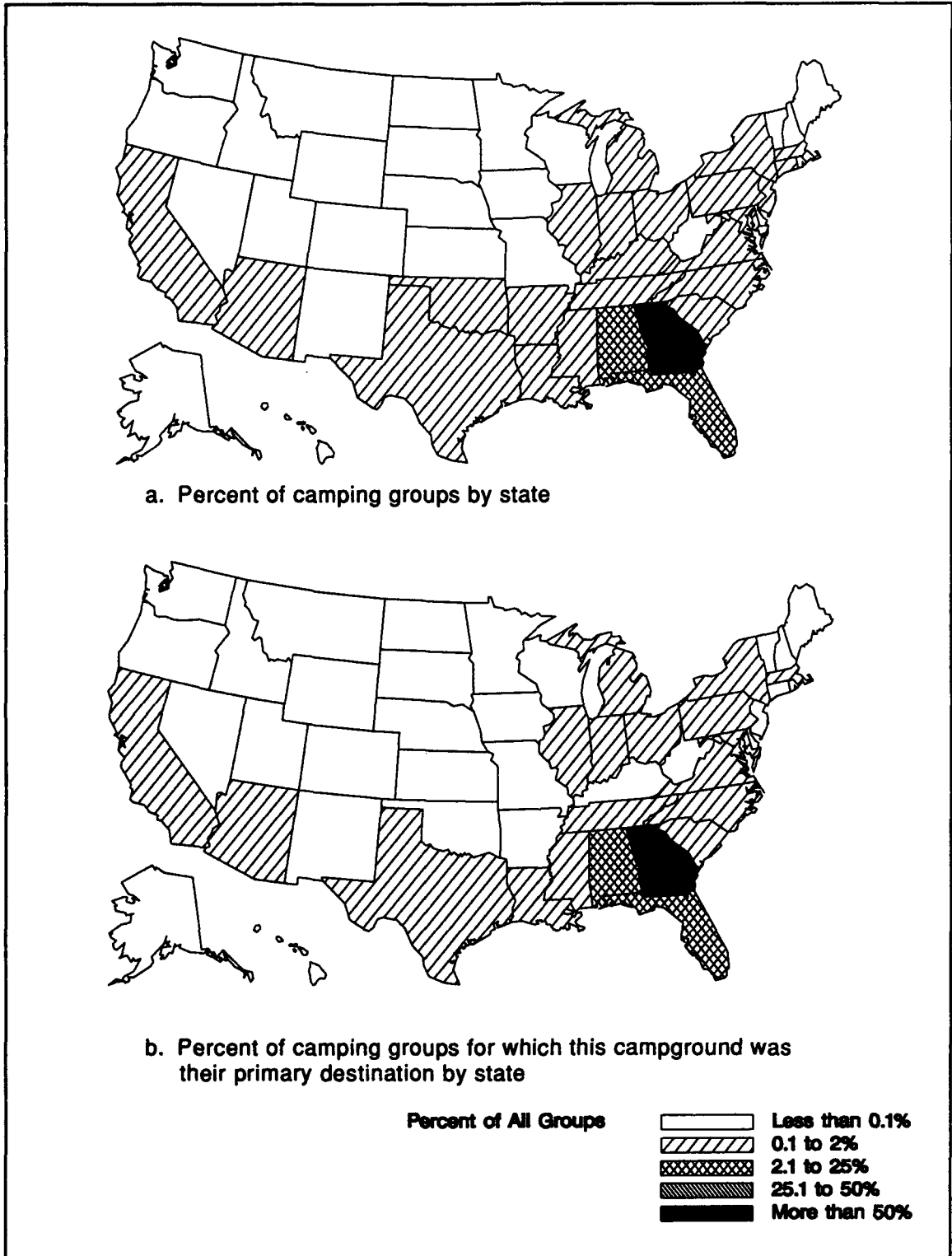


Figure 24. West Point Lake, 1990

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
93.67	94.94	94.94	84.81	83.54	87.34	81.01
8	9	10	11	12	13	14
22.78	24.05	13.92	24.05	39.24	48.10	40.51
15	16	17	18	19	20	21
22.78	26.58	20.25	21.52	27.85	53.16	53.16
22	23	24	25	26	27	28
18.99	12.66	18.99	20.25	37.97	64.56	58.23
29	30	31				
16.46	13.92	15.19				

Occupancy Rate for Month 43.08  
Occupancy Rate for Weekend During Month 54.01  
Occupancy Rate for Weekdays During Month 38.61

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 79 campsites).

Figure 25. Site occupancy for Hartwell Lake-Springfield, July 1990. Occupancy rate was calculated by the number of nights paid divided by (number of calendar nights x number of campsites)

# **Appendix A 1990 CRS Data Summaries for Individual Recreation Areas**

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The contents of Tables A1-A9 are summarized below.

<b>Project</b>	<b>Area</b>	<b>Recreation Management Area No.</b>	<b>Table</b>
Lake Barkley	Eureka	104	A1
	Canal	105	
	Boys Landing	108	
	Hurricane Creek	124	
	Devels Elbow	134	
	Bumpus Mills	145	
Hartwell Lake	Watsadlers	005	A2
	Springfield	011	
	Milltown	027	
	Paynes Creek	038	
	Oconee Point	066	
	Twin Lake	068	
	Coneross Park	070	
Milford Lake	Curtis Creek	003	A3
	Farnum Creek	004	
	Rolling Hills	008	
	School Creek	009	
	Timber Creek	010	
Mississippi Pool 16	Clarks Ferry	001	A4
	Shady Creek	003	
Lake Oahe	Downstream North	002	A5
Lake Ouachita	Denby Point	011	A6
	Crystal Springs	014	
	Brady Mountain	015	
Lake Shelbyville	Opposum Creek	001	A7
	Coon Creek	002	
	Lone Point	003	
	Lithia Springs	016	
	Forest Wood	018	
	Whitley Creek	019	
Shenango River Lake	Shenango Rec. Area	002	A8
West Point Lake	R. Shaefer Heard	001	A9
	Holiday Park	031	
	State Line Park	036	
	Amity Park	040	
	White Tail Ridge	045	

**Table A1  
Lake Barkley 1990 CRS Data**

	Boys Landing	Bumpus Mills	Canal	Devels Elbow	Eureka	Hurricane Creek	Total
<b>Summary Statistic</b>							
Total Permits <sup>1</sup>	197	381	2,768	363	276	1,017	5,002
Total groups <sup>1</sup>	182	361	2,591	327	276	989	4,726
Recreation Days <sup>1,2</sup>	1,595	2,516	26,104	1,586	2,384	8,411	42,596
Nights Spent	2.8	2.5	3.7	1.8	2.7	3.1	3.3
Party Size	3.1	2.7	2.7	2.8	3.3	2.8	2.8
Occupancy Rate: <sup>3</sup>							
Total	29.6	19.0	62.6	22.7	27.4	38.0	33.2
Weekend	38.1	26.8	75.1	37.8	37.2	47.8	43.8
Weekdays	26.0	15.6	57.4	16.4	23.4	33.9	28.8
Total Fees <sup>1</sup>	\$1,038	\$1,409	\$13,520	\$886	\$1,298	\$5,272	\$23,421
Average Fee Paid per Site <sup>4</sup>	\$74	\$43	\$159	\$47	\$62	\$103	\$81
<b>User Characteristics</b>							
Prior Visits	92.9	68.4	45.7	84.7	84.8	14.8	47.7
Primary Destination	97.3	99.7	44.7	89.9	97.5	17.6	51.4
Golden Age	20.3	15.5	41.3	18.0	38.0	26.4	33.6
Golden Access	5.5	4.2	8.2	2.4	0.7	9.1	7.1
<b>Vehicle Equipment</b>							
Car	33.5	28.3	18.1	23.2	51.4	3.4	18.7
Truck	52.7	53.2	28.8	56.0	59.1	9.4	31.1
Van	22.5	6.6	6.8	10.4	12.7	3.3	7.3
Motor Home	6.6	17.5	15.5	5.5	8.0	6.4	12.3
<b>Camping Equipment</b>							
Tent	48.9	38.0	7.8	57.5	44.9	2.6	16.2
Pop-up Trailer	8.8	8.9	3.4	4.3	11.2	1.1	4.1
Pickup Camper	13.7	9.1	3.0	6.4	12.3	2.3	4.5
Travel Trailer	14.8	15.2	22.8	8.0	27.2	4.7	17.4
<b>Recreational Equipment</b>							
Powerboat	34.1	48.2	11.8	55.0	53.3	12.6	21.1
Sailboat	0.0	0.0	0.3	0.6	12.0	0.0	0.9

- <sup>1</sup> These totals are reported as sums (all others are the percent of all users).
- <sup>2</sup> Recreation area averages were weighted by the total number of permits for each area to compute project averages. The total was a sum.
- <sup>3</sup> Occupancy Rate is calculated by the number of nights paid divided by (the number of calendar nights multiplied by the number of sites at each campground).
- <sup>4</sup> Average fee paid per site was the total fee collected at each area divided by the number of sites at that area.

Table A2  
Hartwell Lake 1990 CRS Data

	Conroes Park	Milltoan	Ocoee Point	Paynes Creek	Springfield	Twin Lake	Wetadlers	Total
<b>Summary Statistic</b>								
Total Permits <sup>1</sup>	520	141	170	349	1,868	1,979	2,574	7,601
Total groups <sup>1</sup>	369	87	134	268	1,377	1,442	1,889	5,566
Recreation Days <sup>1,2</sup>	5,233	1,316	1,174	3,360	18,846	16,917	17,473	64,319
Nights Spent	3.5	3.1	2.1	3.0	3.2	3.0	3.4	3.2
Party Size	4.2	3.8	4.1	4.7	4.1	4.1	2.8	3.7
Occupancy Rate <sup>3</sup>								
Total	14.8	8.6	8.4	11.8	41.0	31.1	58.7	24.9
Weekend	22.9	16.6	15.2	21.2	60.0	54.9	84.6	39.4
Weekdays <sup>1</sup>	11.1	4.7	5.0	7.3	31.8	21.1	47.8	18.4
Total Fees <sup>4</sup>	\$3,340	\$353	\$411	\$1,558	\$8,048	\$7,369	\$7,377	\$28,456
Average Fee Paid per Site <sup>4</sup>	\$32	\$7	\$7	\$20	\$102	\$72	\$145	\$55
<b>User Characteristics</b>								
Prior Visits	48.0	88.5	87.3	67.9	95.3	80.0	91.8	85.4
Primary Destination	52.8	94.3	97.0	94.4	98.6	95.5	98.8	94.5
Golden Age	19.0	3.4	0.7	10.1	21.4	16.9	41.5	25.5
Golden Access	1.1	0.0	0.7	1.1	6.8	3.3	4.7	4.3
<b>Vehicle Equipment</b>								
Car	37.1	31.0	45.5	36.6	46.7	36.7	29.6	36.9
Truck	46.1	63.2	50.7	52.6	51.1	52.4	54.6	52.6
Van	12.7	18.4	9.7	16.8	17.8	13.9	11.2	14.0
Motor Home	12.7	4.6	3.0	13.4	20.5	18.0	22.6	19.0
<b>Camping Equipment</b>								
Tent	38.8	66.7	79.9	47.4	29.9	36.1	16.2	30.1
Pop-up Trailer	11.1	10.3	8.2	13.4	14.3	11.9	10.3	11.9
Pickup Camper	3.0	1.1	3.0	2.2	1.5	2.2	2.8	2.3
Travel Trailer	28.7	8.0	3.0	17.2	36.2	24.4	45.1	33.5
<b>Recreational Equipment</b>								
Powerboat	18.4	48.3	30.6	34.0	29.5	28.4	12.2	23.2
Sailboat	1.9	0.0	0.0	3.4	1.0	0.9	0.9	1.1

- <sup>1</sup> These totals are reported as sums (all others are the percent of all users).
- <sup>2</sup> Recreation area averages were weighted by the total number of permits for each area to compute project averages. The total was a sum.
- <sup>3</sup> Occupancy Rate is calculated by the number of nights paid divided by (the number of calendar nights multiplied by the number of sites at each campground).
- <sup>4</sup> Average fee paid per site was the total fee collected at each area divided by the number of sites at that area.



**Table A3  
Milford Lake 1990 CRS Data**

	Curtis Creek	Farnum Creek	Rolling Hills	School Creek	Timber Creek	Total
<b>Summary Statistic</b>						
Total Permits <sup>1</sup>	1,036	408	1,184	159	180	2,967
Total groups <sup>1</sup>	976	123	961	154	28	2,242
Recreation Days <sup>1,2</sup>	6,356	3,094	6,335	1,200	832	17,817
Nights Spent	2.0	6.5	2.1	2.6	8.4	2.4
Party Size	3.4	4.2	3.1	2.8	4.2	3.3
Occupancy Rate <sup>3</sup>						
Total	17.8	7.8	25.6	7.3	2.0	12.1
Weekend	35.7	14.8	44.4	13.9	5.0	22.8
Weekdays	10.3	4.9	17.7	4.5	0.8	7.6
Total Fees <sup>1</sup>	\$4,329	\$1,327	\$4,359	\$334	\$304	\$10,653
Average Fee Paid per Site <sup>4</sup>	\$54	\$17	\$75	\$8	\$4	\$31
<b>User Characteristics</b>						
Prior Visits	99.2	95.9	98.6	100.0	85.7	98.7
Primary Destination	98.5	58.5	99.2	100.0	82.1	96.5
Golden Age	16.3	22.0	23.3	33.8	7.1	20.7
Golden Access	0.9	1.6	3.2	0.0	0.0	1.9
<b>Vehicle Equipment</b>						
Car	33.2	26.8	29.3	18.2	35.7	30.2
Truck	58.8	46.3	53.8	61.0	50.0	56.0
Van	15.3	11.4	18.7	6.5	32.1	16.1
Motor Home	15.4	19.5	15.6	18.2	10.7	15.8
<b>Camping Equipment</b>						
Tent	31.9	1.6	32.3	26.6	46.4	30.2
Pop-up Trailer	5.4	3.3	6.7	6.5	3.6	5.9
Pickup Camper	7.1	15.4	5.5	20.1	10.7	7.8
Travel Trailer	29.0	30.1	34.5	30.5	21.4	31.4
<b>Recreational Equipment</b>						
Powerboat	55.2	50.4	33.1	20.8	39.3	42.9
Sailboat	1.3	0.0	0.6	0.0	0.0	0.8

- <sup>1</sup> These totals are reported as sums (all others are the percent of all users).
- <sup>2</sup> Recreation area averages were weighted by the total number of permits for each area to compute project averages. The total was a sum.
- <sup>3</sup> Occupancy Rate is calculated by the number of nights paid divided by (the number of calendar nights multiplied by the number of sites at each campground).
- <sup>4</sup> Average fee paid per site was the total fee collected at each area divided by the number of sites at that area.

**Table A4  
Mississippi Pool 16 1990 CRS Data**

	Clarks Ferry	Shady Creek	Total
<b>Summary Statistic</b>			
Total Permits <sup>1</sup>	2,081	1,464	3,545
Total groups <sup>1</sup>	1,653	1,324	2,977
Recreation Days <sup>1,2</sup>	11,551	8,001	19,552
Nights Spent	3.0	2.7	2.9
Party Size	2.4	2.4	2.4
Occupancy Rate <sup>3</sup>			
Total	62.1	52.4	57.2
Weekend	87.1	80.2	83.7
Weekdays	51.6	40.8	46.2
Total Fees <sup>1</sup>	\$5,723	\$3,467	\$9,191
Average Fee Paid per Site <sup>4</sup>	\$108	\$77	\$93
<b>User Characteristics</b>			
Prior Visits	72.1	82.7	76.8
Primary Destination	95.5	97.8	96.5
Golden Age	43.0	53.7	47.8
Golden Access	8.2	8.6	8.4
<b>Vehicle Equipment</b>			
Car	37.2	35.2	36.3
Truck	46.8	40.2	43.9
Van	13.0	10.8	12.0
Motor Home	36.5	45.1	40.3
<b>Camping Equipment</b>			
Tent	5.6	7.1	6.3
Pop-up Trailer	6.7	3.5	5.3
Pickup Camper	3.6	3.3	3.5
Travel Trailer	45.6	38.6	42.5
<b>Recreational Equipment</b>			
Powerboat	17.4	5.7	12.2
Sailboat	0.0	0.0	0.0

- <sup>1</sup> These totals are reported as sums (all others are the percent of all users).
- <sup>2</sup> Recreation area averages were weighted by the total number of permits for each area to compute project averages. The total was a sum.
- <sup>3</sup> Occupancy Rate is calculated by the number of nights paid divided by (the number of calendar nights multiplied by the number of sites at each campground).
- <sup>4</sup> Average fee paid per site was the total fee collected at each area divided by the number of sites at that area.

**Table A5**  
**Lake Oahe 1990 CRS Data**

	Downstream North	Total
<b>Summary Statistic</b>		
Total Permits <sup>1</sup>	1,714	1,714
Total groups <sup>1</sup>	1,438	1,438
Recreation Days <sup>1,2</sup>	8,544	8,544
Nights Spent	2.2	2.2
Party Size	2.8	2.8
Occupancy Rate <sup>3</sup>		
Total	26.9	26.9
Weekend	41.4	41.4
Weekdays	20.5	20.5
Total Fees <sup>1</sup>	\$10,687	\$10,687
Average Fee Paid per Site <sup>4</sup>	\$66	\$66
<b>User Characteristics</b>		
Prior Visits	69.1	69.1
Primary Destination	73.2	73.2
Golden Age	28.6	28.6
Golden Access	3.1	3.1
<b>Vehicle equipment</b>		
Car	17.0	17.0
Truck	55.9	55.9
Van	11.8	11.8
Motor Home	24.1	24.1
<b>Camping Equipment</b>		
Tent	23.6	23.6
Pop-up Trailer	6.8	6.8
Pickup Camper	13.6	13.6
Travel Trailer	27.9	27.9
<b>Recreational Equipment</b>		
Powerboat	38.6	38.6
Sailboat	0.1	0.1

- <sup>1</sup> These totals are reported as sums (all others are the percent of all users).
- <sup>2</sup> Recreation area averages were weighted by the total number of permits for each area to compute project averages. The total was a sum.
- <sup>3</sup> Occupancy Rate is calculated by the number of nights paid divided by (the number of calendar nights multiplied by the number of sites at each campground).
- <sup>4</sup> Average fee paid per site was the total fee collected at each area divided by the number of sites at that area.

Table A6  
Lake Ouachita 1990 CRS Data

	Brady Mountain	Crystal Springs	Denby Point	Total
<b>Summary Statistic</b>				
Total Permits <sup>1</sup>	3,892	2,712	2,792	9,396
Total groups <sup>1</sup>	2,462	1,835	1,819	6,116
Recreation Days <sup>1,2</sup>	29,008	19,439	21,673	70,120
Nights Spent	3.2	3.2	3.7	3.4
Party Size	3.6	3.3	3.4	3.4
Occupancy Rate <sup>3</sup>				
Total	81.5	59.1	65.0	68.6
Weekend	102.3	85.3	91.6	93.1
Weekdays	72.8	48.2	53.9	58.3
Total Fees <sup>1</sup>	\$15,970	\$11,391	\$10,707	\$38,067
Average Fee Paid per Site <sup>4</sup>	\$216	\$154	\$160	\$177
<b>User Characteristics</b>				
Prior Visits	76.1	61.6	68.3	69.4
Primary Destination	91.2	86.2	91.5	89.8
Golden Age	10.6	15.7	23.7	16.0
Golden Access	3.4	4.0	6.6	4.5
<b>Vehicle Equipment</b>				
Car	40.0	33.5	25.2	33.6
Truck	50.9	60.2	59.9	56.4
Van	15.3	12.8	11.4	13.4
Motor Home	12.8	13.2	19.2	14.8
<b>Camping Equipment</b>				
Tent	55.1	43.9	35.2	45.8
Pop-up Trailer	12.8	9.6	8.7	10.6
Pickup Camper	3.9	2.9	5.3	4.0
Travel Trailer	17.9	27.9	33.9	25.7
<b>Recreational Equipment</b>				
Powerboat	30.6	44.4	45.5	39.2
Sailboat	5.0	4.4	8.3	5.8

- <sup>1</sup> These totals are reported as sums (all others are the percent of all users).
- <sup>2</sup> Recreation area averages were weighted by the total number of permits for each area to compute project averages. The total was a sum.
- <sup>3</sup> Occupancy Rate is calculated by the number of nights paid divided by (the number of calendar nights multiplied by the number of sites at each campground).
- <sup>4</sup> Average fee paid per site was the total fee collected at each area divided by the number of sites at that area.

Table A7  
Lake Shelbyville 1990 CRS Data

	Coon Creek	Forest Wood	Lithia Springs	Lone Point	Opposum Creek	Whitley Creek	Total
<b>Summary Statistic</b>							
Total Permits <sup>1</sup>	5,477	2,924	4,095	828	722	1,120	15,166
Total groups <sup>1</sup>	4,783	2,523	3,525	655	639	1,065	13,190
Recreation Days <sup>1,2</sup>	42,260	20,370	28,958	6,912	5,099	9,389	112,988
Nights Spent	2.6	3.0	2.6	3.0	2.6	2.3	2.7
Party Size	3.3	2.8	3.1	3.5	3.3	3.8	3.2
Occupancy Rate <sup>3</sup>							
Total	42.2	57.0	53.2	23.4	26.9	31.3	39.0
Weekend	68.9	77.6	82.5	46.1	49.2	59.7	64.0
Weekdays	31.1	48.4	41.0	14.9	18.8	20.7	29.2
Total Fees <sup>1</sup>	\$21,655	\$11,281	\$18,240	\$2,641	\$2,360	\$1,782	\$57,960
Average Fee Paid per Site <sup>4</sup>	\$98	\$138	\$148	\$28	\$29	\$21	\$77
<b>User Characteristics</b>							
Prior Visits	90.0	99.5	72.7	69.3	87.6	96.9	86.6
Primary Destination	97.7	99.8	96.7	86.6	96.9	99.1	97.3
Golden Age	14.3	35.2	17.1	9.5	14.7	2.5	17.9
Golden Access	2.0	2.0	2.0	3.1	3.4	0.2	2.0
<b>Vehicle Equipment</b>							
Car	36.1	35.0	33.2	32.4	44.1	46.7	36.2
Truck	49.0	50.6	38.7	48.4	43.8	40.4	45.6
Van	18.3	20.7	21.9	19.2	12.4	22.4	19.8
Motor Home	16.4	25.8	17.6	17.3	10.5	6.1	17.4
<b>Camping Equipment</b>							
Tent	39.0	17.4	42.9	43.1	55.2	73.6	39.7
Pop-up Trailer	13.4	8.7	13.7	11.8	5.6	9.8	11.8
Pickup Camper	5.7	6.6	4.5	4.6	4.4	4.3	5.3
Travel Trailer	24.9	40.9	15.9	23.4	23.8	6.6	23.9
<b>Recreational Equipment</b>							
Powerboat	42.3	42.8	37.3	44.4	29.0	42.6	40.5
Sailboat	0.4	0.1	0.3	11.1	0.9	0.6	0.9

- <sup>1</sup> These totals are reported as sums (all others are the percent of all users).
- <sup>2</sup> Recreation area averages were weighted by the total number of permits for each area to compute project averages. The total was a sum.
- <sup>3</sup> Occupancy Rate is calculated by the number of nights paid divided by (the number of calendar nights multiplied by the number of sites at each campground).
- <sup>4</sup> Average fee paid per site was the total fee collected at each area divided by the number of sites at that area.

Table A8  
Shenango River Lake 1990 CRS Data

	Shenango Rec Area	Total
<b>Summary Statistic</b>		
Total Permits <sup>1</sup>	7,137	7,137
Total groups <sup>1</sup>	4,443	4,443
Recreation Days <sup>1,2</sup>	53,981	53,981
Nights Spent	3.4	3.4
Party Size	3.5	3.5
Occupancy Rate <sup>3</sup>		
Total	38.9	38.9
Weekend	59.6	59.6
Weekdays	30.3	30.3
Total Fees <sup>1</sup>	\$31,565	\$31,565
Average Fee Paid per Site <sup>4</sup>	\$96	\$96
<b>User Characteristics</b>		
Prior Visits	89.6	89.6
Primary Destination	97.1	97.1
Golden Age	18.4	18.4
Golden Access	4.4	4.4
<b>Vehicle Equipment</b>		
Car	47.6	47.6
Truck	44.8	44.8
Van	16.3	16.3
Motor Home	16.7	16.7
<b>Camping Equipment</b>		
Tent	38.1	38.1
Pop-up Trailer	10.7	10.7
Pickup Camper	5.7	5.7
Travel Trailer	23.4	23.4
<b>Recreational Equipment</b>		
Powerboat	34.4	34.4
Sailboat	36.6	36.6

<sup>1</sup> These totals are reported as sums (all others are the percent of all users).

<sup>2</sup> Recreation area averages were weighted by the total number of permits for each area to compute project averages. The total was a sum.

<sup>3</sup> Occupancy Rate is calculated by the number of nights paid divided by (the number of calendar nights multiplied by the number of sites at each campground).

<sup>4</sup> Average fee paid per site was the total fee collected at each area divided by the number of sites at that area.

Table A9  
West Point Lake 1990 CRS Data

	Amity Park	Holiday Park	R. Shaefer Heard	State Line Park	White Tail Ridge	Total
<b>Summary Statistic</b>						
Total Permits <sup>1</sup>	1,004	2,969	2,111	853	1,126	8,063
Total groups <sup>1</sup>	828	2,393	1,721	734	1,016	6,692
Recreation Days <sup>1,2</sup>	8,389	25,179	16,591	7,866	9,922	67,947
Nights Spent	3.0	3.2	2.9	2.7	2.9	3.0
Party Size	3.5	3.4	3.3	3.9	3.4	3.4
Occupancy Rate <sup>3</sup>						
Total	19.6	36.7	38.0	14.2	32.6	28.2
Weekend	30.7	58.8	63.6	27.4	54.9	47.1
Weekdays	15.0	27.3	27.3	8.7	23.3	20.3
Total Fees <sup>1</sup>	\$4,696	\$13,135	\$7,941	\$4,234	\$5,194	\$35,200
Average Fee Paid per Site <sup>4</sup>	\$49	\$91	\$92	\$34	\$90	\$71
<b>User Characteristics</b>						
Prior Visits	63.3	95.2	75.8	84.1	88.0	84.0
Primary Destination	69.4	97.6	91.4	94.4	96.4	92.0
Golden Age	22.7	21.0	26.6	6.1	16.6	20.4
Golden Access	2.9	4.2	6.7	2.7	7.4	5.0
<b>Vehicle Equipment</b>						
Car	35.4	25.6	34.7	46.6	33.9	32.7
Truck	60.1	65.2	54.0	56.3	66.3	60.9
Van	10.9	10.7	12.1	15.0	10.8	11.6
Motor Home	22.1	29.3	27.0	14.4	29.1	26.2
<b>Camping Equipment</b>						
Tent	24.4	21.6	26.4	55.0	28.6	27.9
Pop-up Trailer	9.2	6.1	6.1	4.4	13.1	7.4
Pickup Camper	4.1	5.3	2.8	3.0	2.9	3.9
Travel Trailer	24.0	19.5	32.3	16.6	27.2	24.2
<b>Recreational Equipment</b>						
Powerboat	36.6	58.0	26.6	50.7	39.2	43.6
Sailboat	7.1	0.6	2.4	13.9	1.3	3.4

- <sup>1</sup> These totals are reported as sums (all others are the percent of all users).
- <sup>2</sup> Recreation area averages were weighted by the total number of permits for each area to compute project averages. The total was a sum.
- <sup>3</sup> Occupancy Rate is calculated by the number of nights paid divided by (the number of calendar nights multiplied by the number of sites at each campground).
- <sup>4</sup> Average fee paid per site was the total fee collected at each area divided by the number of sites at that area.

# **Appendix B 1990 CRS Data Analysis of Occupancy Rates (July)**

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The contents of Tables B1-B36 are summarized below.

<b>Project</b>	<b>Area</b>	<b>Recreation Management Area No.</b>	<b>Table</b>
Lake Barkley	Eureka	104	B1
	Canal	105	B2
	Boys Landing	108	B3
	Hurricane Creek	124	B4
	Devels Elbow	134	B5
	Bumpus Mills	145	B6
Hartwell Lake	Watsadlers	005	B7
	Springfield	011	B8
	Milltown	027	B9
	Paynes Creek	038	B10
	Oconee Point	066	B11
	Twin Lake	068	B12
	Coneross Park	070	B13
Milford Lake	Curtis Creek	003	B14
	Farnum Creek	004	B15
	Rolling Hills	008	B16
	School Creek	009	B17
	Timber Creek	010	B18
Mississippi Pool 16	Clarks Ferry	001	B19
	Shady Creek	003	B20
Lake Oahe	Downstream North	002	B21
Lake Ouachita	Denby Point	011	B22
	Crystal Springs	014	B23
	Brady Mountain	015	B24
Lake Shelbyville	Opposum Creek	001	B25
	Coon Creek	002	B26
	Lone Point	003	B27
	Lithia Springs	016	B28
	Forest Wood	018	B29
	Whitley Creek	019	B30
Shenango River Lake	Shenango Rec. Area	002	B31
West Point Lake	R. Shaefer Heard	001	B32
	Holiday Park	031	B33
	State Line Park	036	B34
	Amity Park	040	B35
	White Tail Ridge	045	B36

Table B1  
 Lake Barkley - Eureka  
 Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1 19.05	2 52.38	3 61.90	4 71.43	5 47.62	6 76.19	7 80.95
8 38.10	9 14.29	10 19.05	11 23.81	12 38.10	13 47.62	14 47.62
15 14.29	16 19.05	17 9.52	18 9.52	19 14.29	20 23.81	21 23.81
22 19.05	23 19.05	24 19.05	25 19.05	26 23.81	27 28.57	28 23.81
29	30 9.52	31 4.76				

Occupancy Rate for Month	29.65
Occupancy Rate for Weekend During Month	39.15
Occupancy Rate for Weekdays During Month	25.76

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by the 21 campsites).

**Table B2**  
**Lake Barkley - Canal**  
**Daily Occupancy Rate<sup>1</sup>**

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
81.18	76.47	82.35	76.47	67.06	77.65	78.82
8	9	10	11	12	13	14
54.12	65.88	64.71	69.41	65.88	75.29	83.53
15	16	17	18	19	20	21
56.47	50.59	69.41	72.94	75.29	77.65	81.18
22	23	24	25	26	27	28
54.12	57.65	55.29	63.53	64.71	82.35	77.65
29	30	31				
57.65	49.41	40.00				

Occupancy Rate for Month	67.89
Occupancy Rate for Weekend During Month	70.46
Occupancy Rate for Weekdays During Month	66.84

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 83 campsites).

**Table B3**  
**Lake Barkley - Boyds Landing**  
**Daily Occupancy Rate<sup>1</sup>**

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
71.43	71.43	85.71	50.00	21.43	42.86	57.14
8	9	10	11	12	13	14
21.43	28.57	35.71	35.71	28.57	35.71	64.29
15	16	17	18	19	20	21
28.57	21.43	28.57	28.57	14.29	35.71	21.43
22	23	24	25	26	27	28
14.29	7.14	7.14	14.29	14.29	7.14	14.29
29	30	31				
14.29	14.29	14.29				

Occupancy Rate for Month	30.65
Occupancy Rate for Weekend During Month	30.95
Occupancy Rate for Weekdays During Month	30.52

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 14 campsites).

Table B4  
 Lake Barkley - Hurricane Creek  
 Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
70.59	64.71	70.59	82.35	82.35	64.71	68.63
8	9	10	11	12	13	14
25.49	39.22	50.98	43.14	41.18	47.06	45.10
15	16	17	18	19	20	21
33.33	29.41	27.45	27.45	29.41	47.06	45.10
22	23	24	25	26	27	28
21.57	31.37	25.49	23.53	31.37	49.02	43.14
29	30	31				
35.29	37.25	41.18				

Occupancy Rate for Month	44.34
Occupancy Rate for Weekend During Month	45.53
Occupancy Rate for Weekdays During Month	43.85

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 51 campsites).

Table B5  
 Lake Barkley - Devels Elbow  
 Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1 36.84	2 31.58	3 42.11	4 36.84	5	6 31.58	7 42.11
8	9	10 10.53	11 15.79	12 10.53	13 31.58	14 36.84
15 5.26	16 10.53	17 21.05	18 5.26	19	20 21.05	21 31.58
22	23 36.84	24 31.58	25 31.58	26 21.05	27 42.11	28 47.37
29 26.32	30 21.05	31 26.32				

Occupancy Rate for Month	22.75
Occupancy Rate for Weekend During Month	31.58
Occupancy Rate for Weekdays During Month	19.14

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 19 campsites).

**Table B6**  
**Lake Barkley - Bumpus Mills**  
**Daily Occupancy Rate<sup>1</sup>**

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
48.48	60.61	84.85	36.36	33.33	45.45	42.42
8	9	10	11	12	13	14
18.18	9.09	12.12	6.06		6.06	15.15
15	16	17	18	19	20	21
	3.03	3.03			12.12	15.15
22	23	24	25	26	27	28
3.03	6.06		3.03	6.06	33.33	18.18
29	30	31				
15.15	18.18	6.06				

Occupancy Rate for Month	18.08
Occupancy Rate for Weekend During Month	20.88
Occupancy Rate for Weekdays During Month	16.94

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 33 campsites).

Table B7  
Hartwell Lake - Watsadlers  
Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
92.16	82.35	84.31	84.31	80.39	82.35	84.31
8	9	10	11	12	13	14
43.14	29.41	37.25	49.02	45.10	70.59	72.55
15	16	17	18	19	20	21
49.02	31.37	31.37	47.06	62.75	66.67	68.63
22	23	24	25	26	27	28
33.33	19.61				5.88	5.88
29	30	31				
23.53	43.14	47.06				

Occupancy Rate for Month	47.50
Occupancy Rate for Weekend During Month	50.76
Occupancy Rate for Weekdays During Month	46.17

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 51 campsites).



Table B8  
Hartwell Lake - Springfield  
Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
93.67	94.94	94.94	84.81	83.54	87.34	81.01
8	9	10	11	12	13	14
22.78	24.05	13.92	24.05	39.24	48.10	40.51
15	16	17	18	19	20	21
22.78	26.58	20.25	21.52	27.85	53.16	53.16
22	23	24	25	26	27	28
18.99	12.66	18.99	20.25	37.97	64.56	58.23
29	30	31				
16.46	13.92	15.19				

Occupancy Rate for Month	43.08
Occupancy Rate for Weekend During Month	54.01
Occupancy Rate for Weekdays During Month	38.61

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 79 campsites).

Table B9  
Hartwell Lake - Milltown  
Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
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
		1.96	5.88	5.88	33.33	33.33
29	30	31				
1.96	1.96	1.96				

Occupancy Rate for Month	2.78
Occupancy Rate for Weekend During Month	7.63
Occupancy Rate for Weekdays During Month	0.80

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 51 campsites).

Table B10  
Hartwell Lake - Paynes Creek  
Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
					1.32	1.32
8	9	10	11	12	13	14
1.32	1.32					
15	16	17	18	19	20	21
						10.53
22	23	24	25	26	27	28
7.89	13.16	13.16	11.84	10.53	23.68	35.53
29	30	31				
7.89	3.95	1.32				

Occupancy Rate for Month	4.67
Occupancy Rate for Weekend During Month	8.04
Occupancy Rate for Weekdays During Month	3.29

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 76 campsites).

Table B11  
Hartwell Lake - Oconee Point  
Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14 9.52
15 3.17	16 3.17	17	18	19	20	21
22	23	24	25 1.59	26 4.76	27 22.22	28 23.81
29	30	31				

Occupancy Rate for Month	2.20
Occupancy Rate for Weekend During Month	6.17
Occupancy Rate for Weekdays During Month	0.58

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 63 campsites).

Table B12  
Hartwell Lake - Twin Lake  
Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
				0.98	10.78	33.33
8	9	10	11	12	13	14
0.98	0.98					
15	16	17	18	19	20	21
						0.98
22	23	24	25	26	27	28
11.76	22.55	13.73	10.78	38.24	92.16	74.51
29	30	31				
10.78	3.92	0.98				

Occupancy Rate for Month	10.56
Occupancy Rate for Weekend During Month	23.53
Occupancy Rate for Weekdays During Month	5.26

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 102 campsites).

Table B13

Hartwell Lake - Coneross Park

Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
		9.43	16.98	11.32	4.72	2.83
8	9	10	11	12	13	14
						5.66
15	16	17	18	19	20	21
15.09	10.38	5.66	0.94			
22	23	24	25	26	27	28
7.55	14.15	20.75	21.70	17.92	38.68	36.79
29	30	31				
7.55	3.77	1.89				

Occupancy Rate for Month 8.19

Occupancy Rate for Weekend During Month 9.85

Occupancy Rate for Weekdays During Month 7.50

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 106 campsites).

Table B14  
 Milford Lake - Curtis Creek  
 Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
7.50	7.50	16.25	17.50	20.00	35.00	38.75
8	9	10	11	12	13	14
16.25	13.75	13.75	20.00	21.25	36.25	41.25
15	16	17	18	19	20	21
8.75	8.75	8.75	18.75	21.25	56.25	53.75
22	23	24	25	26	27	28
8.75	7.50	8.75	15.00	22.50	57.50	60.00
29	30	31				
16.25	13.75	10.00				

Occupancy Rate for Month	22.62
Occupancy Rate for Weekend During Month	42.08
Occupancy Rate for Weekdays During Month	14.66

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 80 campsites).

Table B15  
Milford Lake - Farnum Creek  
Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8.86	7.59	11.39	15.19	15.19	22.78	16.46
8	9	10	11	12	13	14
1.27	1.27	1.27	1.27		2.53	8.86
15	16	17	18	19	20	21
3.80	2.53	1.27	3.80	6.33	17.72	13.92
22	23	24	25	26	27	28
2.53	1.27	5.06	3.80	2.53	2.53	7.59
29	30	31				
5.06	3.80	6.33				

Occupancy Rate for Month	6.57
Occupancy Rate for Weekend During Month	10.27
Occupancy Rate for Weekdays During Month	5.06

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 79 campsites).



Table B16  
Milford Lake - Rolling Hills  
Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
37.93	46.55	48.28	41.38	24.14	44.83	58.62
8	9	10	11	12	13	14
17.24	8.62	10.34	13.79	10.34	41.38	53.45
15	16	17	18	19	20	21
10.34	3.45	10.34	13.79	22.41	48.28	46.55
22	23	24	25	26	27	28
22.41	20.69	18.97	12.07	12.07	25.86	37.93
29	30	31				
6.90	15.52	13.79				

Occupancy Rate for Month	25.81
Occupancy Rate for Weekend During Month	39.66
Occupancy Rate for Weekdays During Month	20.14

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 58 campsites).

Table B17  
 Milford Lake - School Creek  
 Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
6.82	6.82	6.82	9.09	18.18	27.27	22.73
8	9	10	11	12	13	14
			2.27	4.55	11.36	11.36
15	16	17	18	19	20	21
2.27		2.27	2.27			
22	23	24	25	26	27	28
			2.27	2.27		
29	30	31				
		2.27				

Occupancy Rate for Month	4.55
Occupancy Rate for Weekend During Month	8.08
Occupancy Rate for Weekdays During Month	3.10

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 44 campsites).

Table B18  
Milford Lake - Timber Creek  
Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1 1.16	2 1.16	3 2.33	4 1.16	5	6	7 2.33
8 2.33	9	10	11	12	13 2.33	14 8.14
15	16 1.16	17 1.16	18 1.16	19 2.33	20 9.30	21 9.30
22	23	24	25	26	27 1.16	28 2.33
29	30	31				

Occupancy Rate for Month	1.58
Occupancy Rate for Weekend During Month	3.88
Occupancy Rate for Weekdays During Month	0.63

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 86 campsites).

**Table B19**  
**Mississippi Pool 16 - Clarks Ferry**  
**Daily Occupancy Rate<sup>1</sup>**

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
53.33	64.15	73.58	58.49	64.15	88.68	83.02
8	9	10	11	12	13	14
30.19	32.08	33.96	41.51	64.15	81.13	88.68
15	16	17	18	19	20	21
50.94	50.94	58.49	64.15	69.81	100.00	98.11
22	23	24	25	26	27	28
54.72	43.40	41.51	52.83	90.57	98.11	94.34
29	30	31				
39.62	39.62	50.94				

Occupancy Rate for Month	63.48
Occupancy Rate for Weekend During Month	81.34
Occupancy Rate for Weekdays During Month	56.17

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 45 campsites).

Table B20  
Mississippi Pool 16 - Shady Creek  
Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
66.04	71.11	84.44	73.33	77.78	75.56	68.89
8	9	10	11	12	13	14
26.67	31.11	28.89	24.44	44.44	62.22	71.11
15	16	17	18	19	20	21
15.56	33.33	31.11	44.44	60.00	75.56	77.78
22	23	24	25	26	27	28
33.33	37.78	33.33	40.00	75.56	95.56	97.78
29	30	31				
28.89	22.22	24.44				

Occupancy Rate for Month	52.26
Occupancy Rate for Weekend During Month	69.38
Occupancy Rate for Weekdays During Month	45.25

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 53 campsites).

Table B21

Lake Oahe - Downstream North

Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
			16.77	29.81	50.31	59.63
15	16	17	18	19	20	21
36.65	32.30	41.61	34.78	37.27	48.45	48.45
22	23	24	25	26	27	28
28.57	34.16	31.68	32.30	35.40	50.93	54.66
29	30	31				
23.60	27.33	25.47				

Occupancy Rate for Month	25.17
Occupancy Rate for Weekend During Month	34.71
Occupancy Rate for Weekdays During Month	21.26

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 161 campsites).

Table B22

Lake Ouachita - Denby Point

Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
91.04	97.01	101.49	88.06	86.57	108.96	111.94
8	9	10	11	12	13	14
58.21	62.69	53.73	44.78	67.16	107.46	102.99
15	16	17	18	19	20	21
67.16	59.70	59.70	68.66	89.55	105.97	102.99
22	23	24	25	26	27	28
40.30	50.75	50.75	55.22	62.69	104.48	94.03
29	30	31				
38.81	35.82	35.82				

Occupancy Rate for Month 74.34

Occupancy Rate for Weekend During Month 93.20

Occupancy Rate for Weekdays During Month 66.62

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 67 campsites).

**Table B23**

**Lake Ouachita - Crystal Springs**

**Daily Occupancy Rate<sup>1</sup>**

July 1990						
S	M	T	W	T	F	S
1 81.08	2 83.78	3 95.95	4 83.78	5 79.73	6 105.41	7 104.05
8 45.95	9 52.70	10 50.00	11 60.81	12 66.22	13 109.46	14 101.35
15 45.95	16 41.89	17 47.30	18 50.00	19 75.68	20 102.70	21 97.30
22 51.35	23 50.00	24 32.43	25 43.24	26 50.00	27 87.84	28 93.24
29 27.03	30 28.38	31 41.89				

Occupancy Rate for Month 67.31

Occupancy Rate for Weekend During Month 89.04

Occupancy Rate for Weekdays During Month 58.42

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 74 campsites).



Table B24  
 Lake Ouachita - Brady Mountain  
 Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1 104.05	2 109.46	3 116.22	4 101.35	5 97.30	6 105.41	7 97.30
8 70.27	9 66.22	10 67.57	11 74.32	12 97.30	13 106.76	14 106.76
15 59.46	16 64.86	17 63.51	18 93.24	19 94.59	20 101.35	21 102.70
22 62.16	23 67.57	24 75.68	25 85.14	26 90.54	27 101.35	28 104.05
29 51.35	30 66.22	31 60.81				

Occupancy Rate for Month	85.96
Occupancy Rate for Weekend During Month	91.74
Occupancy Rate for Weekdays During Month	83.60

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 74 campsites).

Table B25  
 Lake Shelbyville - Opposum Creek  
 Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
11.11	16.05	23.46	18.52	14.81	24.69	28.40
8	9	10	11	12	13	14
11.11	17.28	18.52	17.28	23.46	28.40	33.33
15	16	17	18	19	20	21
19.75	19.75	20.99	18.52	25.93	50.62	54.32
22	23	24	25	26	27	28
16.05	17.28	17.28	16.05	18.52	30.86	37.04
29	30	31				
8.64	3.70	11.11				

Occupancy Rate for Monch	21.70
Occupancy Rate for Weekend During Month	31.96
Occupancy Rate for Weekdays During Month	17.51

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 81 campsites).

Table B26

Lake Shelbyville - Coon Creek

Daily Occupancy Rate

July 1990						
S	M	T	W	T	F	S
1 39.82	2 42.53	3 42.53	4 33.94	5 38.01	6 67.42	7 69.68
8 16.74	9 18.10	10 19.91	11 24.43	12 40.72	13 74.66	14 71.95
15 34.84	16 39.82	17 40.72	18 47.06	19 54.30	20 86.43	21 87.78
22 37.56	23 38.46	24 36.65	25 38.01	26 50.23	27 76.92	28 76.47
29 18.10	30 31.22	31 34.39				

Occupancy Rate for Month 46.11

Occupancy Rate for Weekend During Month 67.92

Occupancy Rate for Weekdays During Month 37.19

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 221 campsites).

Table B27  
 Lake Shelbyville - Lone Point  
 Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
19.79	21.87	20.83	18.75	13.54	15.63	22.92
8	9	10	11	12	13	14
7.29	7.29	7.29	8.33	12.50	26.04	25.00
15	16	17	18	19	20	21
7.29	7.29	11.46	12.50	26.04	36.46	35.42
22	23	24	25	26	27	28
3.12	4.17	7.29	10.42	15.63	32.29	32.29
29	30	31				
1.04	9.38	7.29				

Occupancy Rate for Month	15.69
Occupancy Rate for Weekend During Month	25.12
Occupancy Rate for Weekdays During Month	11.84

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 96 campsites).

Table B28

Lake Shelbyville - Lithia Springs

Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
59.35	53.66	65.85	59.35	72.36	99.19	98.37
8	9	10	11	12	13	14
45.53	43.90	40.65	43.90	50.41	61.79	69.11
15	16	17	18	19	20	21
33.33	40.65	43.90	46.34	65.04	99.19	99.19
22	23	24	25	26	27	28
37.40	40.65	46.34	51.22	60.98	100.00	97.56
29	30	31				
45.53	36.59	41.46				

Occupancy Rate for Month 59.64

Occupancy Rate for Weekend During Month 80.49

Occupancy Rate for Weekdays During Month 51.11

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 123 campsites).

Table B29

Lake Shelbyville - Forest Wood

Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1 75.61	2 81.71	3 84.15	4 84.15	5 89.02	6 95.12	7 92.68
8 48.78	9 37.80	10 42.68	11 43.90	12 50.00	13 71.95	14 69.51
15 43.90	16 41.46	17 43.90	18 51.22	19 64.63	20 76.83	21 79.27
22 37.80	23 42.68	24 50.00	25 50.00	26 63.41	27 91.46	28 87.80
29 45.12	30 41.46	31 50.00				

Occupancy Rate for Month 62.20

Occupancy Rate for Weekend During Month 73.85

Occupancy Rate for Weekdays During Month 57.43

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 82 campsites).

Table B30

Lake Shelbyville - Whitley Creek

Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
29.76	28.57	27.38	14.29	19.05	47.62	53.57
8	9	10	11	12	13	14
14.29	10.71	10.71	15.48	19.05	30.95	30.95
15	16	17	18	19	20	21
14.29	17.86	15.48	20.24	23.81	45.24	41.67
22	23	24	25	26	27	28
9.52	9.52	16.67	11.90	13.10	45.24	57.14
29	30	31				
15.48	4.76	11.90				

Occupancy Rate for Month 23.43

Occupancy Rate for Weekend During Month 39.15

Occupancy Rate for Weekdays During Month 16.99

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 84 campsites).

Table B31

Shenango River Lake - Shenango Rec Area

Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1 51.21	2 50.91	3 58.18	4 47.58	5 50.61	6 71.21	7 72.73
8 30.91	9 30.00	10 33.33	11 32.42	12 30.30	13 42.42	14 37.27
15 21.82	16 28.79	17 30.91	18 36.06	19 47.88	20 71.82	21 73.03
22 30.91	23 29.70	24 32.12	25 39.09	26 51.52	27 84.85	28 94.85
29 37.27	30 30.61	31 32.73				

Occupancy Rate for Month 45.58

Occupancy Rate for Weekend During Month 60.91

Occupancy Rate for Weekdays During Month 39.31

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 330 campsites).



Table B32

West Point Lake - R. Shaefer Heard

Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
69.77	69.77	82.56	83.72	83.72	98.84	90.70
8	9	10	11	12	13	14
33.72	27.91	26.74	22.09	17.44	36.05	44.19
15	16	17	18	19	20	21
22.09	17.44	18.60	20.93	24.42	50.00	59.30
22	23	24	25	26	27	28
10.47	13.95	19.77	18.60	32.56	54.65	63.95
29	30	31				
16.28	6.98	3.49				

Occupancy Rate for Month 40.02

Occupancy Rate for Weekend During Month 55.30

Occupancy Rate for Weekdays During Month 33.77

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 86 campsites).

Table B33

West Point Lake - Holiday Park

Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
49.66	49.66	55.17	53.79	51.03	66.21	57.93
8	9	10	11	12	13	14
15.17	19.31	17.93	17.24	20.69	30.34	35.17
15	16	17	18	19	20	21
14.48	13.79	15.17	17.24	24.83	44.14	53.10
22	23	24	25	26	27	28
14.48	15.86	15.86	17.24	17.93	34.48	41.38
29	30	31				
13.79	7.59	5.52				

Occupancy Rate for Month 29.23

Occupancy Rate for Weekend During Month 40.31

Occupancy Rate for Weekdays During Month 24.70

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 145 campsites).

Table B34

West Point Lake - State Line Park

Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1 34.96	2 32.52	3 35.77	4 36.59	5 26.02	6 39.02	7 38.21
8 8.94	9 4.88	10 2.44	11 4.88	12 13.82	13 13.82	14 13.01
15 3.25	16 0.81	17 1.63	18 3.25	19 3.25	20 10.57	21 14.63
22 4.07	23 5.69	24 5.69	25 2.44	26 2.44	27 11.38	28 8.13
29 0.81	30	31				

Occupancy Rate for Month 12.35

Occupancy Rate for Weekend During Month 16.53

Occupancy Rate for Weekdays During Month 10.64

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 123 campsites).

Table B35  
West Point Lake - Amity Park  
Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
55.21	55.21	65.62	58.33	42.71	38.54	29.17
8	9	10	11	12	13	14
9.38	8.33	9.38	9.38	10.42	16.67	14.58
15	16	17	18	19	20	21
5.21	7.29	5.21	7.29	7.29	12.50	19.79
22	23	24	25	26	27	28
6.25	6.25	7.29	8.33	5.21	16.67	20.83
29	30	31				
4.17	1.04					

Occupancy Rate for Month	18.18
Occupancy Rate for Weekend During Month	18.75
Occupancy Rate for Weekdays During Month	17.95

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 96 campsites).

Table B36

West Point Lake - White Tail Ridge

Daily Occupancy Rate<sup>1</sup>

July 1990						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
55.17	60.34	65.52	74.14	58.62	74.14	60.34
8	9	10	11	12	13	14
10.34	12.07	8.62	13.79	15.52	34.48	36.21
15	16	17	18	19	20	21
12.07	13.79	15.52	17.24	18.97	58.62	62.07
22	23	24	25	26	27	28
20.69	12.07	13.79	17.24	22.41	37.93	46.55
29	30	31				
20.69	17.24	18.97				

Occupancy Rate for Month 32.42

Occupancy Rate for Weekend During Month 45.59

Occupancy Rate for Weekdays During Month 27.04

<sup>1</sup> Daily Occupancy Rate is calculated by taking the number of nights paid and dividing by (the number of nights multiplied by 58 campsites).

# **Appendix C**

## **Formulas Used for Calculations in This Report**

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### Data Formulas Used in 1990 CRS Report<sup>1</sup>

Number of permits	Sum of all permits (including renewals)
Number of renewals	Sum of all renewal permits
Number of groups	(Number of permits) - (Number of renewals)
Recreation days	Sum of [Each permit (the number in party) * (Nights paid)]
Mean length of stay	$\frac{\text{Sum of nights paid (including renewals)}}{\text{Number of groups}}$
Mean number in group	$\frac{\text{Sum of number in party (no renewals)}}{\text{Number of groups}}$
Percent of prior visitor	$\frac{\text{Number of permits, prior visits = yes (no renewals)}}{\text{Number of groups}} * 100$
Percent of primary destination	$\frac{\text{Number of permits, primary destination = yes (no renewals)}}{\text{Number of groups}} * 100$
Percent Golden Age passport	$\frac{\text{Number of permits, Golden Age = yes (no renewals)}}{\text{Number of groups}} * 100$
Percent use: Vehicle/camping/recreational equipment	$\frac{\text{Number of parties using equipment}^2 \text{ (no renewals)}}{\text{Number of groups}} * 100$
Occupancy rate	$\frac{\text{Sum of nights paid (including renewals)}}{(\text{Number of calendar nights}) * (\text{Total sites})}$
Average fee paid	$\frac{\text{Sum of total fee paid (including renewals)}}{\text{Number of sites}}$

<sup>1</sup> Variable names used in this report are those from ENG Form 4457.

<sup>2</sup> Represents all vehicle/camping/recreational equipment reported from car 37 through powerboat 49.

**Waterways Experiment Station Cataloging-in-Publication Data**

DeMoss, Terè A.

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1. Camp sites, facilities, etc. — United States. 2. Recreation areas — Use studies. 3. Lakes — Recreational use. 4. Recreation studies.

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