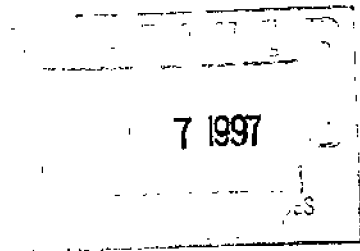


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Yahara River Lakes

Water Recreation Study

1995



1995 Yahara River Lakes Water Recreation Study

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Yahara River Lakes 1995 Water Recreation Study

Summary of Findings

The Dane County Lakes and Watershed Commission sponsored a Water Recreation Study during the summer of 1995 to better define and address existing public attitudes and trends regarding recreational use and management of the Yahara River Lakes. As part of the study, boat launch field surveys were conducted and a public opinion questionnaire was distributed to several thousand lake users—primarily registered Dane County boat owners. Results of the opinion questionnaire were tabulated from 1,350 respondents, nearly 90 percent of whom were males and whose average age was 49.

Questionnaire Results

Highest Rated Problems

Questionnaire respondents generally did not indicate significant problems or dissatisfaction with recreational use of the Yahara River Lakes, though some issues of concern were identified. The most recognized problem was poor water quality (i.e., algae, scum, etc.). Almost two-thirds of the respondents indicated this as a moderate or serious problem, rather than a minor or nonexistent one. Approximately 20 percent of respondents indicated that water quality conditions “often” cause them to seek recreation elsewhere. Other issues that were noted as being moderate to serious problems by at least 50 percent of respondents included: personal watercraft/jet ski operation (54%), weedy areas (52%) and large motorboats/high speeds (51%).

Congestion and Conflicts

In comparison to results from previous surveys, concerns about overcrowding of boaters on the lakes seem to be increasing, particularly for Lake Monona. When asked if heavy recreational use of the lakes ever keeps them from using the lakes, 57 percent of respondents answered yes, and they indicated this occurs more often on weekends than on holidays. Twenty-four percent indicated conflicts with other lake users as a significant problem. About one-third of respondents expressed support for expanding the existing 100-foot slow-no-wake zone from shoreline areas to 200 or more feet because of safety or use conflicts (note: since printing, a 200-foot slow, no-wake ordinance for the Yahara Lakes was adopted by the Dane County Board).

Support Facilities and Services

Respondents appear to be fairly well satisfied with recreational support facilities and services provided by local and state management agencies. Inadequate shore facilities (e.g., restrooms), weather and storm warning systems, waterway markers, fishing piers, fish cleaning sites and lake levels were identified as being significant problems by only about 10 to 30 percent of questionnaire respondents.

However, there is substantial support and a perceived need to increase the Sheriff's water safety patrols on the lakes. The most frequently written comment on how to improve recreation on the lakes was to “increase boat patrols and law enforcement.” This was noted by over 100 respondents. There also appears to be support for, or at least a willingness to pay, higher boat launch fees and a user fee at the Tenney Park Locks in order to maintain and improve these facilities/services.

Recreational Expenditures

For most lake recreational activities (e.g., swimming, fishing, sailing, motorboating), respondents indicated they spend an average of \$15 to \$22 per outing for supplies and fuel. They generally average 15 to 23 outings per summer; thus their direct seasonal expenditure is about \$225 to \$500 for each activity. Lake Mendota was cited as the most frequented water body for all recreational activities.

Field Survey Results

According to field survey results, an estimated 1,270 boats were launched from major public and private access sites on the Yahara Lakes between 8:00 a.m. and 6:00 p.m. on Saturday, July 29, 1995. This figure is about the same as totals compiled during two similar surveys conducted in July 1986. The average number of boats launched per ramp at most public access sites ranged between 14 and 26 for the 10-hour period, which is below capacity standards of 30 to 50 boats per ramp per day as recognized in the literature. The average motor size of all boats launched from these sites was 123 horsepower (HP), and about 15 percent of the boats had 200 HP or higher engines. Approximately 10 percent of all boats had out-of-state registrations. Parking spaces at most major public access sites were filled to capacity by early afternoon, which is a common occurrence on pleasant summer weekends.

Other Results and Findings

Maximum state public access standards (Adm. Code NR 1.9) are being surpassed on Lakes Mendota, Monona and Waubesa. Exceeding these standards raises future access development concerns and potential funding limitations that local municipalities will need to recognize.

A review of City of Madison swimming beach attendance data indicates there has been a substantial decline in beach use since 1990. Average annual attendance for 1990 to 1995 (102,000 people) is over 50 percent lower than the 1980 to 1989 average (234,000). There may be numerous reasons contributing to this decline, though public perceptions over poor water quality is suspected as being a leading factor.

On the other hand, use of the lakes for fishing is increasing. Department of Natural Resources (DNR) angler survey data for Lake Mendota indicates there has been a substantial increase in fishing pressure on this lake from the early 1980s to the early 1990s. This is probably due in large part to an intensive game fish stocking (biomanipulation) project that was carried out on the lake in the late 1980s.

Study Recommendations

The following recommendations are meant to address the significant water recreational problems and needs for the Yahara River Lakes which were revealed through this study. The recommendations deal primarily with correcting present problems and deficiencies, and with anticipating some future needs which could be defined.

- 1) **The control of nonpoint sources of pollution in the watersheds draining to the Yahara River Lakes should receive high priority by all affected management agencies and units of government, and accelerated programs to control and reduce sediment and nutrient discharges to the lakes from agricultural and urban sources should be vigorously pursued.**

Results from the public opinion questionnaire indicate that poor water quality and weedy conditions are the top-rated problems interfering with recreational use and enjoyment of the lakes. In addressing the needs and concerns of lake users, therefore, highest priority should be placed on water quality issues.

Intensified efforts to control nonpoint source pollution to the lakes are taking place through priority watershed projects (e.g., Yahara-Monona and Lake Mendota projects), agricultural conservation compliance provisions, and urban construction site erosion and stormwater runoff control ordinances and programs. These management initiatives need to be continued and expanded in order to protect and possibly improve water quality conditions.

- 2) **Dane County, lakeshore municipalities and the DNR should continue to monitor recreational uses and jointly consider the need to develop specific boating access and waterway protection plans for individual lakes in order to maintain public safety and enjoyment and protect lake and riparian resources.**

Overcrowding of boaters on some lakes, particularly Lake Monona, is an emerging concern, though it is not recognized yet as a major problem. From questionnaire results, it can be inferred that if boating use on the Yahara Lakes increases much over present levels, safety or enjoyment problems may be experienced by a majority of participants. In addition, maximum state public boating access standards (Adm. Code NR 1.91) are currently exceeded on Lakes Mendota, Monona and Waubesa, and state funding assistance to local units of government for additional access development cannot be provided unless alternative boating access and waterway protection plans are developed and approved by the DNR.

- 3) **Dane County and the DNR should consider expanding boat patrols and law enforcement on the Yahara River Lakes.**

Questionnaire results indicate that many respondents feel water safety patrols should be increased. Aggressive education and enforcement efforts are viewed as being needed to limit use conflicts, control boat speeds and maintain safety.

- 4) **Boater training and safety programs should be expanded.**

A majority of questionnaire respondents indicated support for requiring boater safety education courses. About two-thirds of respondents indicated they had not taken such a course. Greater effort should be directed at informing boaters of pertinent boating laws and regulations, and the availability of boater safety and training instructional programs.

- 5) **The DNR and Dane County should further investigate the effects of personal watercraft/jet ski operations on other lake recreational uses and determine if specific management policies should be formulated.**

Results of the public opinion questionnaire indicate that a majority (54%) of respondents view personal watercraft/jet skis to be a moderate to serious recreational problem. The reasons for this should be further evaluated and management proposals developed if warranted.

- 6) **Dane County and lakeshore municipalities should reevaluate user fee levels to finance the maintenance and operation of boat launching facilities and locks, since program revenues are currently inadequate to cover the cost of maintaining these facilities.**

Results of the public opinion questionnaire indicate a willingness by the majority of respondents to pay modest increases in user fees at boat launches, as well as a fee at the Tenney Park locks to support the maintenance and improvement of these facilities. Daily boat launch fees charged by Dane County and the cities of Madison and Monona are currently less than half of what is permitted under the state public boating access code.

Charging locking fees at the Tenney Park locks has been examined in earlier studies, but has not been pursued because of limited net revenues which would be generated and the expectation of public opposition. Support for user fees expressed in this study would indicate that the question should be reexamined if a practical and efficient method of collecting locking fees can be developed.

- 7) **Trends in boating activity and motorboat sizes should continue to be periodically reevaluated.**

A majority of questionnaire respondents indicated that large motorboats and high speeds are a moderate to serious recreational problem and speeds should be limited. The average horsepower of all motorboats recorded for this study was 90 HP, and field surveys indicated that a significant number of boats on the Yahara Lakes have 200 HP or higher engines. There is concern that trends to larger or more powerful motorboats could eventually lead to significant safety or nuisance problems and the situation should be monitored so that a timely response can be provided.

Yahara River Lakes 1995 Water Recreation Study

Chapter 1 Introduction

Background

The Yahara River Lakes are highly valued natural resources located in the middle of a rapidly urbanizing region. The lakes are heavily used by local residents and recreational enthusiasts, and because of this use, there is an increasing level of public concern about existing and potential recreational impairments, conflicts, and trends. Various management agencies, such as Dane County, municipal park commissions, and the Wisconsin Department of Natural Resources (WDNR) need to recognize and evaluate these issues in order to develop appropriate lake management programs and water recreation facilities.

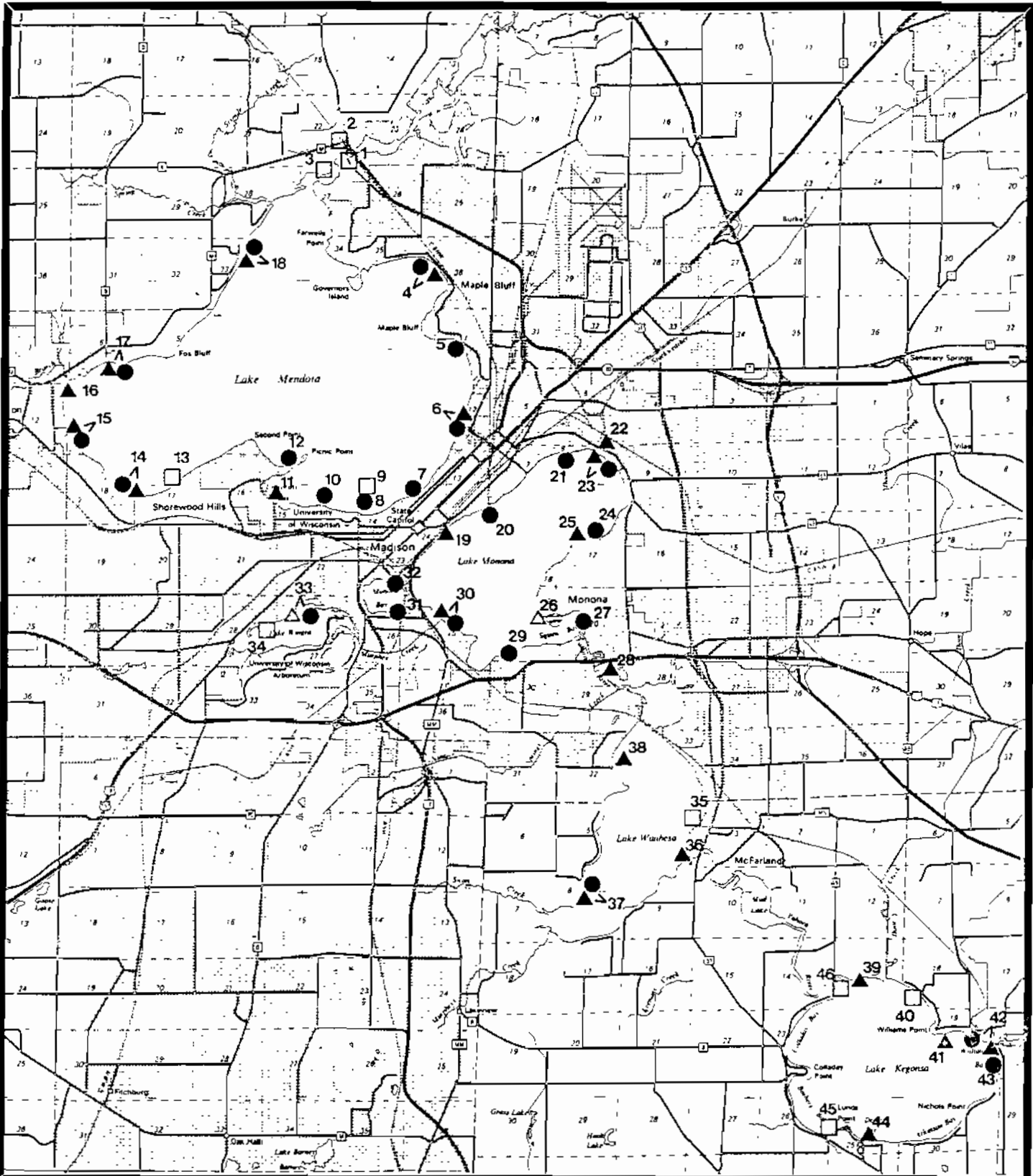
Through state enabling legislation (1989 WI Act 324), the Dane County Lakes and Watershed Commission has assumed a principal local oversight and intergovernmental coordination role for water resource management activities. Among its many directives, the Lakes and Watershed Commission "...may propose to the County Board for adoption any ordinance or local regulation relating to boating, recreation or safety upon the navigable waters of the county." In 1993, the Commission convened a Lake User Work Group, composed of several interest group representatives, to address water safety issues on county lakes. The group developed a list of management recommendations for the commission to consider, including a proposal to expand the existing 100-foot slow-no-wake zone from shorelines areas. The Commission recognized that additional public input on the proposal as well as many other recreational issues would be valuable to ongoing lake management planning efforts. Subsequently, the Commission applied for and received a lake management planning grant from the Wisconsin Department of Natural Resources (Adm. Code NR 190) to conduct public opinion and field surveys of a large number of lake users. This report presents the results of those surveys.

Description of the Yahara River Lakes and Recreational Facilities

The Yahara River chain of lakes, as depicted on Map 1, consist of lakes Mendota, Monona, Waubesa and Kegonsa. They were formed during the last ice age by morainic damming of the preglacial Yahara River Valley. Lake Wingra, which drains to Lake Monona through Murphy (Wingra) Creek, also is included within the scope of this study. Selected physical characteristics of the lakes are shown in Table 1.

Table 1
Characteristics of the Yahara Chain of Lakes

Name	Area (Acres)	Maximum Depth (Feet)	Percent Under 3'	Percent Over 20'	Main Shoreline Miles
Mendota	9,842	83	9%	70%	21.9
Monona	3,274	74	6	60	13.2
Waubesa	2,080	38	7	36	9.3
Kegonsa	3,209	32	5	45	9.6
Wingra	345	21	15	1	3.5



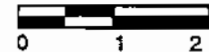
Map 1 - YAHARA RIVER LAKES BEACHES AND BOAT LAUNCHES

- ▲ Boat Access with Parking
- △ Boat Access without Parking
- Swimming Beach
- Marina/Boat Rentals

9/95



SCALE IN MILES



Prepared by: THE DANE COUNTY
REGIONAL PLANNING COMMISSION

Note: Map Numbers Correspond to Appendix 1 Index

The Yahara lakes are currently well served by a total of 46 access points,¹ ranging from large launching facilities with six separate launching ramps to smaller accesses at the ends of streets. The access points are distributed as follows: Lake Mendota, 18; Lake Monona, 14; Lake Waubesa, 4; Lake Kegonsa, 8; Lake Wingra, 2; and miscellaneous points on the Yahara River.

In addition, there are two state parks; two major open space land areas owned by the University of Wisconsin; six county parks; and 18 municipal parks on the lakes. Most of these areas provide the boat launches, beaches, parking and related recreation facilities enumerated above. Data on each of the significant beaches and boat launching sites shown on Map 1 are included in Appendix 1.

Previous Studies

This study represents an update to an analysis conducted in 1986 for the City of Madison Aquatic Study Committee (DCRPC, 1987a). The Aquatic Study Committee, composed of City of Madison and Dane County Park Commission members, identified important recreational issues for the Yahara River chain of lakes. Even though there had been extensive scientific research performed on the lakes, the 1986 study represented the first comprehensive effort to survey and document recreational use concerns. Field surveys at 17 swimming beaches and 19 major boat launching sites on the lakes were conducted on two weekends in July 1986. In addition, results of a public opinion questionnaire from 1,255 lake users were compiled. *Results indicated that poor water quality (algae, scum, etc.), poor shoreline conditions and weedy areas were the most frequently cited problems by all user groups. However, users seemed fairly well satisfied with lake conditions at that time, and overcrowding, congestion and conflicts between different recreational activities were not revealed as serious problems.* The Aquatic Study Committee went on to develop a short-range (5- to 6-year) recreational improvement program and recommended that field and public opinion surveys be updated every five years (DCRPC, 1987b).

From 1989 to 1990, the Wisconsin Department of Natural Resources conducted a two-phased statewide survey of boat owners to obtain broad-based information about recreational boating activities (WDNR, 1991). For phase one of the study, a questionnaire was distributed to over 58,000 boaters to obtain the following data: number of boater days, where and when boating occurs, boat type, type of boating activity, expenditures, crowding levels and degree of satisfaction. *There were 555 respondents to the survey from Dane County, and most of these respondents (over 90%) indicated that their boating experiences were "good" to "perfect."* During phase two of the study, a second questionnaire was randomly distributed to a smaller sample of boaters to gather more detailed information on a range of attitude and behavior questions (WDNR, 1992). There were 114 respondents to this questionnaire from Dane County.

While data from the two DNR surveys have been of assistance to Dane County planners and decisionmakers, the surveys have informational limitations. For example, they do not represent a large sample of Dane County boaters; they are now dated (over five years old); and they do not address specific local recreational problems and user conflicts to provide guidance on recreational facility and management needs, as well as policy development. Thus this study was undertaken in order to obtain up-to-date information on local recreational issues of particular concern to lake users and discern trends in public perceptions and use over time.

¹The inventory from *Surface Water Resources of Dane County* (WDNR, 1985) lists additional access points that are small and unimproved which were not included as part of this study.

Study Approach

This study focuses on recreational use of the Yahara chain of lakes by registered boat owners, and to a lesser extent, lakeshore property owners. (Unlike the 1986 Water Recreation Study, swimming beach users were not targeted during the study because public use of beaches has been declining over time [see Chapter 4], and associated beach use issues generally are not under the management purview of Dane County.)

Boat use and user perceptions of recreational issues were measured for this study in the following ways:

- 1) A boat launch field survey was conducted at 12 lakeshore parks on Saturday, July 29, from 8:00 a.m. to 6:00 p.m. Volunteer observers recorded the following information: time of boat launching and landing, number of people in boat, boat type, boat size, motor horsepower and out-of-state registrations. This survey was supplemented by information obtained by "drive-through" surveys of boat launch parking areas on Saturday, May 27, 1995 (Holiday Weekend), Sunday, June 4, 1995 (High-Use Weekend), and Saturday, June 17, 1995 (Early Morning Fishing Use). The number of car-trailers in parking areas and observed parking lot capacities were recorded.
- 2) A public opinion questionnaire was mailed during the week of July 17, 1995, to a random sample of Dane County boaters derived from DNR's automated registration files (Chapter 2 contains a copy of the questionnaire with summarized results). A total of 6,750 questionnaires were mailed, which represents about 25% of all registered Dane County boaters. Approximately 900 questionnaires also were distributed to boaters during the boat launch field survey on July 29. Another 750 questionnaires were included in a newsletter mailing of the Yahara Lakes Association (a nonprofit lakeshore property owners organization) during the week of August 7, 1995. Finally, about 500 questionnaires were made available to customers at local boat shops and marinas throughout the summer.

Relative Importance of Summertime Water Recreation Activities

The *Wisconsin Recreation Survey of 1986* (WDNR, 1989) contains estimated participation rates by state residents in various outdoor recreational activities. A fairly high percentage of respondents (\cong 40-55%) indicated they took part in water-oriented activities, such as swimming, fishing and/or pleasure boating (see Table 2). These activities had higher participation rates than many other outdoor recreational choices (e.g., hiking, hunting and camping). A 1990 survey done for the Dane County Park Commission showed similar local participation rates for water recreation activities.

Table 2
Recreation Activity Participation

Activity	% of Respondents Participating	
	1986 State Survey	1990 Dane Co. Survey
Swimming	54%	48%
Fishing	51	41
Other Boating	40	24
Canoeing, Kayaking	21	22
Waterskiing	15	27
Sailing	7	12
Jetskiing	—	10

Source: WDNR, 1989, and Gardner, 1990.

Chapter 2 Public Opinion Questionnaire Results

Distribution of Questionnaire

A public opinion questionnaire served as the principal source of information for determining the overall pattern of summer recreation activity on the Yahara River lakes and potential problems or concerns with various activities. The questionnaire form with summarized results is presented on the following pages. Nearly 9,000 questionnaires were distributed and 1,349 were completed, returned and tabulated. Table 3 indicates the pattern of distribution and return of the questionnaire.

Table 3
1995 Public Opinion Questionnaire Distribution and Return

Category	Number Distributed	Number Returned	Percent Returned
1. Mailing to Registered Dane County Boaters	6,750	1,079	16%
2. Distribution to Boaters During Field Survey	900	133	15
3. Newsletter Mailing to Yahara Lakes Association Members	750	116	15
4. Distribution to Boating Retail Outlets, Marinas and UW-Hoofers	500	21	4
Totals	8,900	1,349	15%

It is important to note that the questionnaire was not intended to sample a representative cross-section of the general public—it was primarily directed at water recreation participants (principally boat owners) and others with a high interest in this subject area. The results should be interpreted with that in mind. It is likely that the respondents to the questionnaire have a higher rate of participation in summer water recreation activities than the general public. In addition, local residents living near or on the lake are heavily represented (see Figure on page 10), as are members of lake-related interest groups. These respondents, on the other hand, are those most concerned with lake recreation, and they possess a higher level of interest and understanding about associated issues.

Questionnaire Results

With these qualifications recognized, the 1995 public opinion questionnaires provided a great deal of useful information about the recreational use of the Yahara River lakes, and associated problems and management concerns. Table 4 illustrates the summer (June-September) lake recreational activities reported by questionnaire respondents. Respondents participated in most activities an average of 15 to 21 times a summer, which are about the same average rates (except for rowing) as recorded during the 1986 Water Recreation Study.

Table 4
Summer Recreation Activity Participation

Activity	Total No. Respondents to 1995 Questionnaire	Percent of All Questionnaire Respondents	Total Occasions	Avg. No. Occasions Per Respondent	Avg. No. Occasions Per Respondent in 1986 Study
1. Motorboating	790	59%	14,785	19	20
2. Fishing—Boat	775	57	16,520	21	16
3. Swimming	723	54	15,064	21	21
4. Waterskiing	441	33	6,314	14	15
5. Fishing—Shore/Pier	327	24	5,911	18	16
6. Canoeing/Kayaking	255	19	2,888	11	8
7. Sailing	227	17	5,195	23	19
8. Sailboarding	71	5	1,072	15	11
9. Rowing	70	5	821	12	23
10. Jetskiing	58	4	1,144	20	Not recorded

Questionnaire respondents generally did not indicate significant problems or dissatisfaction with recreational use of the Yahara River Lakes, though some issues of concern were identified. The most recognized problem was poor water quality (i.e., algae and scum). Almost two-thirds of the respondents indicated this as a moderate or serious problem, rather than a minor or nonexistent one (see following page). Approximately 20 percent of respondents indicated that water quality conditions “often” cause them to seek recreation elsewhere. Other issues that were noted as being moderate to serious problems by at least 50 percent of respondents included: personal watercraft/jet ski operation (54%), weedy areas (52%) and large motorboats/high speeds (51%).

In comparison to results from previous surveys (DNR, 1992, and DCRPC, 1987a), concerns about overcrowding of boaters on the lakes seem to be increasing, particularly for Lake Monona. Lake use conflicts, however, were not identified as a prominent concern by the majority of respondents. Only 24 percent indicated conflicts with other lake users as a significant problem.

Respondents appeared to be fairly well satisfied with recreational support facilities and services provided by management agencies. Inadequate shore facilities (e.g., restrooms), weather and storm warning systems, waterway markers, fishing piers, fish cleaning facilities, number of launching sites, parking spaces at launching sites and lake levels were identified as being significant problems by only about 10 to 30 percent of questionnaire respondents.

SUMMARIZED RESULTS OF PUBLIC OPINION QUESTIONNAIRE

Results shown by percentages in bold type, and actual number of responses are shown in parentheses.

1. Do you live or own property on one of the Yahara lakes or the Yahara River?

No **72%** (939) Yes **28%** (370)

If Yes, which one? Lake Mendota **42%** Lake Monona **30%** Lake Waubesa **16%** Lake Kegonsa **12%**

2. Please check the following which may be problems to you.

Note: Problems have been rearranged in order from highest to lowest ranked.	No Problem (1 pt.)	Minor Problem (2 pts.)	Moderate Problem (3 pts.)	Serious Problem (4 pts.) and most cited Lake	Mean Score of 4 cols.	Total # of responses
g. Algae, scum, poor water quality	9%	29%	38%	25% Mendota	2.79	1,256
r. Personal watercraft/jet skis operation	22%	24%	32%	22% Mendota	2.55	1,225
f. Weedy areas	19%	29%	32%	20% Mendota	2.53	1,252
e. Large motorboats and high speeds	26%	24%	29%	22% Mendota	2.48	1,238
q. People not properly following boating regulations	20%	35%	31%	14% Mendota	2.39	1,210
d. Overcrowding of boaters on lakes	26%	31%	27%	16% Monona	2.32	1,229
p. Excessive drinking by some boaters	32%	31%	26%	11% Mendota	2.16	1,189
l. Congestion at Tenney Park Locks	40%	30%	24%	6% Mendota	1.96	1,102
k. Inadequate shore facilities (restrooms, piers, etc.)	47%	23%	21%	9% Mendota	1.93	1,206
b. Not enough parking at launching sites	47%	27%	18%	8% Mendota	1.86	1,239
i. Conflicts with other lake users	50%	26%	17%	7% Monona	1.80	1,174
j. Noise from boats/lake users	53%	23%	16%	8% Mendota	1.79	1,171
h. Poor fishery (type and size of fish)	54%	23%	17%	6% Mendota	1.76	1,129
m. Boating congestion during fishing and sailing tournaments	51%	28%	16%	5% Mendota	1.75	1,146
n. Lake water levels	58%	22%	13%	7% Monona	1.68	1,181
o. Difficulty boating to other lakes	60%	24%	12%	5% Kegonsa	1.62	1,145
t. Inadequate weather and storm warning systems	65%	21%	11%	3% Mend./Mon.	1.51	1,162
a. Lack of boat launching sites or access to water	68%	17%	10%	4% Mendota	1.50	1,238
c. Lack of fishing piers	75%	13%	9%	3% Mendota	1.41	1,156
s. Mooring buoys interfering with navigation	83%	13%	2%	1% Mendota	1.22	1,170
u. Other _____						

Of the above issues, which two (2) pose the biggest problems? (indicate by letter)

(1) g. Algae/Poor water quality (2) f. Weedy areas

3. Does heavy recreational use of the lakes ever keep you from using the lakes?

No **43%** (560) Yes **57%** (751)

If Yes, when does this occur (e.g., weekend afternoons, holidays) and on which lake(s):

Yes - Total # (751) When: Weekend p.m. **45%** Weekend a.m. **31%** Most cited lake: Mendota
 Holidays **23%** Weekdays **<1%**

4. Do you believe any of the following approaches are needed to resolve use conflicts on local lakes?

	Needed	Not Needed	No Opinion	Needed On Which Lake(s): most cited lake	Total # of Responses
1. Requiring boater safety education classes	55%	31%	14%	Mendota	1,177
2. Increasing Sheriff's water safety patrols	50%	36%	14%	Mendota	1,210
3. Limiting speed of motorboats	47%	43%	10%	Mendota	1,199
4. Requiring boater licensing	40%	45%	15%	Monona	1,168
5. Limiting conflicting uses to specific areas/zones of the lake	35%	48%	17%	Mendota	1,159
6. Limiting conflicting uses to certain hours of the day	25%	56%	19%	Monona	1,170
7. Limiting conflicting uses to certain days of the week	14%	66%	20%	Monona	1,121

5. Does the water quality of the lakes ever cause you to seek recreation (e.g., swim, fish) elsewhere?

Never 25% (335) Occasionally 54% (703) Often 21% (270)

6. It is unlawful to operate a motorboat within 100 feet of a dock, pier, raft or buoy-restricted area at a speed in excess of slow-no-wake. Do you feel that because of safety or use conflicts, this distance should be increased to:

200 feet 16% (202) 300 feet 16% (199) Distance doesn't need to be changed; only education and enforcement efforts are needed. 68% (860)

7. Do you feel a permanent slow-no-wake zone should be instituted in certain lake areas?

No 63% (727) Yes 37% (432) Name the area(s): Most Cited Lake Area: Monona-Squaw Bay (39)

8. Are additional fish cleaning facilities needed at parks on the lakeshore?

Don't fish 36% (432) No 50% (615) Yes 14% (174) Where? Most Cited Lake: Mendota-Warner Park (22)

9. For each of the following activities, indicate the extent, time and location of your participation on the local lakes (Mendota, Monona, Wingra, Waubesa, Kegonsa, and the Yahara River), as well as your expenses.

Activity	No. of Respondents	Total # of times you do this activity: June - Sept.	Avg. # of Times June - Sept.	Is your activity usually on:			Name of local lake or river you use most-Most Cited	Avg. amount of money you spend per outing (equip., fuel, etc.)
				Weekday	Weekend	Holiday		
a. Swimming	723	15,064	21	18%	42%	40%	Mendota	\$18.24
b. Fishing from boat	775	16,520	21	39%	27%	33%	Mendota	\$14.67
c. Fishing from shore/pier	327	5,911	18	31%	23%	46%	Mendota	\$9.37
d. Rowing	70	821	12	24%	18%	57%	Mendota	\$6.56
e. Canoeing/kayaking	255	2,888	11	31%	29%	40%	Mendota	\$6.99
f. Waterskiing	441	6,314	14	23%	42%	36%	Mendota	\$20.40
g. Motorboating (other than fishing or waterskiing)	790	14,785	19	18%	40%	42%	Mendota	\$22.31
h. Sailing	227	5,195	23	16%	28%	56%	Mendota	\$15.78
i. Sailboarding	71	1,072	15	14%	25%	61%	Mendota	\$7.71
j. Jetskiing	58	1,144	20	23%	27%	50%	Mendota	\$16.05
k. Other _____								

10. Do you own any boats? No 2% (31) Yes 98% (1,305) -
 (If No and you do not rent any boats for use on the lakes, skip to last question - #18.)

For each boat you own and use on the Yahara Lakes, please indicate:

Type	Total Number/ Percent of Total	Mean Length (feet)	Mean Motor Horsepower (HP) (if applicable)
1. Motorboat	1,313 69%	17	90
2. Sailboat	211 11%	18	2
3. Canoe	248 13%	15	-
4. Pontoon	81 4%	21	46
5. Kayak	22 1%	14	-
6. Jet Ski	40 2%	-	-

11. Have you taken a boater safety training course? No 65% (841) Yes 35% (460)
12. Where do you obtain information on boating safety and regulations? (Check all that apply.)
- | | | |
|---------------------------------------|--------------------------------------|--------------------|
| 1. WI Boating Reg. Booklet <u>34%</u> | 4. Friends <u>11%</u> | 7. Other <u>7%</u> |
| 2. Signs at landings <u>19%</u> | 5. Boat safety instructors <u>7%</u> | 8. Radio <u>4%</u> |
| 3. Newspaper <u>11%</u> | 6. TV <u>7%</u> | |

13. Are there sufficient waterway markers (e.g., buoys) on the lakes and Yahara River?
 No 18% (218) Yes 82% (1,019)

If No, which lake/river areas need more attention and why? Most cited area: Yahara River (62) - Upper Yahara to Lake Mendota (15)

14. Would you be willing to pay a modest increase in seasonal boat launch fees (e.g., \$1-\$2 increase in daily fee and \$5 increase in annual permit) to maintain and improve launch facilities/services?
 No 36% (429) Yes 64% (779)

Which permit do you currently purchase?

Daily 22% (269) Seasonal 50% (633) Don't obtain one 28% (355)

15. Do you feel certain areas of the lakes or Yahara River need to be dredged to improve boat access and navigation?
 No 54% (606) Yes 46% (523) Which Areas? Most cited areas: 1) Yahara River (232); 1a) Yahara River between Monona and Waubesa (52); 2) Lake Mendota (121); 2a) Spring Harbor (57)

16. Do you believe that charging a locking fee at the Tenney Park Locks to pay for annual lock operations and maintenance is warranted?
 No 39% (448) Yes 61% (711) Would you pay a fee of \$1 to \$2? No 24% (216) Yes 76% (683)

17. How satisfactory are your boating experiences on the Yahara lakes?

Poor 2% (28) Fair 9% (113) Good 35% (449) Very Good 42% (538) Excellent 13% (163) **Mean Score: 3.19**
 (1 pt.) (2 pts.) (3 pts.) (4 pts.) (5 pts.)

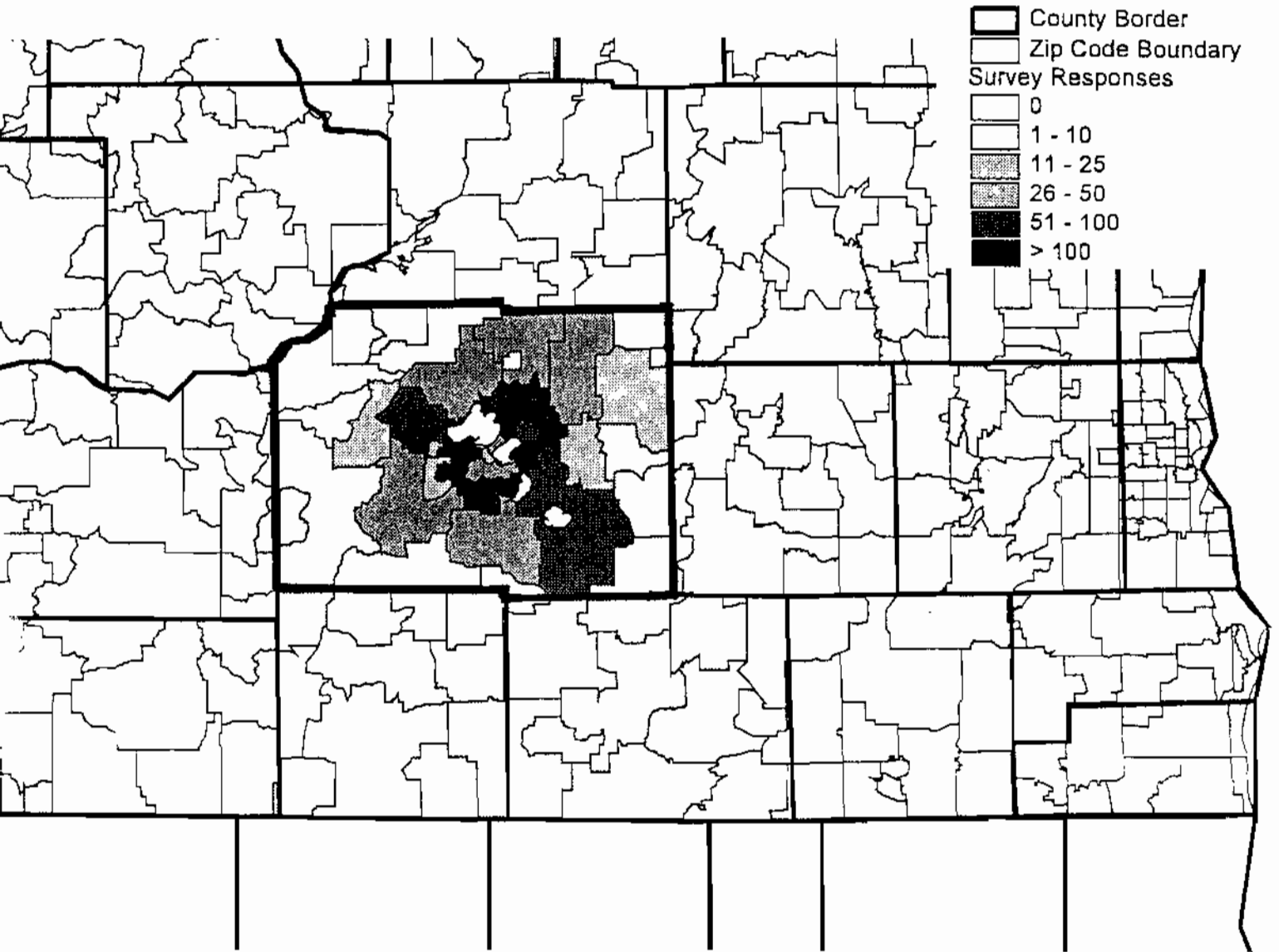
OVERALL COMMENTS

18. Please provide any other comments or suggestions you may have to improve recreation on the lakes.

1) Do more boat patrolling and law enforcement (120); 2) Improve water quality (108)

Mean age: 49 Male 88% (1,149) Female 12% (154) Place of Residence: See Next Page

Water Recreation Survey Respondents by Zip code



Chapter 3 Boating

Introduction

Recreational boating is enjoyed by a growing number of Dane County residents. To service this recreational demand, 24 major public boat launching sites have been established on the Yahara River Lakes and Lake Wingra. The distribution of these sites by lake is shown in Table 5. Appendix 1 provides additional information on each site.

**Table 5
Distribution of Major Public Boat Launch Sites on Yahara Lakes**

Lake Name	No. Public Boat Launch Sites
Mendota	8
Monona	7
Waubesa	3
Kegonsa	4
Wingra	2

Boat Registration Data

The number of boats registered to Dane County residents over time is one general measure of the interest and increase in local boating activity. Dane County boat registration, indicated in Table 6, increased from 16,557 in 1975 to 25,401 in 1994, which is a 53% increase (2.8% per year). The increase has been greater than the total population growth during this time period, which averaged 1.4% per year, indicating an increasing proportion of the county's population are buying boats. The increase averages 465 boats per year. Boat registration additions, however, have leveled off since 1990, increasing an average of 1% per year.

**Table 6
Dane County Boat Registration**

Year	No. Registered Boaters in Dane County	Average Percent Change/Year
1975	16,557	
1979	19,169	3.9%
1982	19,900	1.3
1985	21,120	2.0
1990	24,378	3.1
1991	24,558	0.7
1992	24,629	0.3
1993	24,886	1.0
1994	25,401	2.1
1995	Data not available until January 1996	—
Change 1975–1994	8,844	2.8%

Summarized Field Survey Results

General Conditions

On Saturday, July 29, 1995, boat launching and landing activity was monitored by volunteers at the 12 most active public launching sites on the Yahara River lakes. Launching activity at private marinas was also estimated. A Saturday was selected for the survey, because this is the most popular day for boating (WDNR, 1991).

The weather on July 29 was sunny, hot and humid, with a high temperature in the low to mid-90s. Conditions were thought to be representative of a "good" summer boating weekend, though morning boat traffic was not heavy because the number of people fishing was relatively low, probably due to the hot weather. Pleasure boaters were numerous during the afternoon. The weather and date were not indicative of a peak use situation, which often exists in May and June when boat traffic is particularly high from both pleasure boaters and anglers.

In addition to the July 29 field survey, vehicle "drive-through" surveys of launch sites were conducted in late May and early June to record information during times which are more representative of peak use conditions. The number of car-trailers in parking areas and observed parking lot capacities were documented.

Table 7 summarizes boating information recorded at launch sites on July 29. (Additional data are presented in Appendix 2, as well as the results of the drive-through surveys conducted earlier in the year.) About 1,270 boats, with an average of 2.9 people per boat, were launched from major access sites between 8:00 a.m. and 6:00 p.m. on July 29. This total is comparable to what was recorded for the 1986 Water Recreation Study (1,316 boats on Sunday, July 6, 1986, and 1,176² boats on Saturday, July 26, 1986).

Parking lots at the busiest launch sites were filled to capacity by late morning or early afternoon on the 29th. This is typical for sunny summer weekends and, in fact, parking lots at some launch sites (e.g., Babcock, Warner, Marshall and Lake Farm Parks) are frequently near capacity by 7:30 a.m. or 8:30 a.m. during the spring and summer when fishing pressure is high. This is reflected in the results of the June 17 drive-through survey (see Appendix 2).

Number of Boat Launches

The total number of boats launched at the busiest lakeshore parks ranged between 60 and 120 per site for the ten-hour observation period (see Table 2-1 in Appendix 2). Over 100 boats were launched from Warner and Marshall Parks on Lake Mendota and Olin and Olbrich Parks on Lake Monona. The number of boats launched during peak use times at these sites was approximately 15 to 20 boats per hour (see Figure on page 14) and the average number of boats launched **per ramp** for all sites during peak use hours was 3.3, which is below the average (4.5) recorded in the 1986 field surveys.

The average number of boats launched per ramp for the ten-hour period was 18. This is similar to the average value determined for the 1986 Water Recreation Study (22) and is below maximum capacity standards of 30 to 50 boats per ramp per day, as recognized in the literature.

²Data were not collected at Law Park on July 26, 1986. Correcting for this lack of data, the total number of boats launched also would probably have exceeded 1,300. In 1995, construction of the Monona Terrace Convention Center drastically reduced boat launching activity at Law Park.

Table 7 -
 Summary of Boat Launching Activity
 Saturday, July 29, 1995: 8:00 a.m.-6:00 p.m.

TOTAL ESTIMATED NUMBER OF BOATS LAUNCHED ON YAHARA LAKES AT SITES INDICATED BELOW

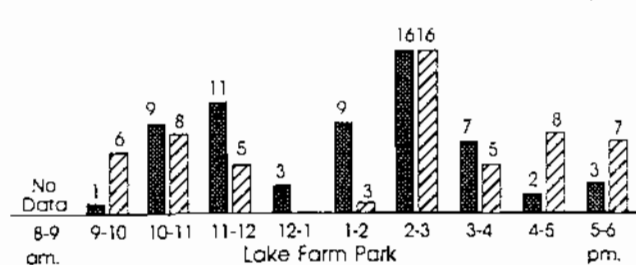
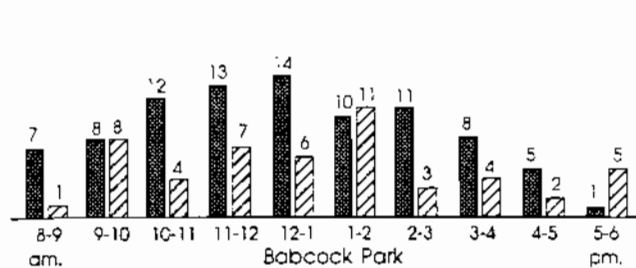
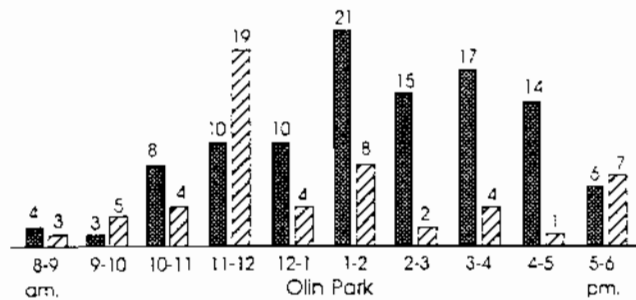
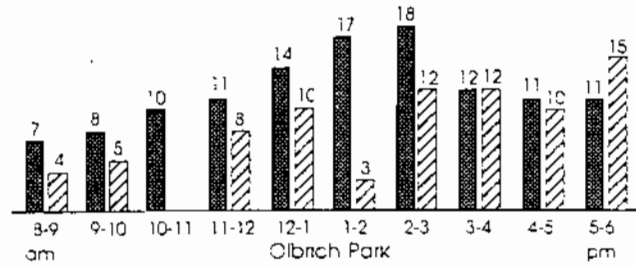
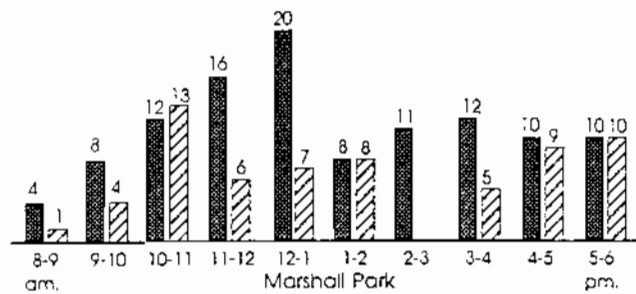
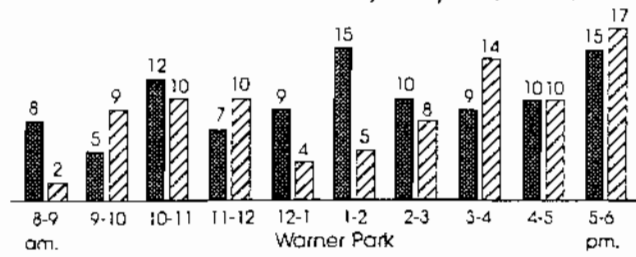
A. BY LAKE:	
Lake Mendota	689
Lake Monona	288
Lake Waubesa	191
Lake Kegonsa	101
TOTAL	1,269
B. BY SPECIFIC SITE:	
<i>Lake Mendota</i>	
Upper Yahara ¹	195
Warner Park	100
Governor Nelson	71
Mendota Park ²	13
Middleton Beach ²	37
Marshall Park	111
Spring Harbor ²	6
UW Lot 60 ²	9
Memorial Union	120
Tenney Park	27
<i>Lake Monona</i>	
Law Park ²	5
Olbrich Park	119
Starkweather	28
Tonyawatha Trail ²	7
Winnequah ²	5
Lottes Park ²	16
Olin Park	108
<i>Lake Waubesa</i>	
Babcock Park	89
Goodland Park	41
Lake Farm Park	61
<i>Lake Kegonsa</i>	
Fish Camp Park	28
Lake Kegonsa Park	52
Pleasant Springs ²	21
<i>Lake Wingra</i>	
Wingra Canoe & Sailing Center ³	4

¹Includes estimate of boats launched from Skipper Bud's and Mazanet Marinas by employees.

²Estimate derived from a.m. and p.m. drive-through surveys of launching areas.

³Wingra Canoe & Sailing Center staff indicate more boats (≈40-50) are typically launched from this site on sunny weekend days.

Number of Boats Launched and Landed Hourly at Busiest Parks on Yahara Lakes Saturday July 29, 1995



Motor Size of Boats

The average motor size of all boats observed at public launching sites on the Yahara Lakes was 123 HP (see Table 8). A significant percentage (15%) of the motorboats had 200 HP or higher engines. Lakes Mendota and Monona each had about 50 boats in this size category. Four boats were observed with motors of 450 HP. Unfortunately, data on motor size were not collected during the 1986 Water Recreation Study to permit a time period comparison. (Note: DNR's 1990 boating study indicated the average motor size on lakes Mendota and Monona was 85 HP, while the average size in the Southern District of the state was 60 HP.)

Boat Length

About 75% of the boats launched at public access sites were between 16 and 22 feet long. Only five percent of the boats were over 22 feet, and their total number was fairly evenly distributed among lakes Mendota, Monona and Waubesa (i.e., 11 to 17 boats of this size on each of these lakes).

Approximately 20% of the boats launched were under 16 feet. During the 1986 Water Recreation field survey, 30% of the boats launched at the same observed sites were under 16 feet, which indicates that boat sizes may be increasing, although the percentage of very large boats (over 22 feet) increased only a small amount (less than 3%) from 1986 to 1995.

Out-of-State Boaters

Out-of-state boaters comprised nine percent of the total number of boats launched on the Yahara lakes during the field survey. This figure is similar to what was observed during the 1986 Water Recreation Study. Launch sites with the highest percentage of non-resident boaters included Lake Kegonsa State Park (27%), Babcock Park (23%), and Fish Camp Park (18%). Lake Kegonsa had the highest percentage of non-resident boaters of all the lakes.

Questionnaire Results

Questionnaire results indicate that 90 percent of boaters have good to excellent boating experiences on the Yahara Lakes. Some concerns were expressed, though, over the following issues: jet skis, large motorboats and high speeds, people not properly following boating regulations and boat overcrowding.

While boating conflicts did not emerge as a significant concern to most of the respondents, a majority of people (55%) indicated that mandatory boater safety education courses are needed. Only 35 percent of all respondents indicated that they had taken such a course. (Note: This percentage has not changed from the 1986 Water Recreation Study.) Respondents indicated that they obtained information on boating regulations and safety principally from the state boating regulation booklet, followed by signs at boat landings, newspapers and friends.

More respondents indicated that mandatory boater licensing is not needed than those who thought it is needed. A higher number of respondents also indicated that there is not a need to limit specific activities to selected areas of a lake, certain hours of the day, or certain days of the week. Limiting motorboat speeds, however, did receive support, but evidently not through an expansion of the existing 100 feet slow-no-wake zone from shoreline areas or establishment of a permanent slow-no-wake zone in particular locations. Increased water safety patrols and law enforcement appear to be the preferred approach by the majority of respondents. Boaters also indicated a willingness to pay somewhat higher boat launch fees and a locking fee at the Tenney Park Locks to maintain and improve these facilities. Perhaps surprisingly, dredging to improve boat access and navigation did not receive support by a majority of respondents.

Table 8
Summary of Boat Launching Activity
Saturday, July 29, 1995: 8:00 a.m.–6:00 p.m.

1. AVERAGE HORSEPOWER (HP) OF MOTORBOATS AND NUMBER OF BOATS 200 OR MORE HP¹		
LAKE:	Avg. HP	# ≥ 200 HP
Lake Mendota	125	49
Lake Monona	138	47
Lake Waubesa	117	20
Lake Kegonsa	87	6
Overall Average & Total	123	122
Percent of All Boats Launched		15%
2. NUMBER OF BOATS LARGER THAN 22 FEET¹		
BY LAKE:		
Lake Mendota		17
Lake Monona		11
Lake Waubesa		13
Lake Kegonsa		1
Total and Percent of All Boats Launched		42/5%
3. NUMBER OF OUT-OF-STATE BOATS AND PERCENTAGE OF TOTAL¹		
BY LAKE:		
Lake Mendota		34/6%
Lake Monona		29/7%
Lake Waubesa		36/11%
Lake Kegonsa		36/23%
Total and Percent of All Boats Launched		135/9%
4. NUMBER OF JET SKIS¹		
BY LAKE:		
Lake Mendota		14
Lake Monona		15
Lake Waubesa		10
Lake Kegonsa		5
Total and Percent of All Boats Launched		44/5%

¹Numbers obtained from 12 public boat launching sites only (does not include private marinas). See Table 2-1 in Appendix 2 for detailed data by site.

Boat Patrol Statistics

Dane County Sheriff boat patrol statistics also help reveal possible boating safety trends or concerns for the Yahara River Lakes. Three full-time Sheriff officers patrol the lakes ten hours per day, year-around (two full-time officers prior to March 1996). As many as eight deputies are on duty during busy holidays, with emphasis also placed on weekends beginning the weekend before fishing season and continuing through Labor Day. The annual number of boater citations, warnings, accidents and other related information compiled by patrol staff are shown in Table 9. Data do not indicate an increase in the reported number of accidents, citations or warnings in recent years, nor a significant departure from long-term averages except for a relatively low number of "warnings" issued in 1995. During the last few years, additional emphasis has been placed on enforcing operating-while-intoxicated (OWI) regulations. A total of 17 OWI citations were issued by the Sheriff's boat patrol in 1994, the highest number recorded for a boating season; in 1995, ten OWI citations were issued.

Table 9
Dane County Sheriff's Office Recreational Boating Statistics: 1980-1995

Patrol Activity	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Avg. 1980-1995
Citations	201	302	240	194	229	338	222	255	232	254	213	247	164	300	240	235	241
Warnings	838	1,071	1,029	753	995	1,080	757	912	866	760	731	874	649	881	801	558	847
Contacts ¹	NA	NA	NA	NA	1,356	1,347	1,013	1,078	1,100	958	882	1,013	711	1,034	977	1,106	1,047
Rescues	75	46	29	76	81	95	100	123	94	83	74	81	29	67	78	69	75
Boat Tows	57	90	69	46	68	78	81	99	75	79	57	63	49	56	65	51	68
Boat Accidents	5	8	7	12	8	12	8	9	14	13	15	23	9	7	9	5	10
Boating Injuries	5	2	0	5	4	6	7	4	15	5	11	26	3	3	7	1	6.5
Boating Fatalities	1	1	1	3	0	1	0	0	2	0	2	1	1	0	0	0	.81

○ = Highest number for 16-year period.

¹Contacts are the number of boats stopped for various enforcement reasons.

Source: Sgt. David Branley, Dane County Sheriff's Office.

Boat Launch Permit Data

Daily and seasonal boat launch permits are required by Dane County and the cities of Madison and Monona to use launch facilities at local lakeshore parks. Dane County instituted the permit program in 1983, the City of Madison in 1987 and the City of Monona in 1991. There has been a substantial increase in the number of seasonal permits sold by Dane County and its vendors since the program originated (432 in 1983 and approximately 3,400 in 1995). However, permit revenues have not increased in recent years and are not sufficient to cover annual facility maintenance and service costs.

Table 10
Daily and Seasonal Boat Launch Permit Revenue For
Dane County, City of Madison and City of Monona

Year	Daily Permit Revenue	Seasonal Permit Revenue	Total Revenue
1988	Not Available	Not Available	\$54,806 ¹
1993	\$56,365	\$51,948	108,313
1994	54,812	49,514	104,326
1995	53,415	49,963	103,378

¹In 1988, the daily permit fee was only \$1 and seasonal fee was \$7 for county residents and \$12 for out-of-county residents. This compares to current fees of \$2 daily, \$10 seasonal county resident and \$15 seasonal non-resident. Also, the City of Monona was not involved in the program in 1988.

State Public Boating Access Code

The Wisconsin Department of Natural Resources revised the public boating access Administrative Code (NR 1.90-1.93) in 1994. The revised code establishes minimum and maximum access standards, beyond which the DNR may not permit or fund additional waterway access sites. However, exceptions to the minimum and maximum standards are allowed if an alternative access plan is prepared by a local management agency, which addresses public health, safety and welfare objectives in the code, and is approved by the Department.

Minimum and maximum public access standards applicable to the Yahara River Lakes and Lake Wingra are shown in Table 11. Maximum standards are exceeded on Lakes Mendota, Monona and Waubesa, with Monona and Waubesa having over two times the maximum number of car-trailer spaces permitted under the administrative code. The violation of these standards presents important boat crowding and future access development and funding concerns that local park departments will need to recognize.

Table 11
Public Access Standards for the Yahara Lakes

Lake	Acreage of Lake	Minimum No. of Car-Trailer Spaces Based on NR 1.91	Maximum No. of Car-Trailer Spaces Based on NR 1.91	Actual No. of Car-Trailer Spaces in 1995 (At Public Access Sites Only)	Actual Lake Acreage Per Public Parking Space
Mendota	9,842	141 ¹	197 ²	224	44
Monona	3,274	65 ¹	109 ²	232	14
Waubesa	2,080	42 ¹	69 ²	174	12
Kegonsa	3,209	64 ¹	107 ²	105	31
Wingra	345	12 ¹	23 ²	Car only ³	NA

¹Minimum number based on 1 space per 70 acres for Lake Mendota; 1 space for 50 acres for lakes Monona, Waubesa and Kegonsa; and 1 space per 30 acres for Lake Wingra.

²Maximum number based on 1 space per 50 acres for Lake Mendota; 1 space per 30 acres for lakes Monona, Waubesa and Kegonsa; and 1 space per 15 acres for Lake Wingra.

³There are no car-trailer spaces designated on Lake Wingra. Motorized boats are only permitted on weekdays and cannot exceed slow-no-wake speed (5 mph).

The access code also establishes a reasonable base fee that local providers can charge boaters for water access. The fee can not exceed the resident daily entrance fee for state parks (currently \$4). Incremental charges to the base fee can be added to account for specific access features, such as lot attendants, on-site toilet facilities and services for large boats (over 20 feet in length). Launch fees for a season pass can not exceed 10 times the daily launch fee for both residents and non-residents. The current launch fees charged by Dane County, the City of Madison and the City of Monona are as follows: \$2 daily, \$10 annual resident, and \$15 annual non-resident. All of these fees are less than half of what is currently allowed under the public access code.

Chapter 4 Swimming

Introduction

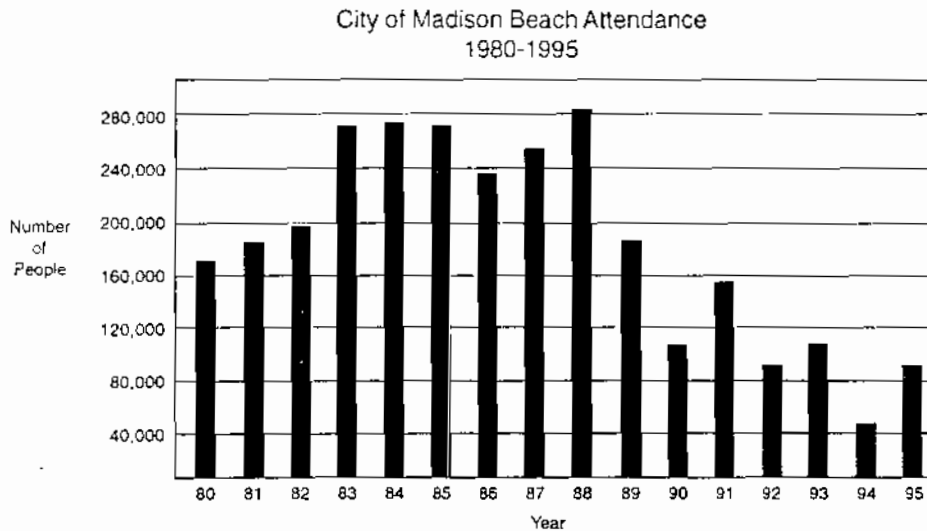
There are 24 swimming areas on the Yahara River Lakes and Lake Wingra. Table 12 displays the distribution of these areas by lake. Map 1 and Appendix 1 provide location and size information for each site.

**Table 12
Number of Swimming Areas on Yahara Lakes**

Lake	No. of Swimming Areas - 1995
Mendota	11
Monona	9
Wingra	1
Waubesa	1
Kegonsa	2
Total	24

Beach Attendance

Attendance figures for Madison's public beaches (the only historical records available) from 1980 through 1995 are shown in the Figure below. Beach use has declined significantly over the last several years. Average annual attendance for the period of 1990 through 1995 (102,000 people) is over 50% lower than the 1980 to 1989 average (234,000 people). City Parks staff indicate there are probably various reasons contributing to this decline: greater public concern over sun exposure, construction of area swimming pools, greater number of summer recreational activities for people to participate in, concerns over lake water quality, and greater number of households with air conditioning (Kroncke, 1995).



Source: City of Madison Parks Division

Beach attendance figures for specific city beaches in 1995 are shown in Table 13. Vilas Beach on Lake Wingra was the most heavily used beach, followed by Tenney Park on Lake Mendota and B. B. Clarke on Lake Monona. The City of Madison is currently evaluating the practicability of continuing to operate certain beaches (e.g., Warner, Esther and Hudson) which generally have low attendance figures. Other area beaches which are not operated by the city include: Governor Nelson State Park, Maple Bluff beach, and Mendota County Park on Lake Mendota; Schluter and Frostwoods beaches on Lake Monona; Goodland Park on Lake Waubesa; and Lake Kegonsa State Park on Lake Kegonsa.

Table 13
1995 City of Madison Beach Attendance

1.	Vilas	24,520
2.	Tenney	16,510
3.	B.B. Clarke	11,015
4.	James Madison	9,545
5.	Olbrich	7,690
6.	Olin	5,685
7.	Marshall	4,360
8.	Spring Harbor	2,860
9.	Brittingham	2,650
10.	Bernie's	2,375
11.	Warner	1,398
12.	Esther	1,075
13.	Hudson	895
	Total	90,578

During the 1986 Water Recreation Study, field surveys of 17 area beaches were conducted during the July 4 weekend. The number of swimmers in the water at each beach was recorded at a peak use time (2:00 p.m.) and multiplied by a desirable density standard of 100 square feet per swimmer. *Results indicated that capacities where crowding could occur were not approached at any of the sites. Given the drastic decline in overall beach use over the last several years, overcrowding of swimmers is still not likely to exist during peak use times.*

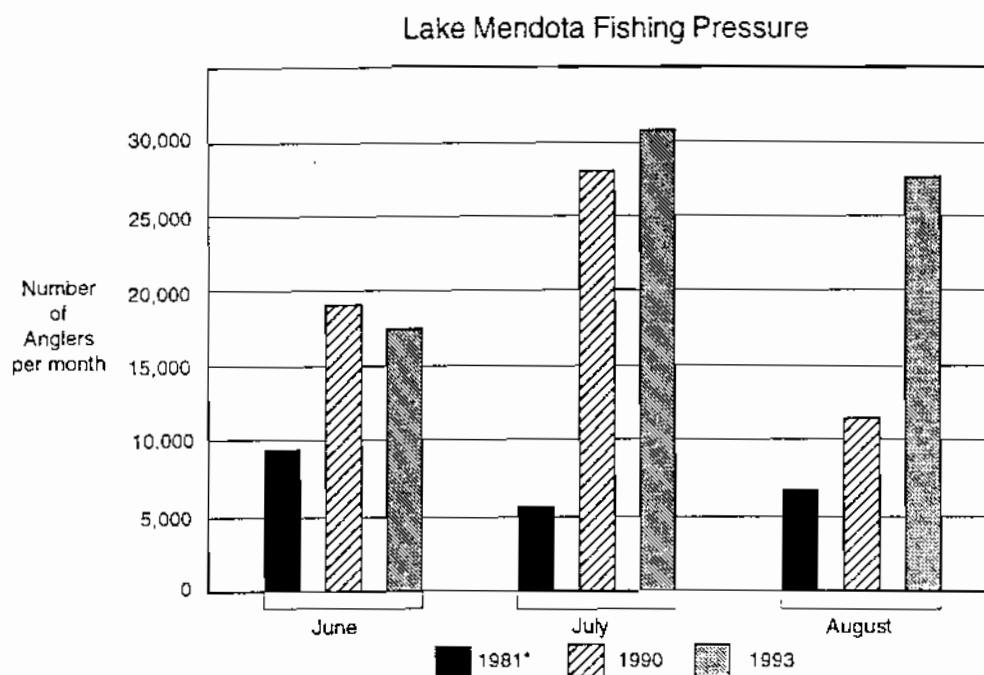
Questionnaire Results

The overall tabulation of the 1995 public opinion questionnaire indicates that swimming is the third most popular activity on the Yahara lakes, with 723 (54%) of the respondents stating that they engaged in swimming an average of 21 times during the summer months. This is the same average as that recorded during the 1986 survey. Lakes Mendota was cited as the most frequently used lake for swimming.

Chapter 5 Fishing

Field Surveys

No specific field surveys were taken of fishing activities as part of this study other than the boat launching surveys which included fishing boats. The WDNR has conducted fish creel surveys on the lakes, with particular attention given to Lake Mendota because of an intensive fish stocking (i.e., biomanipulation) project carried out during the late 1980s. That project is probably responsible for a substantial amount of the increase in fishing pressure on the lake, as illustrated in the Figure below. The number of anglers on Lake Mendota during the summer months in the early 1990s increased about 200 percent over estimates made in the early 1980s. Fishing surveys on Lake Mendota also revealed that about two-thirds or more of all boats on the lake were engaged in fishing for an average of nearly four hours per trip.



Questionnaire Results

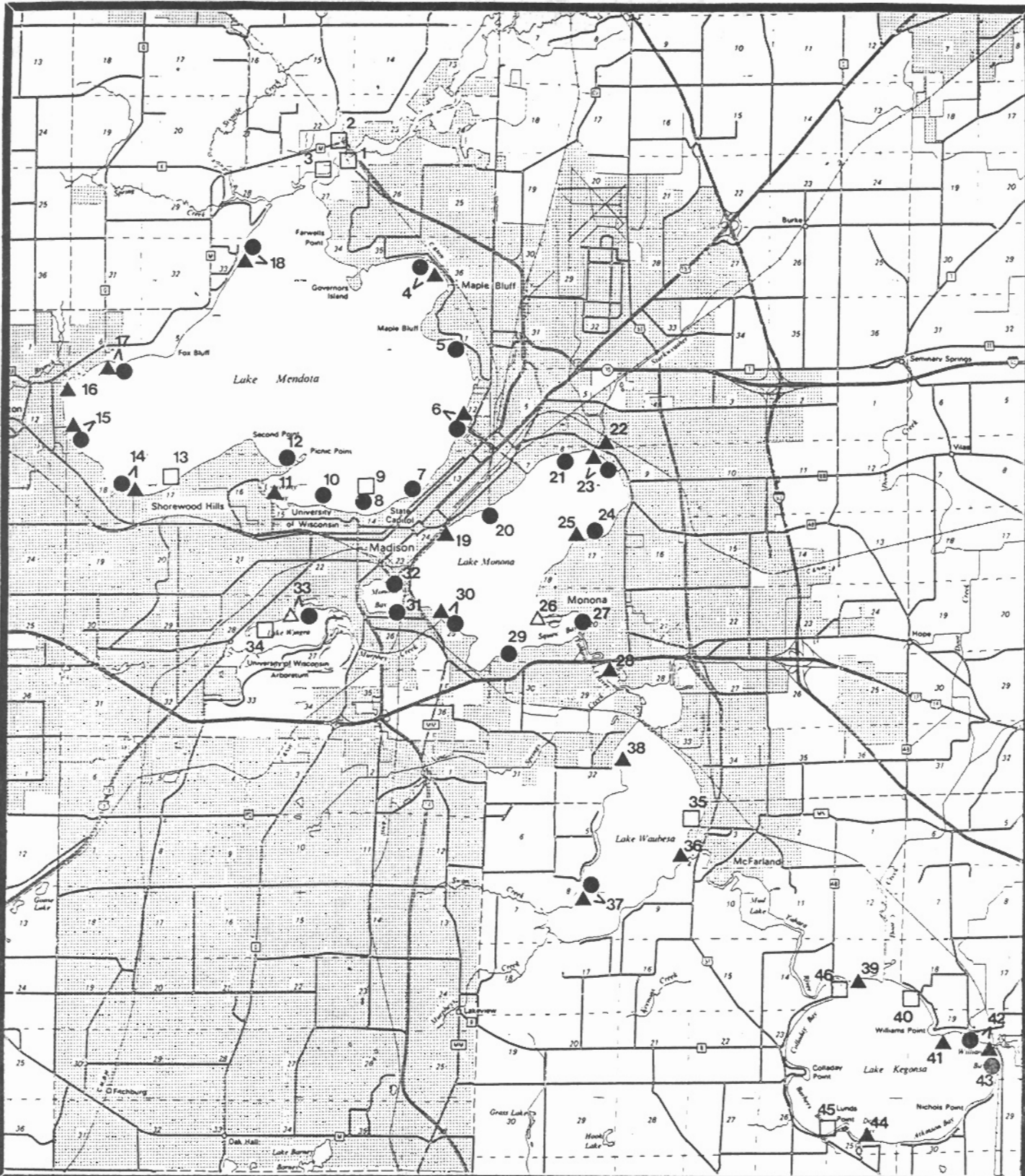
The overall tabulation of the 1995 public opinion questionnaire indicates that fishing is the most popular recreational activity on the lakes. About two-thirds of respondents indicated they fished. Anglers fished from a boat an average of 21 times during the summer while they fished from shore an average of 18 times. These results are slightly higher than average frequencies recorded during the 1986 Water Recreation Study (see Table 4). Most anglers appear to be satisfied with the fishery in the Yahara Lakes. Less than 25% cited the quality of the fishery as being a moderate or serious recreational problem.

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Appendix 1

**Yahara River Lakes
Inventory of Major Recreational Facilities**



Map 1 - YAHARA RIVER LAKES BEACHES AND BOAT LAUNCHES

9/95

- ▲ Boat Access with Parking
- △ Boat Access without Parking
- Swimming Beach
- Marina/Boat Rentals



SCALE IN MILES



Prepared by: THE DANE COUNTY
REGIONAL PLANNING COMMISSION

Note: Map Numbers Correspond to Appendix 1 Index

Table 1-1
Yahara River Lakes
Inventory of Major Recreational Facilities

Lake & Facility Name ¹	Operator/ Municipality	No. of Launch Sites or Slips	No. of Car-Trailer Parking Stalls	No. of Piers	Restroom Facilities	Facilities for Disabled	Fish Cleaning Facilities	Size of Swimming Area (Sq. Feet)
LAKE MENDOTA								
1. Nau-Ti-Gal	Private	103 slips and boat rentals						
2. Skipper Bud's	Private	145 slips						
3. Mazanet Marina	Private	185 slips						
4. Warner Park	Madison	6	53 ²	3	Yes	Yes	No	67,575
5. Maple Bluff Beach	Maple Bluff				Yes			4,000
6. Tenney Park	Madison	2	25	2	Yes	Yes	No	84,600
7. James Madison Beach	Madison			Yes				120,000
8. University Swimming Pier	University				Yes			11,250
9. Wisconsin Union	University	Boat rentals						
10. Kronshage Swimming Pier	University							15,000
11. Willows Launch	University	1	0—Lot 60 parking req.	1	No			
12. Picnic Point Beach	University				No			40,000
13. Shorewood Marina	Shorewood	48 slips						
14. Spring Harbor	Madison	2	Street parking	1	Yes			28,350
15. Marshall Park	Madison	5	80 ²	3	Yes	Yes	No	38,700
16. Middleton Beach Launch	Middleton	4	Street and adjacent lot parking	2	No	No	No	N/A
17. Mendota Park	County	2	6	0	Yes	No	No	37,500
18. Gov. Nelson Park	State	4	60	2	Yes	Yes	Yes	115,000
TOTAL		26	224²	14			1	11

¹Numbers correspond to sites shown on Map 1.

²Includes adjacent overflow parking areas.

Table 1-1
Yahara River Lakes
Inventory of Major Recreational Facilities

Lake & Facility Name ¹	Operator/ Municipality	No. of Launch Sites or Slips	No. of Car-Trailer Parking Stalls	No. of Piers	Restroom Facilities	Facilities for Disabled	Fish Cleaning Facilities	Size of Swimming Area (Sq. Feet)
LAKE MONONA								
19. Law Park	Madison	2	2	2	Yes	No	No	N/A
20. B.B. Clarke Beach	Madison				Yes			51,750
21. Hudson Beach	Madison				No			33,000
22. Starkweather Cr. Launch	Madison	4	57	2	Yes	Yes	No	
23. Olbrich Park	Madison	6	63 ²	3	Yes	Yes	No	120,000
24. Schluter Beach	Monona				Yes			4,550
25. Tonyawatha Launch	Monona	2	Street parking	1	No	No	No	
26. Winnequah Launch	Monona	2	Street parking	1	No	No	No	
27. Frostwoods Beach	Monona				Yes			2,000
28. Lottes Park	Monona	2	≈25	1	Yes	No	No	
29. Esther Beach	Madison				Yes			
30. Olin Park	Madison	6	85 ²	4	Yes	Yes	No	50,375
31. Bernie's Beach	Madison				Yes			26,650
32. Brittingham Beach	Madison				Yes			24,050
TOTAL		24	232 ²	14			0	9 beaches
LAKE WINGRA								
33. Vilas Beach	Madison	1	Car only	0	Yes			71,250
34. Wingra Canoe & Sailing Ctr.	Private	143 slips, boat rentals 1—Public site	Car only	1	Yes	Yes	No	
LAKE WAUBESA								
35. Barr's Resort	Private	Boat rentals						
36. Babcock Park	County	4	98 ²	2	Yes	Yes	Yes	N/A
37. Goodland Park	County	2	18	2	Yes	Yes	No	20,600
38. Lake Farm Park	County	4	58 ²	2	Yes	Yes	Yes	N/A
TOTAL		10	174 ²	6			2	1 Beach

¹Numbers correspond to sites shown on Map 1.

²Includes adjacent overflow parking areas.

**Table 1-1
Yahara River Lakes
Inventory of Major Recreational Facilities**

Lake & Facility Name ¹	Operator/ Municipality	No. of Launch Sites or Slips	No. of Car-Trailer Parking Stalls	No. of Piers	Restroom Facilities	Facilities for Disabled	Fish Cleaning Facilities	Size of Swimming Area (Sq. Feet)
LAKE KEGONSA								
39. Fish Camp Launch	County	2	23	2				N/A
40. Sunnyside Resort	Private	2 slip rentals						
41. Pleasant Springs Launch	Town	2	20	1				
42. Lake Kegonsa Park	State	2	57 ²	1	Yes	Yes	Yes	120,000
43. LaFollette Park	County				Yes			Non- designated site
44. Quam Drive Launch	Town	1	5	0				
45. Quam's Motor Sports	Private	20 slips						
46. Kegonsa Cove	Private	Boat rentals						
TOTAL		7	105²	4			1	2 beaches
TOTAL FOR ALL LAKES		69	735	39			4	24

¹Numbers correspond to sites shown on Map 1.

²Includes adjacent overflow parking areas.

Appendix 2

**Boat Launch Field Survey Results
and Drive-Through Counts**

Table 2-1
 Yahara River Lakes—Public Boat Launch Field Survey
 Saturday, July 29, 1995: 8:00 a.m.—6:00 p.m.
 Sunny, Hot & Humid Day. High in Low 90s.

Launch Information	Lakes and Launching Sites													Total For All Sites
	Lake Mendota				Lake Monona			Lake Waubesa			Lake Kegonsa			
	Warner Park	Gov. Nelson	Marshall Park	Tenney Park*	Olbrich Park	Starkweather Creek	Olin Park	Babcock Park	Goodland Park	Lake Farm Park	Fish Camp	Lake Kegonsa		
No. of Boat Ramps	6	4	5	2	6	4	6	4	2	4	2	2	47	
Total No. of Boats Launched & Landed	189	130	174	46	198	60	165	140	59	119	57	97	1,434	
No. of Boats Launched	100	71	111	27	119	28	108	89	41	61	28	52	835	
No. of Boats Launched/Ramp	17	18	22	14	20	7	18	22	21	15	14	26	18	
Avg. No. of Boats Launched/Ramp/Hour	1.7	1.8	2.2	1.4	2.0	0.7	1.8	2.2	2.1	1.7	1.4	2.6	1.8	
No. of Boats Launched/Ramp, Peak Hour	2.5	2.8	4.0	3.0	3.0	1.5	3.5	3.5	5.5	4.0	3.0	4.5	3.3	
Avg. No. of People in Boat	2.7	3.3	3.0	2.3	2.9	2.6	3.1	2.9	3.2	2.3	2.7	2.8	2.9	
No. Out-of-State Boats & Percent of Total	18 (10%)	7 (5%)	8 (5%)	1 (2%)	18 (9%)	2 (3%)	9 (5%)	32 (23%)	1 (2%)	3 (5%)	10 (18%)	26 (27%)	135 (9%)	
No. of Motorboats	91	63	105	25	114	26	98	83	37	52	25	40	759 (91%)	
Avg. Horsepower	105	126	146	99	148	98	132	126	121	101	99	80	123	
No. of Jet Skis	5	6	2	1	4	2	9	4	3	3	1	4	44 (5%)	
No. of Other Boats	4	2	4	1	1	0	1	2	1	6	2	8	32 (4%)	
No. of Boats < 15 feet	13	7	12	2	33	18	14	13	7	12	7	20	158 (20%)	
No. of Boats 16–22 feet	77	56	90	21	74	8	82	65	30	41	20	27	591 (75%)	
No. of Boats > 22 feet	5	2	7	3	8	0	3	7	1	5	0	1	42 (5%)	

*Incomplete data set—some boats were missed.

Volunteer Field Survey Day

DATE: Saturday, July 29, 1995

CONDITIONS: Sunny, hot and humid. 90°-95°F. Heavy boat traffic in p.m.

Yahara River Lakes - Public Boat Launch Survey

Lake & Launch Site Name	Total No. of Car-Trailer Parking Stalls	Time	Observed No. of Car-Trailers	No. of Out-of-State Trailers	Estimated No. of Vehicles w/o Trailers (e.g., Canoes)	Observed Parking Lot Capacity
LAKE MENDOTA						
Warner Park	33 plus ≈20 overflow	11:30 a.m. 3:30 p.m.	45 58	8 5	— —	Main lot full Lot full
Tenney Park	25	10:45 a.m. 3:15 p.m.	6 12	1 3	0 0	Plenty of spaces available
Spring Harbor	Street parking only	10:25 a.m. 3:00 p.m.	2 4	0 0	0 0	Street parking only
Marshall Park	80 (includes overflow)	1:00 p.m. 4:00 p.m.	58 60	6 3	— —	Lot full-overflow parking Lot full-overflow parking
UW-Lot 60	Unspecified # in Lot 60	10:30 a.m. 3:05 p.m.	3 6	0 0	0 0	Plenty of spaces available
Middleton Beach	Street and adjacent lot parking	10:10 a.m. 2:40 p.m.	11 26	1 0	0 0	Street parking
Mendota Park	6	10:15 a.m. 2:50 p.m.	4 9	1 4	0 0	Includes campground
Gov. Nelson St. Park	60 plus undersignated # of overflow	3:05 p.m.	35	1	—	
TOTAL	224	P.M. Total	210	16 (8%)	—	Warner & Marshall lots full
LAKE MONONA						
Law Park	2	11:30 a.m. 4:40 p.m.	3 1	0 0	0 0	Convention Center Constr
Starkweather Creek	57	10:55 a.m. 3:30 p.m.	9 32	1 0	0 0	Plenty of spaces available
Olbrich Park	33 plus ≈30 overflow	11:20 a.m. 3:20 p.m.	42 67	11 11	— —	Lot full Lot full
Tonyawatha Trail	Street parking only	11:05 a.m. 4:55 p.m.	3 4	0 0	0 0	Street parking only
Winnequah	Street parking only	11:10 a.m. 5:00 p.m.	0 5	0 0	0 0	Street parking only
Lottes Park	≈ 25 unmarked	11:15 a.m. 5:05 p.m.	6 10	0 0	0 0	About one-half full
Olin Park	85 (includes overflow)	11:30 a.m. 3:30 p.m.	38 49	1 6	— —	Lot 3/4 full Lot full
TOTAL	232	P.M. Total	168	17 (10%)	—	Olin & Olbrich lots full
LAKE WAUBESA						
Babcock Park	98 (includes overflow)	10:30 a.m. 4:15 p.m.	46 63	12 19	— —	About 1/2 full Main lot full—3 cars in overflow
Goodland Park	18	11:00 a.m. 3:15 p.m.	5 23	0 1	— —	Lot 1/4 full Lot full
Lake Farm	58	11:30 a.m. 3:45 p.m.	25 80	4 10	— —	Lot 1/3 full Lot full
TOTAL	174	P.M. Total	166	30 (18%)	—	Lots full in p.m.
LAKE KEGONSA						
Fish Camp	23	11:10 a.m. 2:30 p.m.	13 9	2 4	— —	Lot 1/2 full. Lot 40% full.
Pleasant Springs	≈ 20 unmarked	12:00 a.m. 5:25 p.m.	12 15	6 6	0 0	Lot 2/3 full. Lot 3/4 full.
Kegonsa St. Park	57 (includes overflow)	11:30 a.m. 3:30 p.m.	12 22	4 12	— —	Lot 1/2 full. Lot 2/3 full.
TOTAL	100	P.M. Total	46	22 (48%)	—	Lots 40-75% full.
TOTAL FOR ALL 4 LAKES	730	P.M. Total	590	85 (14%)	—	Major lots full in p.m.

— = Not Recorded.

Early Morning Weekend Count

DATE: Saturday, June 17, 1995

CONDITIONS: 70°-80° F in a.m.; partly sunny, hot and humid. Light to moderate wind.

Yahara River Lakes Public Boat Launch Survey

Lake & Launch Site Name	Total No. of Car-Trailer Parking Stalls	Time	Observed No. of Car-Trailers	No. of Out-of-State Trailers	Estimated No. of Vehicles w/o Trailers (e.g., Canoes)	Observed Parking Lot Capacity
LAKE MENDOTA						
Warner Park	33 plus ≈ 20 overflow	7:45 a.m.	56	8	0	Main lot full
		8:50 a.m.	59	11	0	4 cars in overflow
Tenney Park	25	8:00 a.m.	17	0	0	
Marshall Park	80 (includes overflow)	8:20 a.m.	37	2	1	Main lot almost full
		11:40 a.m.	60	11	0	Lineup to launch
Middleton Beach	Street and lot parking	11:30 a.m.	10	0	0	
Mendota Park	6	8:25 a.m.	2	2	0	Includes campground
		11:35 a.m.	7	2	0	Includes campground
Gov. Nelson St. Park	60	8:35 a.m.	32	0	0	About one-third full
Spring Harbor	Street parking only	11:20 a.m.	5	0	0	
Willows Launch/Lot 60	Not designated	11:10 a.m.	2	1	0	No trailers in UW Lot 60
TOTAL	224	Early a.m. Total	144	12	1	
LAKE MONONA						
Law Park	2	7:20 a.m.	1	1	0	Convention Ctr. Constr.
Olbrich Park/ Starkweather	63/57*	7:30 a.m.	24/8*	0/0	0/0	Main lot one-half full
		10:55 a.m.	44/9*	1/0	1/0	Some trailers in overflow
Tonyawatha Trail	Street parking only	10:45 a.m.	3	1	0	
Winnequah	Street parking only	10:40 a.m.	6	0	0	
Lottes Park	≈ 25 unmarked	6:50 a.m.	7	0	0	
		10:35 a.m.	10	0	1	
Olin Park	85 (includes overflow)	7:15 a.m.	39	3	4	Main lot almost full
		10:25 a.m.	53	3	2	
TOTAL	232	Early a.m. Total	88	5	4	
LAKE WAUBESA						
Babcock Park	98 (includes overflow)	6:05 a.m.	33	4	0	Lot one-half full
		7:05 a.m.	61	11	0	Main lot almost full
Goodland Park	18	6:30 a.m.	12	0	0	
Lake Farm	58	6:40 a.m.	36	3	0	Lot over one-half full
TOTAL	174	Early a.m. Total	109	14	0	
LAKE KEGONSA						
Fish Camp	23	6:15 a.m.	13	2	0	
Pleasant Springs	≈ 20 unmarked	5:45 a.m.	0	0	0	
Kegonsa St. Park	57 (includes overflow)	5:50 a.m.	6	1	0	
TOTAL	100	Early a.m. Total	19	3	0	
TOTAL FOR ALL LAKES	730	Early a.m. Total	360	34 (9%)	5 (1%)	Warner, Marshall and Babcock Lots almost full by 7:30-8:30 a.m.

*Two sites: Lake Monona site and Starkweather Creek site north of Atwood Avenue.

High-Use Weekend Count

DATE: Sunday, June 4, 1995

CONDITIONS: 83°F. Beautiful day. Partly to mostly sunny. Light wind. Heavy boat traffic.

Yahara River Lakes Public Boat Launch Survey

Lake & Launch Site Name	Total No. of Car-Trailer Parking Stalls	Time	Observed No. of Car-Trailers	No. of Out-of-State Trailers	Estimated No. of Vehicles w/o Trailers (Canoes)	Observed Parking Lot Capacity
LAKE MENDOTA						
Warner Park	33 plus ≈ 20 overflow	10:15 a.m.	62	7	2	Lot full. Street parking. Lot full and overflow full.
		2:25 p.m.	91	4	2	
Tenney Park	25	10:30 a.m.	15	1	1	Lot not full.
		2:35 p.m.	21	2	0	Lot full.
Marshall Park	80 (includes overflow)	9:45 a.m.	46	1	1	Lot not full.
		1:45 p.m.	100*	1	1	Lot full. Grass full.
Middleton Beach	Street and adjacent lot parking	N a.m.				
Mendota Park	6	9:50 a.m.	5	2	2	Includes campsite area. Many spaces available.
		1:55 p.m.	4	0	0	
Gov. Nelson St. Park	60	10:00 a.m.	36	1	3	Open House day. Lot full.
		2:10 p.m.	85	4	5	
TOTAL	224	P.M. Total	326	12	8	
LAKE MONONA						
Law Park	2	9:15 a.m.	3	0	0	Convention Center construction.
		1:30 p.m.	5	1	0	
Olbrich Park	33 plus ≈ 30 overflow	10:40 a.m.	49	3	0	Lot nearly full. Lot full. Grass full.
		2:50 p.m.	92	4	1	
Tonyawatha Trail	Street parking only	10:45 a.m.	0	0	0	Launching area was closed.
		2:55 p.m.	0	0	0	
Winnequah	Street parking only	10:55 a.m.	8	2	1	Street parking only.
		3:00 p.m.	15	2	1	
Lottes Park	≈ 25 unmarked	11:00 a.m.	20	1	1	Lot almost full. Lot almost full.
		3:05 p.m.	23	1	0	
Olin Park	85 (includes overflow)	9:20 a.m.	40	3	6	Lot not full. Lot full. St. parking.
		1:20 p.m.	73	5	2	
TOTAL	175	P.M. Total	208	13	4	
LAKE WAUBESA						
Babcock Park	98 (includes overflow)	12:30 p.m.	98	38	2	Main lot full. Lineup to launch. Main lot full. Lineup to launch.
		4:25 p.m.	164	29	N	
Goodland Park	18	11:20 a.m.	41	6	1	Lot about 2/3 full. Lot full.
		3:25 p.m.	44	6	1	
Lake Farm	58	11:15 a.m.	76	16	0	Lot & overflow full. Lot & overflow full.
		3:20 p.m.	66	3	0	
TOTAL	174	P.M. Total	214	38	1	
LAKE KEGONSA						
Fish Camp	23	11:40 a.m.	31	7	1	Lot full. Road parking. Lot full. Road parking.
		3:40 p.m.	25	3	N	
Pleasant Springs	≈ 20 unmarked	N a.m. N p.m.				
Kegonsa St. Park	57 (includes overflow)	11:50 a.m.	36	6	1	Main lot full. 2 cars in overflow lot. Main lot full. 2 cars in overflow lot.
		4:00 p.m.	37	10	N	
TOTAL	100	P.M. Total	62	13	N	
TOTAL FOR ALL LAKES	673	P.M. Total	810	76 (9%)	13 (2%)	All lots full by P.M.

N = Not Recorded

*NOTE: At 5:15 p.m. similar conditions were observed. Lot and overflow parking areas were full.

Memorial Day Weekend

DATE: Saturday, May 27, 1995

CONDITIONS: 60°F Threatening weather with increasing clouds and light rain during a.m. Windy (10-20 mph). Rain in p.m.

Yahara River Lakes Public Boat Launch Survey

Lake & Launch Site Name	Total No. of Car-Trailer Parking Stalls	Time	Observed No. of Car-Trailers	No. of Out-of-State Trailers	Estimated No. of Vehicles w/o Trailers (e.g., Canoes)	Observed Parking Lot Capacity
LAKE MENDOTA						
Warner Park	33 plus ≈20 overflow	10:00 a.m. p.m.	22	3	N	
Tenney Park	25	N a.m. p.m.				
Marshall Park	80	10:25 a.m. p.m.	7	1	N	
Middleton Beach	Street and adjacent lot parking	N a.m. p.m.				
Mendota Park	6	10:20 a.m. p.m.	2	0	N	Didn't include campground
Gov. Nelson St. Park	60	10:15 a.m. p.m.	3	0	N	
TOTAL	224	A.M. Total	34	4	N	
LAKE MONONA						
Law Park	2	N a.m. p.m.				
Olbrich Park	33 plus ≈20 overflow	9:40 a.m. 12:15 p.m.	20 4*	0 0	N 0	
Tonyawatha Trail	Street parking only	N a.m. p.m.				
Winnequah	Street parking only	a.m. 12:05 p.m.	2	0	N	
Lottes Park	≈25 unmarked	12:00 p.m.	11	1	N	
Olin Park	85 (includes overflow)	10:40 a.m. p.m.	18	0	N	
TOTAL	175	Total	51	1	N	
LAKE WAUBESA						
Babcock Park	98 (includes overflow)	11:45 a.m. p.m.	29	10	N	
Goodland Park	18	11:00 a.m. p.m.	3	0	N	
Lake Farm	58	10:50 a.m. p.m.	21	1	N	
TOTAL	174	A.M. Total	53	11		
LAKE KEGONSA						
Fish Camp	23	11:15 a.m. p.m.	5	1	N	
Pleasant Springs	≈20 unmarked	N a.m. p.m.				
Kegonsa St. Park	57 (includes overflow)	11:30 a.m. p.m.	2	0	N	
TOTAL	100	A.M. Total	7	1	N	
TOTAL FOR ALL LAKES	673	A.M. Total	145	17 (12%)	N	Poor weather responsible for low turnout

N = Not Recorded.

*NOTE: Cancelled p.m. survey of other launch sites due to poor weather. Heavy rainfall began at 1:30 p.m.