MASTER PLAN FOR RECREATION DEVELOPMENT

AT LAKE PONCA

By

PATRICIA McCLOSKEY

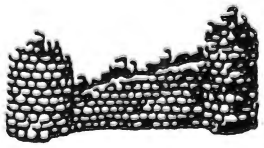
Bachelor of Arts

Northwest Missouri State University

Maryville, Missouri

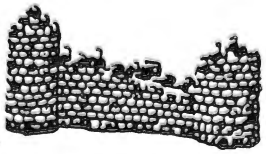
1968

Submitted to the Faculty of the Graduate College
of the Oklahoma State University
in partial fulfillment of the requirements
for the Degree of
MASTER OF SCIENCE
December, 1987



Lake Ponca Recreation Area

Ponca City, Oklahoma



MASTER PLAN FOR RECREATION DEVELOPMENT AT LAKE PONCA

By

PATRICIA McCLOSKEY

Bachelor of Arts

Northwest Missouri State University

Maryville, Missouri

1968

Submitted to the Faculty of the Graduate College
of the Oklahoma State University
in partial fulfillment of the requirements
for the Degree of
MASTER OF SCIENCE
December, 1987

ACKNOWLEDGMENTS

Special appreciation is extended to the Parks and Recreation Department in Ponca City, Oklahoma, especially to Jim Sindelar, Director, and Susan Everett, Landscape Architect. Their assistance and encouragement as well as funding made this project possible.

Gratitude is due my advisory committee: Dr. Daniel Badger, professor of natural resources; Dr. Lowell Caneday, professor of leisure sciences; Dr. Larry Hynson, professor of sociology; and Dr. Charles Leider, professor of landscape architecture. Dr. Leider also served as my committee chairman.

To my family who have endured me through it all--thank you.

A thank you also to Barbara; without her help, I'd still be typing.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

* These maps were reduced from originals that are 55" × 36"; therefore, some of the clarity has been lost.

CHAPTER I

INTRODUCTION

Background

On June 18, 1933, the Ponca City Chamber of Commerce submitted to Oklahoma representatives in the U.S. Congress a proposal for building Lake Ponca. The Ponca City News recorded it, "$250,000 for a water reservoir lake, providing a water supply for this city. Such a lake built on one of the tributaries of the Arkansas River here, would also be a flood control project by impounding water" (29, p. 1). Lake Ponca was impounded in 1934 for the purposes of supplying the city with soft drinking water, providing employment for participants in the PWA and CCC programs, and providing an outdoor recreation area for residents.

The lake project was approved by the National PWA Board in March, 1934, as well as a proposal for a new city library. A special bond election was held on March 22, 1934, to authorize bonds for the two projects. Both projects were approved by a wide majority; there was an eight-to-one margin for the lake. "These were the first two municipal PWA projects in the state of Oklahoma" (29, p. 4). Bonds totaling $430,000 for the lake project and $750,000 were sold to the PWA. Grants were received in the amount of $130,000 for the lake project and $23,000 for the library. The parklands were purchased for $50 an acre following condemnation proceedings brought by the city to obtain full title to the land.

In 1934, Ponca City was one of the few cities its size in the state not to have a fishing lake; therefore, residents looked forward to the lake's completion and the prospect of fishing. It was prophesied by the state game and fish warden in 1934 that the lake "if properly stocked, (would) provide fishing and other water recreation for thousands of citizens and visitors" (29, p. 6). Initially, perch, bass, and channel cat were stocked and fishing opened in 1937. Boat regulations were effective in May, 1935. Boat licenses were $5 per year for residents and $10 for nonresidents.

The lake was officially completed on March 14, 1935, three months ahead of schedule. In the summer of 1935, 220 young men with the Civilian Conservation Corps came to Ponca City for a six-month period. The city spent approximately $5,000 in preparation for their visit by extending water, electrical, and sewer services to the park campsite. They built shelters, walks, steps, fireplaces, and pedestrian bridges during their six-month stay.

The only data available today from the lake's inception is a map drawn by E. A. Jones, city engineer at the time. It shows the east and west lakes and locations for main roads, bridle trails, restrooms, bathhouses, and reforestation. One has to infer from the drawing that those programs were to be implemented in the 1930s; in that light, the following assumptions are made: There was concern for reforestation along the shoreline to add vegetation cover to the newly graded land. Horseback riding was an important activity as numerous trails were included in the plan. Three areas had bathhouses, so swimming was to be a popular form of recreation. Exactly how much of this plan was implemented is not known. However, there exists today the main roads--L. A. Cann Drive,

East Dam Road, and Prentice Road--and evidence of the reforestation program in the numerous mature trees throughout the park.

In the years since 1934, improvements and activities have been added to the park with no overall plan to follow. Sometimes this has resulted in conflicts between activities and users, overcrowding and overuse in certain areas, underuse in other areas, and improvements which must later be changed.

Purpose

The purpose of this project is to establish a master plan for recreational development at Lake Ponca that will function as follows:

1. be a viable document to aid in development and nondevelopment decisions at Lake Ponca;
2. provide guidelines from which to draw upon the necessary information to make decisions that are appropriate not only for one specific area within the park, but the total parkland;
3. aid in future decisions by determining what's most important and by maintaining an overall theme for development;
4. pinpoint not only immediate needs but also long-range programs to implement;
5. be based on research so that nonbiased decisions can be made with its use; and
6. be a flexible, not static document so that it can be reviewed every few years to make changes that reflect changing community needs (Kelsey, 34, p. 1).

Goals and Objectives

The following goals and objectives are guides to developing a working master plan--a plan that will not sit on a shelf and gather dust but will be a tool to those whose decisions dictate the future of Lake Ponca.

I. The first goal is to design a master plan that best utilizes the site for designated recreational facilities. To achieve this goal, it will be necessary to complete the following objectives.
   1. Inventory the existing facilities at Lake Ponca as well as in the total park system.
   2. Evaluate these facilities as to location and accessibility, state of repair, and their utilization.
   3. Enumerate which facilities at Lake Ponca are in need of repair or need to be eliminated and which activities need additional space and facilities.
   4. Recognize Lake Ponca as a great natural resource and be considerate of the restraints and opportunities of the site in the design decisions.
   5. Preserve the "character" of the site by retaining existing vegetation, landforms, and historical structures.
   6. Determine how to make the park more functional and safer to use.
   7. Stage the development and improvements in phases that are logical and economically feasible.

II. The second goal is to design a park that could be used by everyone in the community. The following objectives are essential for the end result.
   1. Survey citizens in the community to obtain their views on needed improvements and facilities in the park.

2. Set guidelines for adjacent land use that are compatible.
3. Provide accessibility for everyone, including the handicapped.
4. Provide vehicular and pedestrian circulation throughout the park for better accessibility.
5. Include the needs of the total service area in the design.
6. Involve as many people as possible in the design process and in the plan's implementation.

In summary, the Parks and Recreation Department feels a master plan is needed for this recreation area not only to aid in the day-to-day decisions regarding this large park, but also to make positive and cohesive long-range plans. A master plan also will be beneficial in the soliciting of outside funds to support the lake's development.

Research Methods

The first step in the design process was to collect data. A good database is necessary to make nonbiased and accurate decisions. Data was obtained from the city's own publications, memorandums, maps, aerial photos, records, scrapbooks, etc. Information was obtained from the Chamber of Commerce, Ponca City Public Library, and the Ponca City News office. Reference books and other publications were obtained from the Oklahoma State University library. Publications were obtained from the U.S. Printing Office and Oklahoma Department of Tourism as well as private parties.

Interviews were held with parks and recreation employees, other city employees in Ponca City, employees at Kaw Lake and the Wildlife Conservation Department, newspaper columnists, a city genealogist, and other interested persons in the community. On-site observations were made on

numerous occasions at Lake Ponca. Other parks were visited and pertinent meetings were attended. In addition, a community survey was done in the spring of 1987.

CHAPTER II

COMMUNITY PROFILE

Before the land run of 1893, Ponca City was part of the Cherokee Strip, land designated for use by the Cherokee Indians. Tribes with their reservations nearby were the Ponca, Osage, Tonkawa, Kaw, Pawnee, and Otoe-Missouria. On September 16, 1893, the lands of the Cherokee Strip were opened to settlement by homesteaders.

The U.S. Government had already designated a town, Cross, to the north for a post office and land grant office. The train line also stopped there. However, several men had visited the future site of Ponca City before the run and were determined to create a town there. A township of 194 blocks was laid out for the town they named "Ponca." Eight blocks were reserved for schools and parks "which demonstrated the foresight and the wisdom of the founders of Ponca City" (35, p. 5). In 1913 Ponca was changed to Ponca City, and in 1927 Cross became a part of Ponca City (24, p. 4).

Ponca City has the largest population of all the towns in Kay County. The 1980 census listed its population as 26,230 persons, while the county had 49,852. The estimated population in 1985 was 26,390 in Ponca City. Projected population in 2000 is 26,830 (47, p. 74). There were 11,397 households in 1980 with an average of 2.43 persons per household (60, p. 1).

Median ages for residents of Ponca City in 1980 were 31.2 years for men and 35.4 years for women. The largest age group was 18-64 with 58.77%. The remaining age groups were as follows: 0-5, 7.55%; 5-17, 18.07%; and 65 and over, 15.58% (60, p. 2).

Per capita income in 1985 was estimated at $15,808, while household income was estimated to be $29,403 (60, p. 3). The unemployment rate for Kay County rose from 4.6% in 1982 to 8.0% in 1986 (60, p. 6). The largest employer in Ponca City is Conoco, Inc., with 4,170 employees in 1986 (60, p. 7).

There are eight public elementary schools, two junior high schools, and one senior high school. In addition, there are Catholic and Lutheran elementary schools (10, p. 5). There are 63 Protestant churches, 1 Catholic church, and 1 Jewish Synagogue (10, p. 7).

Cultural facilities include the Hutchins Memorial, L. A. Cann Memorial Gardens, Pioneer Woman Monument and Museum, Ponca City Art Center, Marland Mansion, Ponca City Cultural Center, and the Ponca Playhouse (10, p. 7). There are many buildings on the National Historic Register, and the downtown area has just been selected as one of the Main Street projects for the National Trust through the Oklahoma Department of Commerce.

Annual events begin with the Boat and Travel Show in April and the Ponca City Fine Arts Festival in May and continue with the 101 Ranch Rodeo, International Indian Powwow, Grand National Motocross Championships, Grand Prix Sports Car races, and the Octoberfest in October.

The city actively promotes its annual events and labor market through the Chamber of Commerce and local organizations. It prints pamphlets and flyers to distribute at the different tourist attractions in the city and also at the state tourist information building on Interstate

35 south of the Kansas border. This past summer they placed a pamphlet there entitled "Ten Great Reasons to Visit Ponca City, Oklahoma" (Appendix, p. 159).

This appears to be a community whose population will remain stable. As can be seen in the survey results, the average length of residence was over 22 years. Many of those persons stated that they left Ponca City during their working years but returned there later to continue working and to retire. Personal pride is evident throughout the community. The high school building is a good example. Here is a historic structure built with meticulous woodwork carvings on the trophy cases and an elaborate auditorium with intricate painting and sculptured ceiling treatments. The school remains beautiful even though many generations of children have used it--they used it but did not abuse it.

CHAPTER III

RECREATION INVENTORY

There are 27 city parks plus other greenbelt areas maintained by the Parks and Recreation Department. It also manages three swimming pools and city-owned tourist attractions (i.e., Marland Mansion, Cultural Center, Canns Gardens). The city-owned parks and their facilities are shown in Table I. The facilities are rated good, fair, or poor based on their age, wear, and usefulness. These evaluations were based on discussions with Tom Ferguson, Park Superintendent, and others involved with maintenance at the parks (20).

There appears to be an abundance of picnic and play areas, but they are not in the best condition. Eleven parks have picnic tables but only four of those have tables in "good" condition. Sixteen parks have play equipment but only five have equipment in "good" condition. There is a scarcity of shelters and benches in the parks. Five parks have tennis courts but only the ones at War Memorial are in good condition, and three of the parks have courts that are in poor condition. Many of those parks listed as undeveloped are strips of land along roads or donated greenbelts in subdivisions. There is only one camping area in the city at Lake Ponca, and it is in fair condition.

Ponca City has one indoor facility, Unity Recreation Center located on the Marland Mansion Estate. It has numerous programs for all ages--basketball, volleyball, indoor track, indoor tennis, aerobics, and

TABLE I

PONCA CITY PARKS AND FACILITIES RATINGS [1]

Park	Acres	Facilities[2]																					
		Picnic Tables	Bar-B-Ques	Shelters	Play Equipment	Trails/Walks	Restrooms	Snack Bar	Baseball Field	Softball Field	Soccer Field	Horseshoes	Tennis Courts	Disc Golf	Golf	Swimming Pool	Camping	Jrack	Indoor Facility	Benches	Flowers	Historic Marker	Undeveloped
Academy	2.5																						■
Attucks	3.8				●				●				■										
Big Springs																						●	
Blue Star	0.7																					●	
Briar Ridge													■										
Crown	3.6				●																		
Dan Moran	26.9	●			●		●	●	●			●	■										
Donner	10.0												●										
Edgewood	1.5																						■
Garfield	6.9	●	●		●																		
Hobo	2.4				●																		
Industrial																							■
Johnson	5.1																						■
Lake Ponca		●	●	●	●		●	■		●					●	●				■			
Liberty	2.4	●			●																		
McGraw	1.1				●																		
McKinley	10.6								●	●	●												
Pecan	2.1																						■
Pioneer	8.2	●	●		●		●					■											

[1]Ratings are based on the age, wear, and usefulness of the facilities as evaluated by employees in the Parks and Recreation Department.

[2]Ratings: Good ● Fair ● Poor ■

TABLE I (Concluded)

Park	Acres	Facilities[2]																					
		Picnic Tables	Bar-B-Ques	Shelters	Play Equipment	Trails/Walks	Restrooms	Snack Bar	Baseball Field	Softball Field	Soccer Field	Horseshoes	Tennis Courts	Disc Golf	Golf	Swimming Pool	Camping	Track	Indoor Facility	Benches	Flowers	Historic Marker	Undeveloped
Pioneer Woman	12.0	●					●														●	●	
Ranchwood	15.0																						▪
Redbud	7.7	●			●				●		●												
Sherwood	5.5				●																		
Sunset	8.9	●			●																		
War Memorial	23.9		●		●		●						●	●								●	
Willow Springs	26.0	●			●			●			●												
Young	4.3	●			●				●											●			
Motocross Track	93.0																	●					
Goof's Field		●			●																		
Unity													▪						●				

[2]Ratings: Good ● Fair ● Poor ▪

crafts. The Parks and Recreation Department would like to offer more indoor programs but is prevented from doing so at this time for a lack of space. The basketball courts schedule is tight with 46 teams playing on them. An additional indoor facility is needed to accommodate more crafts and arts programs according to Terri Sherbon, the recreation superintendent with the Parks and Recreation Department (54).

Unity Recreation Center also serves as the site for dances and special events. Presently, senior citizens use the facility only on Monday and Wednesday afternoons.

Most park programs are free to residents of Ponca City. All swimming lessons are offered free to anyone, even nonresidents. Girls' basketball is the only sport for which they have a charge. Tennis lessons are given free to children.

Participation in the youth sports programs especially is great. There are several private organizations that use parklands for their sports activities, including youth softball and basketball. Usually there is a trade-off on cleanup maintenance for this use. However, the private groups do charge a fee to participants in their programs of softball, water skiing, etc. More softball fields are desired by the city leagues. The YMCA accommodates some programs, such as boys' basketball.

Approximately 500-600 persons swim daily in the Ambucs pool and 85-90 at the Lincoln Pool. In addition, 750-800 persons participate in swimming lessons at the Ambucs Pool and over 200 at the Lincoln Pool. There are special swim times set aside in the evenings for family and adult swimming only.

The city owns the indoor pool at the YMCA and small fees are charged for its use. Children are charged 50¢ daily and adults $1. These are the same fees charged at the Wentz Pool.

Standards

In 1940, Ponca City had 10 parks with a total acreage of 1,455 acres. The population at that time was 16,794 persons, which statistically comes to one acre of parkland per 12 persons. Facilities in the parks at that time were as follows: 4 picnic centers, 20 outdoor fireplaces, 5 ballfields, 1 supervised playground, 4 unsupervised playgrounds, 3 ice skating areas, 1 rogue court, 1 running track, 12 boat houses, 16 restrooms, 4 dwellings, 1 shelter, 1 workshop, and 1 recreation building (40, p. 52). Changes in facilities have obviously changed in the past 47 years as is evidenced by the current inventory in Table I.

According to standards in 1940, the city had many more acres per capita than most cities at that time. Present national standards again indicate that Ponca City has a generous amount of parklands as is shown in Table II. Even when compared to Oklahoma City (see Table III), the city has an overall abundance of park acreage but not facilities. Whether or not one classifies Lake Ponca as both a community park and a metropolitan park is irrelevant; the total acreage outnumbers the need. From its modest beginnings in 1893, the park system has definitely grown.

The directions for the parks from earlier years can only be surmised from existing records. A Ponca City Chamber of Commerce publication in 1945 listed six recommendations for the park program.

1. Create more recreational areas in west Ponca City.
2. Expand recreational facilities for colored people.
3. Develop Lake Ponca as a regional camping resort.

TABLE II

NATIONAL PARK STANDARDS*

	Standards Recommended by the National Recreation and Park Association			
	A/1000[1]	Min. A.[2]	Existing[3]	Need[4]
Neighborhood Park	2.5	66	93.4	+27.4
District Park	2.5	66	85[5]	+19
Large Urban Park	5.0	132	1600+[6]	+1468
Regional Park	20.0	528	1600+[7]	+1072

	Standard	Min.	Existing	Need
Baseball/Softball	1/2000	13.2 fields	13	-0.2
Tennis	1/2000	13.2 courts	10	-3.2
Basketball	1/5000	5.3 courts		
Swimming	3/20,000	4 pools	4	0
Ice Skating	1/30,000	0.9 rink	1[8]	-0.9
Neighborhood Center	1/10,000	2.6	0	-2.6
Community Center	1/25,000	1.1	1	-0.1
Outdoor Theater	1/20,000	1.3	0	-1.3
Shooting Range	1/50,000	NA[9]	0	NA
Golf Course	1/25,000	1.1	2	+0.9

* National Park Recreation and Open Space Standards (Washington, D.C., 1971), pp. 12-13.

[1]Acres per 1000 population.

[2]Minimum acres based on population of 26,400.

[3]Parks existing in Ponca City.

[4]Acres of parkland need: - deficiency, + surplus.

[5]Dan Moran, Pioneer, War Memorial, and Willow Springs Parks.

[6]Lake Ponca Park.

[7]Lake Ponca Park.

[8]Pioneer Park.

[9]Not applicable, insufficient population.

TABLE III

OKLAHOMA CITY STANDARDS*

	Composite Base Standards for Oklahoma City			
	Standard[1]	Min.[2]	Existing[3]	Need[4]
Neighborhood Park	2/1000	52.8	93.4	+40.6
Community Park	6.5/1000	171.6	85[5]	-86.6
Metropolitan Park	10/1000	264	1600+[6]	+1336
Golf Courses	18/50,000[7]	9.5 holes	36 holes	+26.5
Baseball/Softball	1/2000	13.2 fields	13	-0.2
Swimming	1/12,000	2.2 pools	4	+1.8
Tennis	1/2000	13.2 courts	10	-3.2
Gymnasiums	1/10,000	2.6 gyms		
Arts/Crafts	1/10,000	2.6 workshops		
Club/Multiple Purpose	1/4000	6.6 rooms		

* National Park Recreation and Open Space Standards (Washington, D.C., 1971), pp. 44-45.

[1]Acres per 1000 population except when noted.

[2]Minimum acres (except where noted based on a population of 26,400.

[3]Existing parks acreage presently in Ponca City.

[4]Acres of parkland needed to meet minimum standard: - deficiency, + surplus.

[5]Dan Moran, Pioneer, War Memorial, and Willow Springs Parks.

[6]Lake Ponca recreation area.

[7]18 holes per 50,000 population.

4. Investigate possibility of converting some existing park space to residential park space in west Ponca City.
5. Require new subdivisions to make available to the proper authorities land for schools and parks.
6. Allow Park and Recreation Board funds and authority to expand and improve recreational areas and their facilities, and to provide proper playground supervision (15).

In 1968, parklands accounted for 3% of the land within the city limits. The master plan for that year set forth the following development policies.

1. The Ponca City park system should contain neighborhood, community, and regional parks of adequate number and size to meet the diversified recreation needs of all citizens.
2. All park sites should be located in accordance with the principals and standards established in this plan.
3. The site-sizes and types of facilities of each type park should be in conformance with the requirements set forth herein (24, p. 7).

A new master plan for Ponca City was done in 1985. It recommends the following recreation policies.

1. A system of parks, recreation and open space will be maintained and developed as depicted on the Ponca City Master Plan map. The maintenance and enhancement of the existing facilities is the priority of the Ponca City park system. The addition of selected park facilities to resolve deficiencies and meet demands is the second priority.
2. Park land will be provided for neighborhoods during the development process through implementation of the Ponca City Subdivision Regulations. A minimum size of useable land will be dedicated for park purposes. In some instances, private park land or open space can be substituted for public dedication.
3. Neighborhood park and recreation areas will be centrally located in neighborhoods and in close proximity to any proposed elementary school sites.
4. The development of recreation and open-space facilities will be coordinated with the development of the flood/storm drainage management system.
5. Local, state, and federal assistance and grant monies will be secured, when feasible, to assist in the development of recreation lands. (47, p. 38).

Trends

The National Park Service conducted a recreation survey in 1982-83 to determine what activities are most often engaged in and to help formulate trend forecasts. The activities most often participated in are shown in Table IV. Walking for pleasure and outdoor swimming had the greatest number of participants of all the activities in the survey.

Activities that are significantly gaining in popularity are bicycling, tennis, canoeing, camping, hiking, walking for pleasure, jogging, and outdoor theatres (includes outdoor performances in an informal setting). Those activities whose popularity has grown but at a more stable pace are horseback riding, golf, outdoor swimming, fishing, and hunting. Results from the national survey indicated the 10% of respondents who said they did not participate in outdoor recreation could be grouped into the following categories: 50 years of age and older, not high school graduates, low incomes, one- or two-person households, and Blacks. Current participation in activities at Lake Ponca is compared to activity participation nationwide, statewide, and regionally in Table V.

Those activities in the national survey appealing to a wide range of age groups were bicycling, golfing, fishing, jogging, swimming, walking for pleasure, nature study, and sightseeing. Waterskiing, outdoor team sports, and backpacking are mostly pursued by youth and young adults. Activities which have lost some participation since 1960 are picnicking, driving for pleasure, sightseeing, and ice skating; however, all except ice skating still remain high in their participation rates. Activities more associated with higher income groups are golf and boating.

TABLE IV

FAVORITE ACTIVITIES*

Activity	Total Sample		Participants	
	Participated Once or More in Last Year	Particularly Enjoyed	Particularly Enjoyed	Most Enjoyed
Bicycling	32	10	30	7
Horseback riding	9	4	40	16
Golfing	13	6	46	19
Tennis outdoors	17	8	45	12
Outdoor team sports	24	17	72	33
Boating	28	5	16	5
Canoeing/Kayaking	8	1	16	3
Sailing	6	1	19	7
Waterskiing	9	3	32	10
Swimming outdoors	53	10	18	6
Fishing	34	20	58	18
Hunting	12	9	75	28
Camping	24	12	51	18
Backpacking	5	1	15	6
Day hiking	14	5	37	9
Walking for pleasure	53	9	17	5
Running or jogging	26	5	19	5
Birdwatching or other nature study activities	12	1	7	2
Picnics	48	4	8	2

* Nationwide Recreation Survey, 1982-83 (Washington, D.C., 1983), p. 24.

NOTE: Percentage of total sample and of participants who said they "particularly enjoyed" or "most enjoyed" selected activities. Respondents who said they engaged in the activity once or more during the prior 12 months were counted as participants.

TABLE IV (Concluded)

Activity	Total Sample		Participants	
	Participated Once or More in Last Year	Particularly Enjoyed	Particularly Enjoyed	Most Enjoyed
Driving for pleasure[1]	48	1	1	(x)
Sightseeing[1]	46	1	2	(x)
Off-road vehicle driving (includes motorcycles but not snowmobiles)	11	1	9	4
Ice skating	6	1	10	3
Snow skiing	9	4	49	17
Snowmobiling	3	(x)	12	3
Sledding	10	(x)	1	(x)
Visiting zoos, fairs, or amusement parks[1]	50	(x)	1	(x)
Attending outdoor sports events[1]	40	1	2	(x)
Attending outdoor concerts, plays, or other outdoor performances[1]	25	(x)	1	(x)

x Less than one half of one percent.

[1]May not have been perceived as an "outdoor activity" by all respondents. The respondents were asked to name the activities they "particularly enjoyed doing" and "most enjoyed doing" before they were shown the activity list.

NOTE: Percentage of total sample and of participants who said they "particularly enjoyed" or "most enjoyed" selected activities. Respondents who said they engaged in the activity once or more during the prior 12 months were counted as participants.

TABLE V

OUTDOOR RECREATION ACTIVITY

Activity	Nationally[1]	Statewide[2]	NODA Region[3]	Lake Ponca[4]
Swimming	1	2	2	13, 7 Wentz
Walking	2			8
Picnicking	3	4	4	1
Pleasure Driving	4	-	-	2
Sightseeing	5	-	-	2
Bicycling	6	1	1	21
Team Sports	7	6 baseball 9 softball	5 baseball 7 softball	24 -
Fishing	8	3	3	5
Camping	9	14 vehicle 16 tent	14 vehicle 16 tent	19 22 Wentz
Jogging	10	-	-	8
Spectator Sports	11	-	-	17 Grand Prix
Outdoor Theater	12	-	-	-
Tennis	13	10	13	-
Motor Boating	14	7	10	11
Golfing	15	12	12	15
Bird Watching	16	-	-	12
Nature Study		-	-	-
Off-road Vehicles	17	13	8	-
Horseback Riding	18	5	6	-
Waterskiing	19	15	15	14
Canoeing	20	20	18	-
Sailing	21	19	19	20
Ice Skating	22	-	-	-
Hiking	-	17	17	-
Relaxing	-	-	-	3
Duck Ponds	-	-	-	4
Sunbathing	-	-	-	6
Boat Show	-	-	-	9
Children's Playground	-	-	-	10
Frisbee	-	-	-	16
Archery	-	-	-	23

[1]Oklahoma Statewide Comprehensive Outdoor Recreation Plan (Oklahoma City, 1982).

[2]Ibid.

[3]Ibid.

[4]Community Survey, April, 1987.

NOTE: Rankings are based on popularity measured by participation in the activity.

Fogg, in his book, Park Planning Guidelines Revised, discusses how park usage is interrelated. Seventy-seven percent of fishermen picnic, 63% swim, 26% boat, 26% hike, and only 10% just fish (21, p. 167). Seventy-five percent of swimmers picnic, 21% hike, 19% fish, 13% boat, and 16% only swim (Fogg, 21, p. 117). For hikers, 83% picnic, 56% swim, 21% fish, 11% boat, and 3% only hike (Fogg, 21, p. 32). Campers are more diverse--71% swim, 55% fish, 53% hike, 24% pleasure drive, 23% attend nature programs, 22% play outdoor games, 18% rent boats, and 17% have their own boats (Fogg, 21, p. 83). The breakdown for rental boat users versus nonrental boat users was similar except in swimming and picnicking participation. Rental boaters participated as follows: 80% picnic, 70% swim, 40% fish, 20% hike, and 8% boat only. For nonrental boaters, 50% fish, 40% picnic, 25% swim, 15% hike, and 8% boat only (Fogg, 21, p. 129). One explanation is that rental boaters tend to be younger.

Short-term trends for different activities are shown in Table VI. Outdoor recreation facility needs statewide and regionally are noted in Table VII.

The primary factors affecting future recreation are increasing population, increased per capita income, increased recreation expenditures, and increased leisure time. However, estimating future trends can be adversely affected by the following: "New factors and new relationships--ones that are not apparent, certainly not measurable at this time--may become significant and some of the present factors and relationships may not work out in the future as a simple extension of post-trends would suggest" (Clawson, 7, p. 111).

TABLE VI

SHORT-TERM ACTIVITY TREND INDICATORS*

Activity	Annual Participation Rate[1]	Started in Prior Two Years[2] [3]	Stopped in Prior Two Years[2] [4]	Expected to Start in Next Two Years[2] [4]
Bicycling	32	5	5	3
Horseback riding	9	9	7	15
Golfing	13	21	8	15
Tennis outdoors	17	17	7	20
Boating	28	-	4	16
Canoeing/Kayaking	8	27	3	16
Sailing	6	29	3	16
Waterskiing	9	-	8	26
Swimming outdoors	53	-	(x)	(x)
Fishing	34	6	5	5
Hunting	12	12	13	7
Camping	24	-	2	5
Backpacking	5	17	5	14
Day hiking	14	10	3	9
Walking for pleasure	53	-	1	1
Running or jogging	26	-	5	6

* Nationwide Recreation Survey, 1982-83 (Washington, D.C., 1983), p. 33.

- Not ascertained for certain activities.

x Less than one half of one percent.

[1]Percentage of total sample who said they participated once or more during 12 months prior to interview.

[2]Expressed as a percentage of current participants (first column).

[3]Based on the difference between age on starting the activity and current age. Not ascertained for certain activities.

[4]Persons who said they stopped during the prior two years and expect to start in the next two years were not included in these percentages.

NOTE: Percentage who said they started, stopped, or intended to start activity during a two-year period.

TABLE VI (Concluded)

Activity	Annual Participation Rate[1]	Started in Prior Two Years[2] [3]	Stopped in Prior Two Years[2] [4]	Expected to Start in Next Two Years[2] [4]
Birdwatching or other nature study activities	12	13	(x)	2
Picnicking	48	-	1	(x)
Driving for pleasure	48	-	(x)	1
Sightseeing	46	-	1	1
Off-road vehicle driving (includes motorcycles but not snowmobiles)	11	24	3	2
Ice skating	6	-	6	10
Snow skiing	9	-	5	24
Cross-country Skiing or Ski Touring	3	42	3	33
Snowmobiling	3	24	7	19

- Not ascertained for certain activities.

x Less than one half of one percent.

[1]Percentage of total sample who said they participated once or more during 12 months prior to interview.

[2]Expressed as a percentage of current participants (first column).

[3]Based on the difference between age on starting the activity and current age. Not ascertained for certain activities.

[4]Persons who said they stopped during the prior two years and expect to start in the next two years were not included in these percentages.

NOTE: Percentage who said they started, stopped, or intended to start activity during a two-year period.

TABLE VII

OUTDOOR RECREATION FACILITY NEEDS*

Activity	Need-State[1]	Need-Region[2]
Baseball	-864 diamonds	-17
Biking	-13,148 trail miles	-625
Canoeing	+109 water acres	-13
Fishing	+126,235 water acres	+26,084
Golfing	-2,957 holes	-188
Hiking	+62 trail miles	-2
Horseback riding	4,669 trail miles	-166
Hunting	-315,787 acres	-72,491
Motor boating	+444,376 water acres	+58,413
Picnicking	+1,017 tables	+294
Sailing	+542,368 water acres	+61,795
Softball	-579 diamonds	-13
Swimming	-3,532 pools	-130
Tennis	-1,029 courts	-19
Tent Camping	-716 sites	-117
Vehicle Camping	+371 sites	+816
Water Skiing	+480,764 water acres	+58,793

* Oklahoma Statewide Comprehensive Outdoor Recreation Plan (Oklahoma City, OK, 1982), pp. 129 and 170.

[1]Facility needs based on statewide total

[2]Needs for Northern Oklahoma Development Association, NODA, of which Kay County is a part.

CHAPTER IV

LAKE PONCA SITE INVENTORY AND ANALYSIS

Special Interest Areas

The parklands at Lake Ponca include approximately 1600 acres; about half of which is water. Lake Ponca has several existing special-interest areas: West Lake Ponca, East Lake Ponca, Lew Wentz Golf Course, Wentz Camp, campgrounds, Nature Center, archery area, Lake Ponca Park, and Ambucs Park.

West Lake Ponca

West Lake Ponca has been designated for use by fishing boats and power boats. Waterskiing is permitted here. There are three boat ramps on West Lake Ponca; one is no longer in use. The eastern shore is lined with ski boat docks and patio docks (space leased by user to build his own patio on shore and/or dock on the water). The western shore is lined with cabin docks as well as patio docks. The difference is that the cabins are enclosed structures rather than open patio structures. Only electric service is provided to the patios and cabins, no water or sewer services. They are not used at night after park hours.

East Lake Ponca

East Lake Ponca is restricted to fishing, canoes, and sailboats. There is a sailboat marina that no longer has docks. There is a ramp at the marina as well as an older gravel ramp area to the south. The northern end of this lake is shallow and used primarily by fishermen. There is one fishing dock next to the canal connecting East Lake Ponca to West Lake Ponca. Swimming is prohibited in both lakes.

Lew Wentz Golf Course

The golf course consists of an 18-hole golf course and clubhouse. It has 6,730 total yards and a 71 par. There are three ponds on the site that is surrounded by West Lake Ponca on two sides. Its topography is gently rolling and provides good views of the lake area. It is a public course and has daily fees of $6.50-$7.50 as well as annual memberships.

Ron Locke, the course pro, estimates about 200 play per day on peak days. In the past, records were not kept as to how many were on the course because those with annual memberships did not sign in. However, attempts are being made to keep more accurate records in the future. There is a men's golf association with 250 members, but it is merely a social organization with no voice in golf course decisions.

There are approximately 12 men's tournaments and 6 women's tournaments per year. The course is also used by the high school and junior high golf teams for practice and tournaments. May through August are the busiest months with weekends and holidays being the peak times.

When the new clubhouse was built, there was some protest from residents because it was built where the Wentz Camp tennis courts had been.

The 18 holes remained the same after the new clubhouse was added; only the hole numbers were changed. New concrete cart paths have been added recently. The course is presently undergoing renovation to the irrigation system. Aerial photos were used to help locate the heads; new heads and pipes are being added to improve the sprinkler coverage.

Locke, like the golfers who answered the survey, said a driving range is the most needed addition to the course. Presently lessons and practice take place in the pageant area.

Wentz Camp

Wentz Camp was built in 1930 by Lew Wentz "for the benefit of campers from religious, educational, and scout groups" (46, June 8, 1970). Upon his death, Wentz willed the camp to Ponca City, which has operated it since then. Originally, the camp consisted of 172 acres but 109 acres were submerged when West Lake Ponca was built. The city also purchased 51 acres for parkland along the shore; thus the present camp occupies 12 acres.

The whole camp is rented out to groups. In 1970, the cost was $40 per day or 65¢ per person, whichever was more. Today, the charge is a minimum of $100 plus $3 per person over 35 persons. The camp accommodates 120 persons if all the bunks are used. An application for camp rental and the camp rules are in the Appendix, pp. 160-161; it was printed in 1970. Campers have use of the pool and mess hall. In the past, they also used a firepit down by the water for bar-b-ques.

The pool is operated as part of the camp but is open to the public as well. In 1930, there was no charge but by 1939 the fee was 15¢ for

children. It was raised to 25¢ in 1970; today the charge to children is 50¢.

Helen Smith, caretaker with her husband from 1939-1969, recalled how busy they were. The camp was rented all summer long to "regular" groups who had come up to 20 years--4-H'ers from Oklahoma and Kansas, church groups from Oklahoma and Kansas, Crippled Children's Home in Oklahoma City, and Masonic Children's Orphanage in Guthrie. She remembers Myron Roderick as one of the "Methodist boys" who later brought his wrestling camps there. In the spring, the camp was a retreat for high school and college groups (56). Beauty pageants were held at the pool with a ramp laid across it for the girls to parade on. Miss Ponca City and Baby Ponca were selected here.

Carl and Sarah Bain were caretakers from 1969 until earlier this year. They reported that repairs were being done to the pool restroom areas this year. The cabins need new mattresses, awnings are needed at the pool, and the original pool tiles are loosening. The water tower was converted to a lookout tower by Wentz after he purchased it. A spiral staircase was built that led to a viewing platform. However, the steps were declared unsafe in 1985, and it is no longer used.

Attendance has declined in recent years at the camp. There are still some regular church groups and family reunions but many churches now own their own camping areas. Bain said there was a cancellation by one family reunion in the past because the camp does not have handicapped accessibility. June is the peak month for the camp--it is rented nearly every day.

The pool is used mostly by junior high age children and younger. Bain said the older teenagers usually go to the swimming beach at Kaw

Lake. The concession stand and life guarding duties provide summer employment for Ponca City youth.

Now as in the past there is no advertising for Wentz Camp. Campers find out about it by word of mouth. In the past, groups who regularly used the facilities even printed their own postcards for their members to send greetings from Wentz Camp. Examples are shown in the Appendix, pp. 162-163.

Campgrounds

Robert Brown is the present caretaker at the campgrounds. There are presently hookups for 30 vehicles around a circular drive with little to no private space. There are shared accommodations for picnicking, outdoor cooking, and water. The restroom building is in fair condition but needs improvement. The original elm trees that once shaded the area are in poor condition, or have died and been removed, leaving most of the campsites in the sun. The fishing dock is no longer afloat and the path to it is nonexistent. Some of the complaints by campers, in addition to the above, are for pest control, wood for the fire pit, better road and camping pavement, and lack of paper towels in the restrooms (6).

The summer is the busiest time, from the end of May to the middle of September. They average 30 vehicles per week during this period. There are 10-15 regular campers; they are elderly and camp on the weekends. Recently, transient workers have accounted for as much as one third of the usage. One week is the maximum stay allowed at one visit; the charge is $4.50 per night with electricity but no air-conditioning or $5.50 with air-conditioning.

Nature Center

In 1975, the five science teachers at the Ponca City High School proposed to the city that 35.55 acres at Lake Ponca be preserved as an "ecology study area." They made the argument that this natural setting would give students an outdoor classroom to further enrich their academic studies in the sciences. They also emphasized its being used by others in the community and beyond "resulting in good publicity and in good community relations" (62).

The city agreed to lease the acreage to the Board of Education for just such a purpose, "to be utilized as an outdoor classroom, laboratory, ecology study area, and public nature trails." The science department was put in charge of constructing and maintaining nature trails through the area. The area was also restricted to walking only.

In our discussion, Bob Wilson said the students go to the area once a year to renovate the trails and study the area. Budget cuts have forced them to no longer have bus service to the Nature Center or be able to utilize it as they would like. He and others also have guided visitors through the area; however, no effort has really been made to publicize the area to other schools and interested groups outside of Ponca City (62).

There is a sign at the site denoting it as a Nature Center, but there is no parking lot. There are numerous trails through the area, but no map is available at the gate. Trails are not marked, nor are there any informational signs within the area. However, the area has an abundance of variety in vegetation and wildlife. There has been minimal disturbance by man so wildlife still abounds.

Lake Ponca Park

The area south of the spillway and dam on West Lake Ponca is known as Lake Ponca Park. It was the original campsite for the CCC in 1935. A huge stone shelter remains complete with two large fireplaces and tables and benches. A new roof was put on this year and painting done on the furniture and wood trim of the structure. A second shelter was built by the Parks and Recreation Department and both are available for reservations with no charge for their use.

There is a stone restroom building that needs new windows and roof repair but is still in good condition. There are stone paths but many have become uneven and even disappeared under soil and vegetation. There are two pedestrian stone bridges and stone entrance gates to this area that are reflective of the care and craftsmanship that went into them fifty years ago. There are picnic tables and fireplaces here, although many were lost in the flooding of 1986. The spillway empties into a creek here and provides a scenic backdrop to many gatherings. The area is shaded by many larger elms that are still in good condition.

The caretaker, Richard Eller lives in a house on the property; he keeps he area clean and locks the gates at 10:00 p.m. in the evenings. Some of the problems he and I discussed are littering, lack of adequate parking during peak times, protection for the ducks on the road, unleashed dogs, poison ivy on the west bank, shelter reservations, lack of handicapped access to shelters and restrooms, and unsupervised children (16).

Ambucs Park

Playground equipment was donated by Ambucs, a civic club, for pre-school through elementary-age children. The equipment is in need of painting and repair, and the whole area needs refinement--a parking area is not specified, trees have been lost and not replanted, surfaces need to be improved, benches for parents are needed, and additional play equipment is desired.

Archery Area

This is a large area south of Prentice Road that has been designated for archery. The local archery club is in charge of its maintenance. However, abuse of the area is obvious. Litter and rubbish were observed on several occasions. A makeshift toilet was the result of nailing 4' × 8' plywood sheets to a tree. The public survey results showed the participation rate and need for this facility to be very low.

Pageant Area

This is a peninsula-like area on East Lake Ponca. The sailboat marina is located here as well as restrooms that are in poor condition.

The area has been used in many ways: outdoor pageant, golf practice, kite flying, dog running, frisbee tossing, and as a parking lot during special events. There is a small parking area off L. A. Cann Drive to the one floating fishing dock in the park. The walk and steep steps leading to it are dangerous, especially for the elderly.

Lake Office

Melvin Schoonover, the lake patrolman, lives in a home that also serves as the park office. Here visitors can purchase fishing, boating, and waterskiing permits and leases for docks. In this area are restrooms and an old stone fishing pier. There is a concession stand that is painted a lime green color as are all the restrooms in the park. The snack bar has not been successfully run in past years, but this summer it was leased to a private vendor.

Geology

The Ponca City area is located within the Central lowlands physiographic province known as the Northern Limestone Questa Plains and Redbed Plains. It is characterized by "questa-type ridges with gentle westward (facing) slopes" and "eastward facing escarpments formed by resistant limestones overlying the shales" (33, p. 1).

The limestone and shale are in the Council Grove and Chase Groups from the Permian Age. The Cottonwood Limestone in the Council Grove Group is approximately 7 feet thick and 110 feet of alternating beds of shale and limestone of the Garrison Formation" (17, p. 3-1).

Herrington Limestone is in the Chase Group and underlies Ponca City and is approximately 25 feet thick. It can be seen on the western edge of West Turkey Creek in Lake Ponca Park. These limestone bluffs were quarried by the CCC in 1935. Under the Herrington Limestone is Enterprise Shale; and underlying the shale is 10 feet of the Winfield Limestone. Overlying the Herrington Limestone is the Wellington Formation.

It "consists primarily of red shales, gray dolomite, and some sandstone" (17, pp. 2-3).

Soils

There are six range sites at Lake Ponca: loamy bottomland, loamy prairie, sandy prairie, eroded clay, very shallow, and deep sand savannah (Figure 1, p. 36). Each range site "consists of soils that support similar vegetation and are similar in depth, texture, permeability, and topography" (59, p. 41). Over time, differences can arise in native vegetation, especially the climax vegetation, as a result of changes to the soil profile. The following five factors contribute to soil formation: (1) plant material, (2) climatic conditions, (3) plant and animal life, (4) landforms, and (5) time (59, p. 63).

Loamy bottomland is the most productive soil in Kay County. The three soils in this range at Lake Ponca are Broken Alluvial land, Dale clay loam, and Kaw silty clay loam. These sedimentary soils are level to 1% slopes with 0-15% terraces. They are found along rivers and streams and are composed of deep, loamy soils. The soils are permeable, well-drained, high in organic content, fertile, but susceptible to flooding (59, p. 45).

Loamy prairie soils predominate at Lake Ponca. They are Labette clay loam, Labette soil, Newtonia silt loams, Newtonia clay loam, Sogn-Summit complex, and Vanoss silt loam. Slopes for these soils are as follows: Labette 3-8%, Newtonia 1-5%, Sogn-Summit 5-20%, and Vanoss 3-5%. These soils range from 1-20% slopes, are deep and fertile, are slowly permeable, and are susceptible to water erosion. Newtonia soils

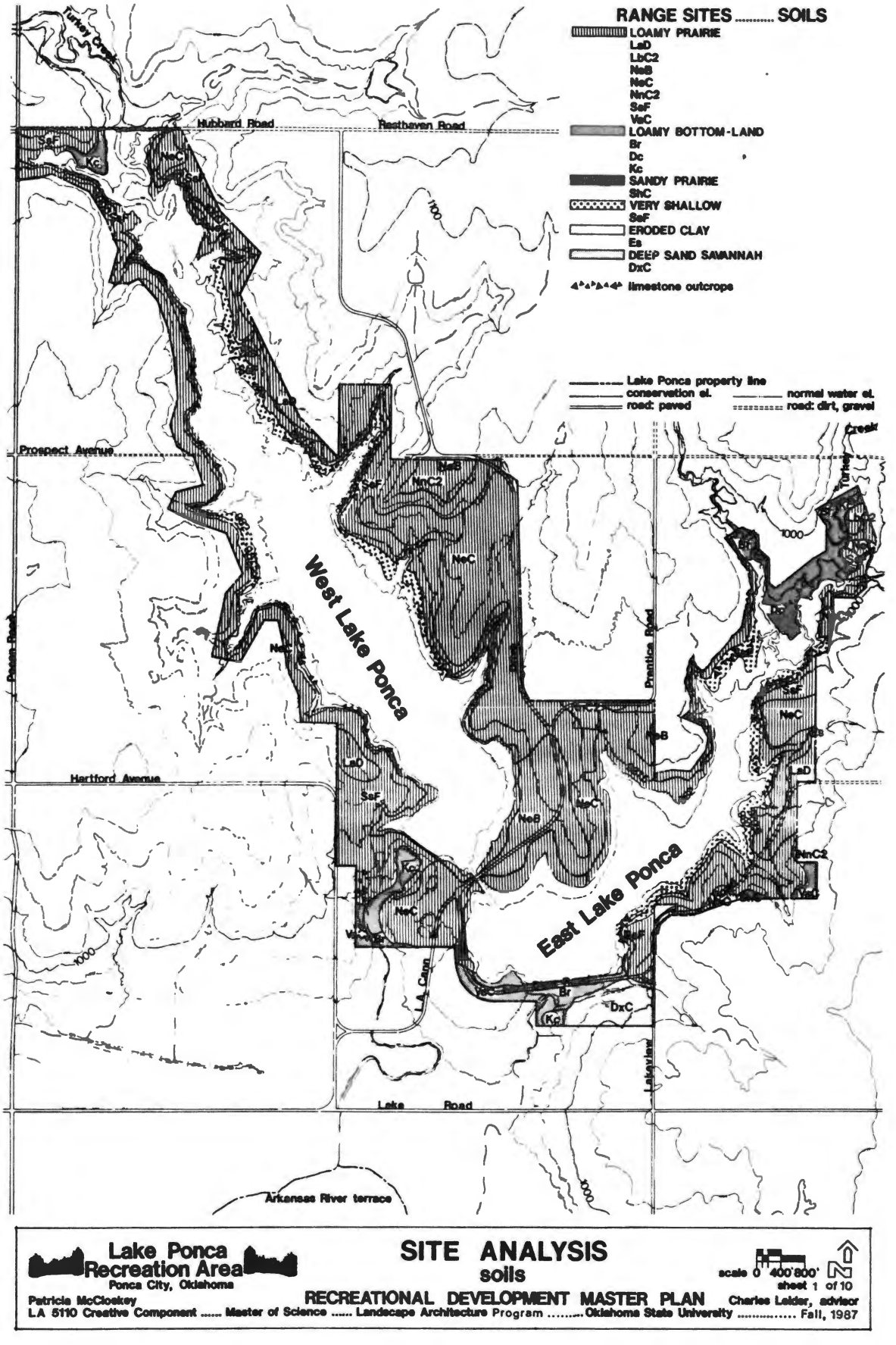


Figure 1. Soils

have limestone outcrops at 20-50" depth, and Sogn-Summit soils have limestone ledges and deep gullies (59, p. 46).

One sandy prairie soil is at Lake Ponca, Shellabarger fine sandy loam. It has 3-5% slopes and is susceptible to water and wind erosion. It is well-drained, fertile, and has medium acidity (59, p. 47).

A small amount of eroded clay is on the site. It has 2-8% slopes. Water erosion has created gullies, sheet erosion, and slick spots (59, p. 44).

The Sogn part of the Sogn-Summit complex is in the very shallow range site. It has 1-3% slopes and is found above limestone escarpments. It is well-drained and fertile but susceptible to erosion if there is no vegetative cover. This soil is very shallow, stony, and droughty (59, p. 47).

The deep sand savannah soil in the Lake Ponca Nature Center area is Dougherty-Eufaula complex. It has 3-8% slopes, is well-drained, is slightly-to-medium acid, and has medium-low fertility. It is susceptible to wind erosion (59, p. 43).

The following soils have good topsoil: Dc, Kc, LaD, NeB, NeC, and NcC2. Br and VaC are fair sources of topsoil. Rated poor for topsoil are the following: Es--too shallow and clayey, ShC--easily eroded, and SnB, SsF--too shallow and stony. Some development limitation characteristics are noted for the following soils: Br--flooding and high seepage, Es--high shrink and swell potential, NeB, NeC--unstable when wet, SsF--hard limestone at less than 1 foot depth, and VaC--unstable when wet.

Those soils most often associated with limestone outcrops also are those with steeper slopes. Special consideration should be given to these areas to incorporate the natural limestone in the development

design. This limestone is often the result of stream erosion exposing limestone ledges such as along the southwest boundary of the park where limestone was quarried when the park was first built in the 1930s.

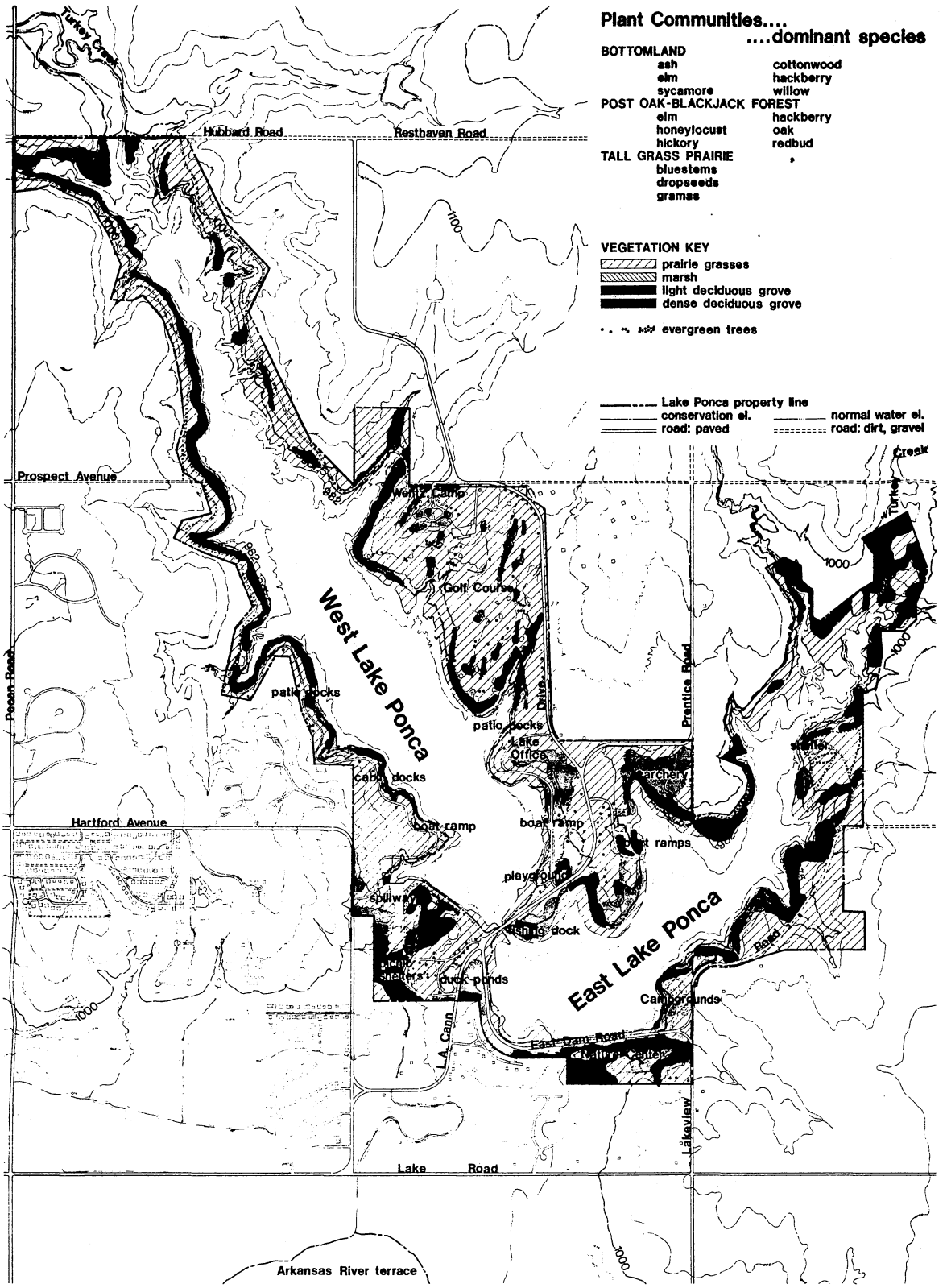
The above soil characteristics should be considered before development occurs. Those soils that are more conducive to development will require less preparation and will, in turn, be more cost effective.

Vegetation

Lake Ponca is located in the Central Rolling Red Prairie and Bluestem Hills areas of Oklahoma. Three major plant communities are found on the site: bottomland (floodplain), post oak-blackjack forest, and tall grass prairie (Figure 2, p. 39).

The plants listed in Tables XX, XXI, and XXII in the Appendix are a compilation of the on-site inventory of existing plants--plants that are common to the soil types found on the site (59, pp. 43-47) and the comprehensive list of plants found in the U.S. Corps of Engineers Environmental Statement for Kaw Lake (18, pp. E2-E6). Mr. Don Hicks, biologist with the Wildlife Conservation Service at Kaw Lake, stated that the proximity of Lake Ponca to Kaw Lake would mean that most of the vegetation and wildlife species would be the same for both lakes now or, at least, in the past before improvements were made (28).

Trees are predominantly found in the bottomland areas along the stream banks of both Turkey Creeks and along the shores of Lake Ponca. A few sparse stands of trees are found in the upland areas. The bottomland with its trees and understory plants provides an excellent wildlife habitat.



Lake Ponca Recreation Area
Ponca City, Oklahoma

SITE ANALYSIS
vegetation

RECREATIONAL DEVELOPMENT MASTER PLAN

scale 0 400'800'
sheet 3 of 10

Patricia McCloskey
LA 5110 Creative Component ..... Master of Science ..... Landscape Architecture Program .....Oklahoma State University ..... Fall, 1987
Charles Leider, advisor

Figure 2. Vegetation

There is a unique 40-acre site at Lake Ponca that has been designated the Nature Center. The minimum recommended acreage for a nature area is at least 50 acres; however, these 40 acres are rich with an abundant array of plant and wildlife habitats. There is a swampy marsh area with water plants, a dense evergreen area that is dark and barren of understory plants, a sandy area with canopied osage orange trees, areas of hardwoods and softwoods with thick undergrowth, and a prairie area with numerous native grasses and wildflowers.

It is recommended that a thorough on-site inventory of existing plants be done in the future before disturbance to any area occurs for development. That will enable developers to identify existing specimens and desirable plants that should be preserved.

Wildlife

Table XXIII in the Appendix lists mammals, amphibians, and reptiles native to the Lake Ponca area, but whose numbers have lessened as man has encroached upon the area. This is a compilation of the list in the Kaw Lake Public Use Report and information supplied by Don Hicks, biologist for the Oklahoma Department of Wildlife Conservation (28).

Mammals most likely found are opossum, least shrew, racoon, mink, skunk, coyote, white tipped red fox, bobcat, eastern fox squirrel, plains-pocket gopher, beaver, mica, muskrat, cottontail rabbit, and whitetail deer. One notes, however, that the fox and coyote don't coexist so only one will be present in any specified area.

The most common amphibians and reptiles at Lake Ponca are the snapping turtle, stinkpot turtle, green-shell slider turtle, Carolina turtle,

prairie kingsnake, speckled Bragsnake, and copperhead snake. There are no water moccasins here.

Lake Ponca is located in the central flyway for migratory birds, and many of these can be sighted in the spring and fall here. Birds most often seen are as follows: pelican, double-crested cormorant, mallard duck, gadwell, pintail, shoveler, pigeon, puddle duck, canvasback, lesser scaup diving duck, goldeneye duck, red-tailed hawk, broad-winged hawk, rough-legged hawk, bald eagle, marsh hawk, bobwhite quail, coot, barn owl, screech owl, great horned owl, yellow-shafted flicker, red-headed woodpecker, downy woodpecker, scissor-tailed flycatcher, horned lark, blue jay, chickadee, titmouse, nesthatch, wren, robin, warbler, blackbird, grosbeak, purple finch, goldfinch, towfee, sparrow, snowbird junco, bluebird, and cardinal. In addition to the above, Table XXIV in the Appendix lists all the birds one might sight in the area.

Hicks did a thorough fishing survey of Lake Ponca in 1985. A fishing survey is done about every five years. He routinely checks the lake and makes recommendations to the city for fish management and improvements.

Hicks made the following recommendations for improved fish management at Lake Ponca (Hicks, 27, pp. 11-13):

1. an education program to inform fisherman of the current fishing regulations;
2. enforcement of restrictions;
3. a regular stocking program;
4. drawdown of the lake every two or three years;
5. continued maintenance of recently installed fish attractors; and
6. construction of two to four acres of fish culture ponds.

One concern is with the siltation that has resulted from the shoreline erosion. Along the shoreline where there are limestone outcrops and shallow soil and little vegetative cover, it is most apparent. Some fish

such as the spotted bass and large-mouth bass need shoreline brush for their habitat, according to Hicks (28). He said one finds walleye and striped bass hybrids in older lakes; whereas channel catfish, large-mouth bass, and bluegill are stocked in new lakes. A complete list of fish possibly found in Lake Ponca is found in Table XXV in the Appendix.

Originally, the duck ponds were intended to be breeding ponds in which to stock smaller fish and remove them to the larger lake when they had achieved their needed size. However, it is presently impossible to drawdown these ponds, which would be a necessary part of the breeder-pond concept.

The lake does benefit from having both deep and shallow waters for different fish habitats. However, the fish management program would benefit from weekly records of water level and temperature. Some fish, such as the threadfin shad, is vulnerable to low temperatures. Also, deep water, 15-18 feet, contains less oxygen and also drops in temperature (28).

Fishermen would like more large-mouth bass and fewer crappie. In order to increase the large-mouth bass population, according to Hicks, a drawdown of the lake needs to occur. This would enable a vegetative cover to be planted that, when the water filled, would create a protective spawning area for the fish.

Drainage--Slopes

Elevations in Kay County range from 1300 feet MSL in the east to less than 1000 feet MSL in the west. Slopes on the site range from 0-15% and are illustrated in Figure 3, p. 43.

Slopes of 0-5% are level to nearly level. Oftentimes they comprise bottomlands along streams. They have the fewest limitations as to use

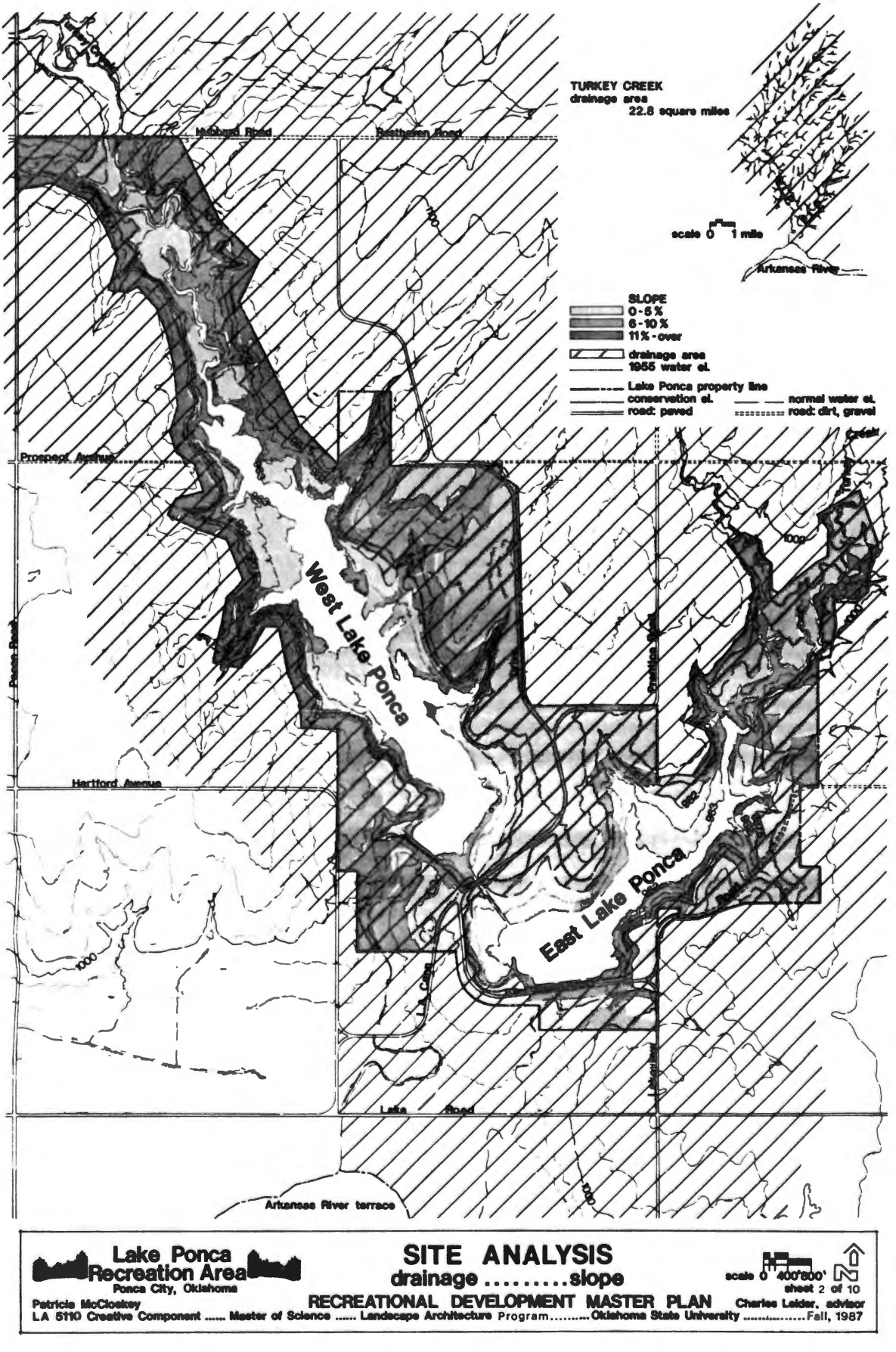


Figure 3. Drainage--Slope

and are easily built upon. Slopes 6-10% are gently rolling to slightly steep. Here consideration must be given to handicapped access when the slope approaches 8%. When the slopes are over 10%, their use becomes more limited and special consideration for improvements are necessary. Associated with these steep slopes are the abundant limestone outcrops along the shoreline.

The drainage area consists of the two Turkey Creeks watersheds, sometimes known as Big Turkey Creek and Little Turkey Creek or West Turkey Creek and East Turkey Creek. West Turkey Creek has a watershed area of 8740 acres or 13.7 square miles. East Turkey Creek has a watershed of 5860 acres or 9.1 square miles. They combine for a total drainage area of 14,600 acres or 22.8 square miles. Both Turkey Creeks flow into the Arkansas River located 1½ miles downstream of Lake Ponca.

West Lake Ponca has an uncontrolled spillway 850 feet long with a vertical fall of 56.5 feet. The spillway is 245 feet wide at its crest. Originally the spillway was 450 feet long when it was built in 1935 but was lengthened in 1944. This resulted from the dam being raised to increase the lake's water storage capacity (17, p. 6-1). An intensive evaluation was done by Poe and Associates in July, 1980, of the dam and spillway structures. Some of the problems foreseen in their report have occurred with the torrential rains during the fall of 1986. Several sections of the spillway walls have collapsed and the concrete and underlying soil washed downstream. FEMA funds are being used to assist with the necessary replacement of the spillway walls and damage to the adjacent picnic area. Below the spillway, top soil has been replaced and replanted with grass. However, many of the 50-year-old stone fireplaces are lost forever.

There are 3.2 miles of pool length and 0.5 mile pool width at Lake Ponca. The lake averages 5.1 feet in depth but reaches 64 feet in the deep middle region. There are 805.4 surface acres of water and 4140 acre feet of water therein. Normal water elevation is 98.5 feet MSL, and the conservation pool is 99.2 feet MSL. Outflow depth is 53.0 feet, and there is a discharge outlet at 942 MSL. There are 15.4 miles of shoreline but only 3.9 miles have actually been developed (Hicks, 27, p. 2).

Climatic Factors

Ponca City is located in a temperate, subhumid climate typified by hot summers and mild winters. Weather changes are influenced by air masses/pressure systems moving across the North American continent. The summers are most influenced by the warm, moist air from the Gulf airstream; winters are affected by the colder, dry air from the Arctic Circle. Spring and fall usually are a combination of the Gulf and continental air masses and the cooler, moist air from the Pacific Coast.

Average temperature maximums and minimums are shown in Table VIII from data collected during the years 1931-1960. The average temperatures from the year 1983 for each monthly period are as follows:

Jan	36.1°F	July	83.1°F	
Feb	41.5	Aug	86.1	
March	47.9	Sept	75.0	
April	54.0	Oct	61.6	
May	65.2	Nov	49.6	
June	73.0	Dec	21.4	(59, p. 83)

The average daily temperature for the year 1983 was 57.9°F (9).

TABLE VIII

TEMPERATURE AND PRECIPITATION[1]

Month	Temperature				Precipitation				
	Average Daily Maximum (°F)	Average Daily Minimum (°F)	Two Years in Ten Will Have at Least Four Days With-- Maximum Temperature Equal to or Higher Than-- (°F)	Two Years in Ten Will Have at Least Four Days With-- Minimum Temperature Equal to or Lower Than-- (°F)	Average Total (Inches)	One Year in Ten Will Have-- Less Than-- (Inches)	One Year in Ten Will Have-- More Than-- (Inches)	Days With Snow Cover of 1 Inch or More (Number)	Average Depth of Snow on Days With Snow Cover (Inches)
January	47.8	26.4	67	8	1.04	0.1	2.5	2	2
February	53.2	29.8	73	12	1.23	0.3	2.2	1	2
March	61.8	36.3	79	19	1.92	0.3	3.7	1	2
April	73.0	48.0	86	32	3.13	0.6	7.1	([2])	7
May	81.1	57.3	92	44	4.71	1.0	10.5	0	--
June	90.8	66.7	101	55	4.43	1.9	8.3	0	--
July	96.0	71.0	105	62	3.60	0.2	9.1	0	--
August	95.9	70.4	107	61	3.09	0.7	5.9	0	--
September	87.7	62.1	100	47	3.52	0.5	7.6	0	--
October	76.5	51.3	91	36	2.41	0.1	6.4	0	--
November	60.5	37.3	76	21	1.70	([3])	4.0	([2])	1
December	50.6	29.7	67	14	1.33	0.1	2.8	1	3
Year	72.9	48.9	107[4]	1[5]	32.11	43.2	21.2	5	3

[1]Soil Survey, Kay County, Oklahoma (Washington, D.C., 1967), p. 83; Period of record from 1931-60.

[2]Less than 0.5 day.

[3]Trace, amount less than 0.05.

[4]Average annual highest maximum temperature.

[5]Average annual lowest minimum temperature.

Precipitation maximums and minimums are also included in Table VIII. Precipitation usually increases in the spring. "About 35 percent of the annual precipitation occurs in summer, 30 percent in spring, 24 percent in fall, and 11 percent in the winter" (59, p. 83). May usually has the most precipitation; with January having the least. The average monthly precipitation rates for the year 1983 are as follows:

Jan	0.91 inches	July	0.39 inches
Feb	2.06	Aug	1.65
March	4.3	Sept	3.33
April	2.52	Oct	5.23
May	6.29	Nov	1.4
June	3.54	Dec	0.54

The yearly total for 1983 was 32.16 inches (9). Temperature and precipitation are furnished to the Department of Commerce by the FAA at the Ponca City airport. It is located at latitude 36°44', longitude 97°6'W, and elevation of 999' MSL. It is common to have a dry spell followed by hard rains, sometimes amounting to 2-4 inches. "The most rain recorded in a 24-hour period was 5.60 inches . . . in July, 1945" (59, p. 83).

There are usually 195-210 freeze-free days annually. The last freeze-day in the spring and the first freeze-day in the fall on the average are shown in Table IX.

Winds are predominantly southerly except in January and February when they usually come from the north. Wind speed averages 12 miles per hour. Increased wind speeds can be generated with cold fronts and thunderstorms; sometimes as much as 80-mile-per-hour winds and hail occur during thunderstorms. The months of March through October are the most

TABLE IX

FIRST AND LAST FREEZE DAYS*

Probability	Dates for Given Probability and at Temperature Levels Shown				
	16°F	20°F	24°F	28°F	32°F
Spring:					
1 year in 10, later than	March 21	April 1	April 8	April 10	April 27
2 years in 10, later than	March 13	March 24	April 2	April 5	April 21
5 years in 10, later than	February 27	March 11	March 20	March 27	April 10
Fall:					
1 year in 10, earlier than	November 22	November 8	November 4	October 23	October 17
2 years in 10, earlier than	November 29	November 16	November 9	October 29	October 21
5 years in 10, earlier than	December 14	November 30	November 19	November 8	October 29

* Soil Survey, Kay County, Oklahoma (Washington, D.C., 1967), p. 83.

prone to storms with the greatest threat during April, May, and June (59, p. 84). Ponca City is also located in "Tornado Alley" with this added potential during the thunderstorm season.

Trafficways--Utilities

Existing and proposed utilities are shown in Figure 4, p. 50. A sanitary sewer line runs into the park south of the spillway. It was installed in 1935 before the CCC set up camp here. The same is true of the water line. Mrs. Smith said there was a city water line to Wentz Camp when it opened but that it was disconnected when the lake was impounded (56). The camp and golf course have their own water treatment facility on site. The entire park except for the CCC campsite is on rural water service. There is electrical service to all parts of the lake where there are buildings.

In forecasting the current movement of development by the city westward, city services are proposed east on Lake Road past Lakeview Road. No direct sanitary sewer lines are proposed to the lake presently, but the Park Department foresees this as a probability in its attempt to improve the existing restroom facilities.

Lake Ponca has eight access roads. The main road to and through the park is L. A. Cann Drive. The road crosses the causeway and connects Wentz Camp to the north to the duck ponds in the southern portion. The second most heavily traveled entrance is off Kygar Road and gives access to the western shore of West Lake Ponca. Its asphalt pavement ends at Windmill Cove; there it comes dirt and gravel. It deadends at the northern end of West Lake Ponca where the bridge is out that would connect it

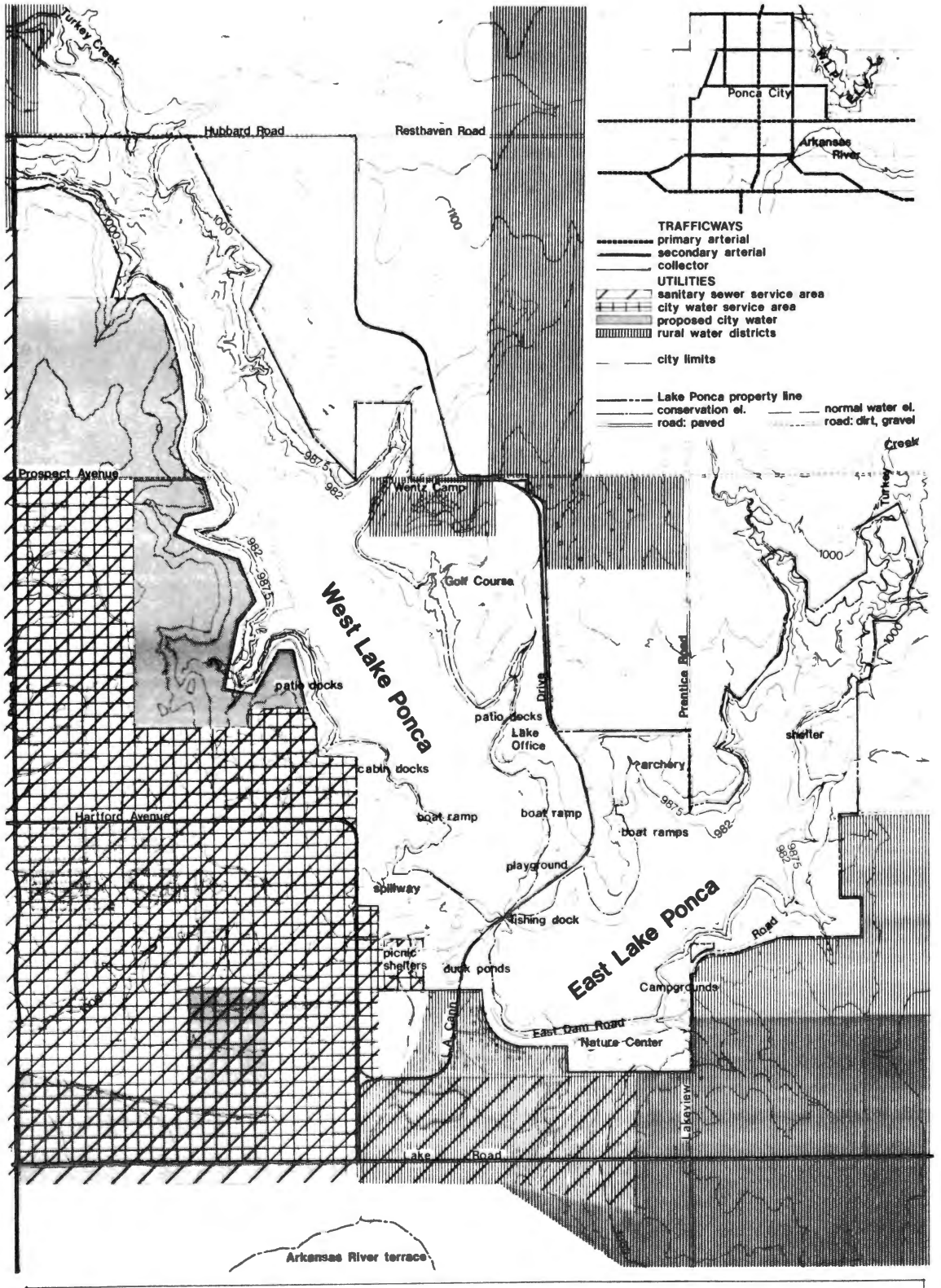


Figure 4. Trafficways--Utilities

to Resthaven Road. Another dirt road connects Wentz Camp to Resthaven Road on the eastern shore of West Lake Ponca.

The main road to East Lake Ponca is East Dam Road, which goes to the Nature Center and campgrounds. It is paved until it goes north of the campgrounds where it becomes a dirt road. Prentice Road is the paved road to the north of East Lake Ponca. All other roads on the East Lake are dirt.

Many of the dirt roads become unaccessible during periods of heavy rain, such as in the fall of 1986. The soil becomes too wet and natural drainage crosses the roads as well. There are no road names or directionals on these roads.

Access to the park off of Lake Road is good; it is only one quarter of a mile north on Kygar Road to L. A. Cann Drive. Lake Road is a primary arterial in Ponca City, and Kygar Road is a secondary arterial. Signage on these two roads could be improved. There is only one sign on Lake Road approximately a quarter-mile before the Kygar Road turnoff. There is no sign on Lake Road at Lakeview even though that is where one turns if they have an Oklahoma Camping Guide put out by the Department of Tourism and Recreation. In fact, the booklet says to turn on Riverside, which is at the same intersection as Lakeview but which runs south instead of north. There is no signage on 14th Street (Highway 177) for any entrance except via Lake Road even though Hubbard (Resthaven), Prospect, and Hartford also lead to the park.

Land Use

Present land usage is shown in Figure 5, p. 52. All of the adjacent areas to the parklands are either agricultural or residential. The

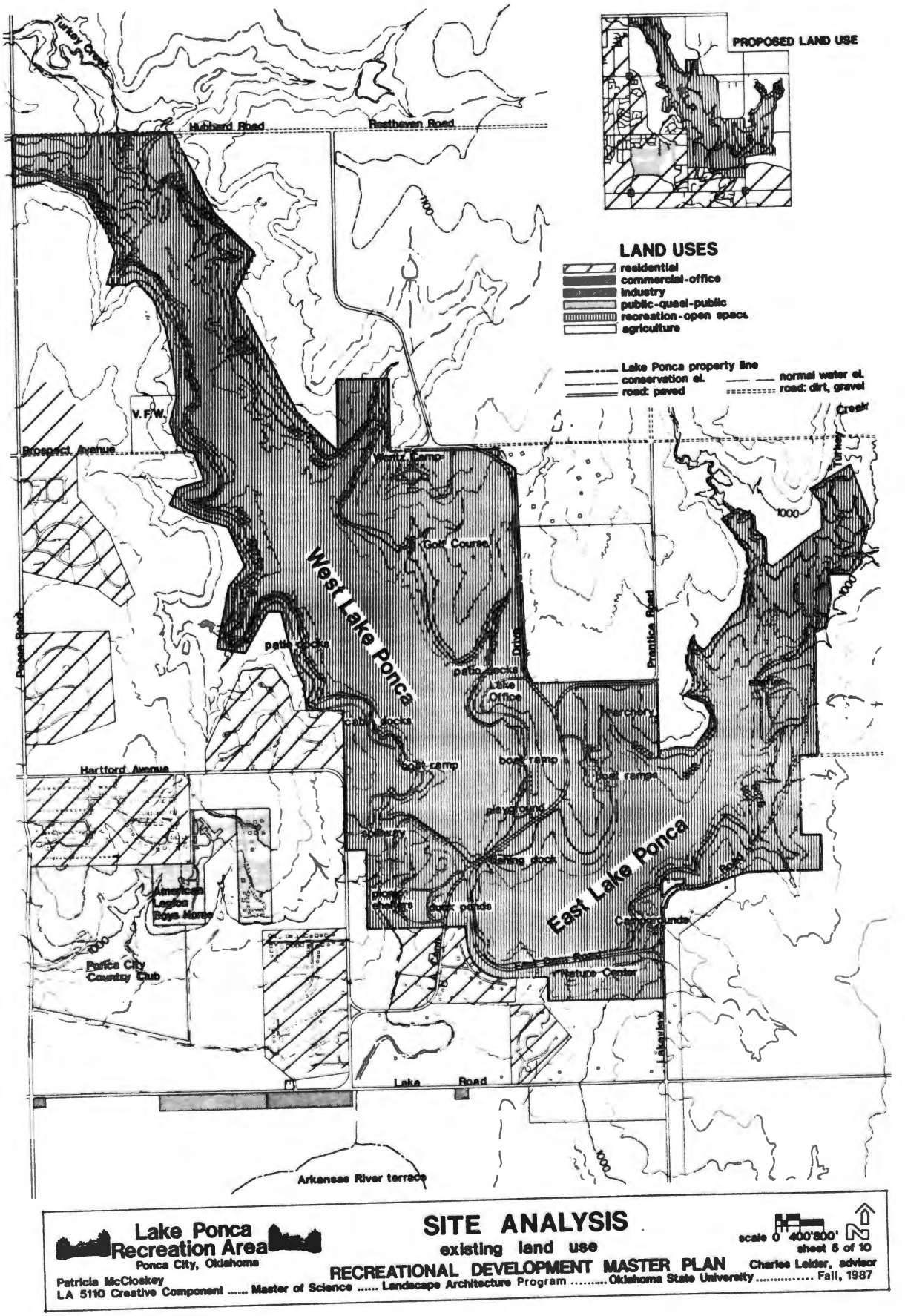


Figure 5. Existing Land Use

closest commercial properties are about one-quarter mile from the southern entrance on L. A. Cann Drive. There is a restaurant and repair shop surrounded by single-family residential. The nearest commercial zoning is on Lake Road at the intersection with Kygar Road. West of Kygar Road along Lake Road are marine supplies, bait shops, taverns, gas stations, and a concrete company. East of Kygar Road is a gas station.

Proposed land use is shown in the insert in Figure 5, p. 52. Proposed zoning in the present master plan has more residential areas approaching the park, but commercial areas will be no closer than already exists.

Composite

The purpose of the composite is to draw together those elements that will most affect the project. This is illustrated in Figure 6, p. 54.

It was important to indicate those soils with the limestone outcrops as more sensitive to development. The steep slopes also create problems for development. High points and low points reflect the drainage pattern as well as changes in elevation. Stands of trees that are worthy of preserving were noted. Fish attractor locations are important since they reflect an ongoing activity. Those areas considered "natural areas" where man's impact has been minimal are located. The most important climatic factor to note is the wind direction and its relationship to the water.

The adjacent land uses definitely affect the ecology of the park as well as being an important determinant of the facilities planned for the park. Extension of city services is an important determinant of where to

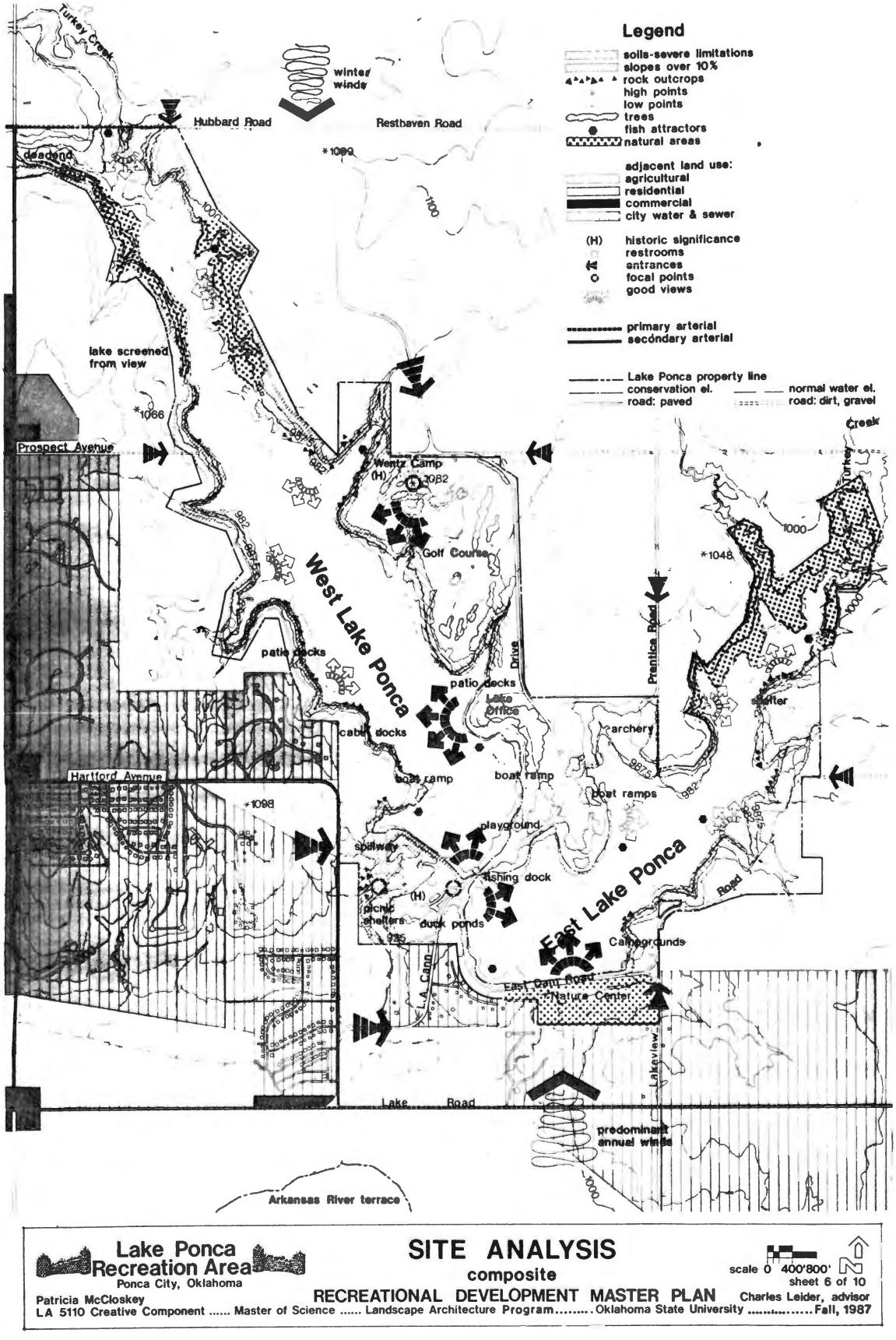


Figure 6. Site Analysis Composite

locate new facilities. Location of secondary and primary arterials are shown as well as all the present access points.

Existing structures on the site are located as well as denoting those with historic significance. Focal points and good views are shown to demonstrate the visual quality of the area. Actually with the lake being approximately half a mile wide makes all lake views appealing.

With the site analysis, it was possible to develop three concepts. However, to more accurately design for the needs of the community, it was first imperative to obtain citizen input through a survey.

CHAPTER V

PUBLIC SURVEY

Previous Surveys

Two previous surveys have been done in Ponca City. A class from Oklahoma State University ran a survey in the local newspaper in conjunction with their project to develop a master plan for the total park system of Ponca City in October 1981. Only 91 responses from this survey were received, but according to those results Lake Ponca was the most frequently visited park in the city at that time. A comparison between activity participation in 1981 and 1987 is shown in Table X, p. 57. In addition, activities the respondents of both groups would like to have are listed in Table XI, page 58.

In the 1981 survey, general comments about the parks in Ponca City drew the following: "At Lake Ponca, cars should be restricted to roadways with barrier posts and cables. Car paths through the park are a disgrace." "Ponca Lake needs help . . . it used to be a beautiful park!" "Ponca Lake area is ideal for nature trails, bike trails." "Bring Lake Ponca Park up to its full potential" (50).

A second survey was printed in the newspaper by the Comprehensive Plan Commission in 1982. Only twelve responses were received, but most of those commented on the city-wide parks, especially their lack of sufficient maintenance. "Parks must be better maintained so they are more usable." ". . . keep up parks, especially Lake Ponca" (12).

TABLE X

RANKING OF ACTIVITY PARTICIPATION

Activities--1981[1]	Activities--1987[2]
1. Biking	1. Picnicking
2. Tennis	2. Pleasure Driving
3. Walking	3. Relaxing
4. Running	4. Fishing
5. Fishing	5. Duck Ponds
6. Softball, baseball	6. Sun bathing
7. Soccer	7. Swimming
8. Swimming	8. Walking, jogging
9. Boating	9. Playground
10. Golf	10. Power boating
11. Basketball	11. Nature trail
12. Sailing	12. Waterskiing
13. Picnicking	13. Golf
14. Exercising	14. Frisbee
15. Racquetball	15. Camping
16. Football	16. Bird watching
17. Bowling	17. Sailing
18. Volleyball	18. Biking
19. Camping	19. Archery
20. Waterskiing	20. Softball, baseball

[1]Based on participation at all parks of households of survey respondents.

[2]Based on participation at Lake Ponca of households of survey respondents.

TABLE XI

DESIRED ACTIVITIES AND FACILITIES

Facilities--1981[1]	Facilities--1987[2]
1. Walk, hike	1. Swimming beach
2. Swimming	2. Rental boats
3. Biking	3. Snack bar
4. Picnicking	4. Horseback rentals
5. Tennis	5. Heated fish dock
6. Fishing	6. Rifle or skeet range
7. Camping	7. Hiking trails
8. Fitness trail	8. Golf practice range
9. Running	9. Jog, fitness trail
10. Sailing	10. Indoor recreation
11. Water skiing	11. Horseshoes
12. Team sports	12. Outdoor theatre
13. Horseback riding	13. Tennis courts
14. Aerobics	14. Walkways
15. Golf	15. Handicapped access
16. Canoeing	16. Bikeways
17. Skating	17. Disc golf
18. Power boating	18. Ice skating
19. Riflery	19. Nature study
20. Disc golf	20. Skateboarding

[1]Survey respondents listed the activities they or someone in their household would like to participate in.

[2]Survey respondents listed those facilities they would like to have at Lake Ponca.

Purpose

A good process of obtaining citizen input into the design process is through a community survey; therefore, a new survey was conducted in 1987. Two questionnaire forms were designed for the survey: one was geared toward the present park user and the other, towards the general public (Appendix, pp. 179-186).

The following areas of information were sought for this project:

1. Public perception
    a. Importance of Lake Ponca to the community.
    b. Community awareness of facilities and programs currently available at Lake Ponca.
    c. How can Lake Ponca best serve as a community park now and in the future?
    d. Position of Lake Ponca as part of the total park system.
2. Public participation
    a. Current use of the park facilities and programs.
    b. If not used, why?
    c. Are the same facilities used in other parks?
    d. Are facilities lacking for which there is a need?
    e. Improvements needed for specific user groups.
    f. When are the facilities used?
3. Implementation
    a. Should fees be charged for use of the facilities and programs?
    b. Are they willing to pay fees?
    c. Funding methods for improvements.
    d. Should other agencies and private individuals be involved?

4. Demographics

    a. Where one lives in the community and for how long.

    b. Distance of residence from Lake Ponca.

    c. Ages, income, and number of persons in the household.

In addition to involving the community in the design process through the survey, there were two additional objectives for conducting the survey. One was to increase public awareness of the park itself among the citizens of Ponca City. Another was to promote its location and facilities to persons living outside the immediate Ponca City area.

Methods

A test survey was conducted on site at Lake Ponca on April 4, 1987. There were approximately 50 persons present to participate in "cleanup day." This is an annual event when citizens are encouraged to donate a few hours to picking up litter from the park grounds. City employees, cabin owners, and other park users were present. Participants received donuts and coffee, as well as a picnic lunch, donated by area merchants. In the same area of the park, a charity run was being held in which approximately 50 persons participated or observed. A questionnaire box was set up and questionnaires were hand distributed to these two groups.

In another area of the park, the annual Boat and Travel Show was being held. A questionnaire box was set up here on April 4 and 5, 1987. A total of 180 questionnaires were hand distributed to these three user groups. Forty-two forms were returned to the box and nine were returned by mail.

In cooperation with the Ponca City Chamber of Commerce, survey boxes were placed in 20 of the member restaurants. A letter written by John

Myers, president of the Chamber of Commerce, was shown to the owners of the participating restaurants (Appendix, p. 164). The letter gave the owners information about the project and urged them to participate. The questionnaires were placed in a box in which they were displayed for removal and in which there was a slot for their insertion after completion. The box remained in one restaurant for three days and was then rotated to another. Each box initially contained 50 questionnaires, but there was a notice on the back instructing the restaurant employees to call for additional forms if they were needed. Although several restaurants ran out of forms, only one employee called for additional copies. A total of 1075 copies were placed in the restaurant boxes; 717 were removed, 175 were filled out and returned to the the boxes, and 38 were returned by mail.

Permanent boxes were maintained at the following locations: City Building, Public Library, Post Office, Parks and Recreation office, Lake Ponca office, and the Pioneer Woman Museum. Addition boxes were rotated at the State Employment office, Ponca Tribal Affairs office, Unity Recreation Center, Wentz Golf Course, and Teen Center. The above boxes initially had 50 questionnaires except Wentz Golf Course, which had 75. An additional 83 copies were placed at the library and 30 at the City Building. Seventy-five copies were distributed to Meals-on-Wheels drivers and clients. On April 16, 1987, a public meeting was held by the Park Board, at which time approximately 50 forms were distributed. A box was set up at the shopping center Flea Market on Sunday, April 26, which contained 75 copies. In the above boxes, 601 copies were taken, 132 were returned to the boxes, and 20 were returned by mail.

The totals for the survey, which began with the on-site distribution on April 4, 1987, and concluded on April 30, 1987, are as follows:

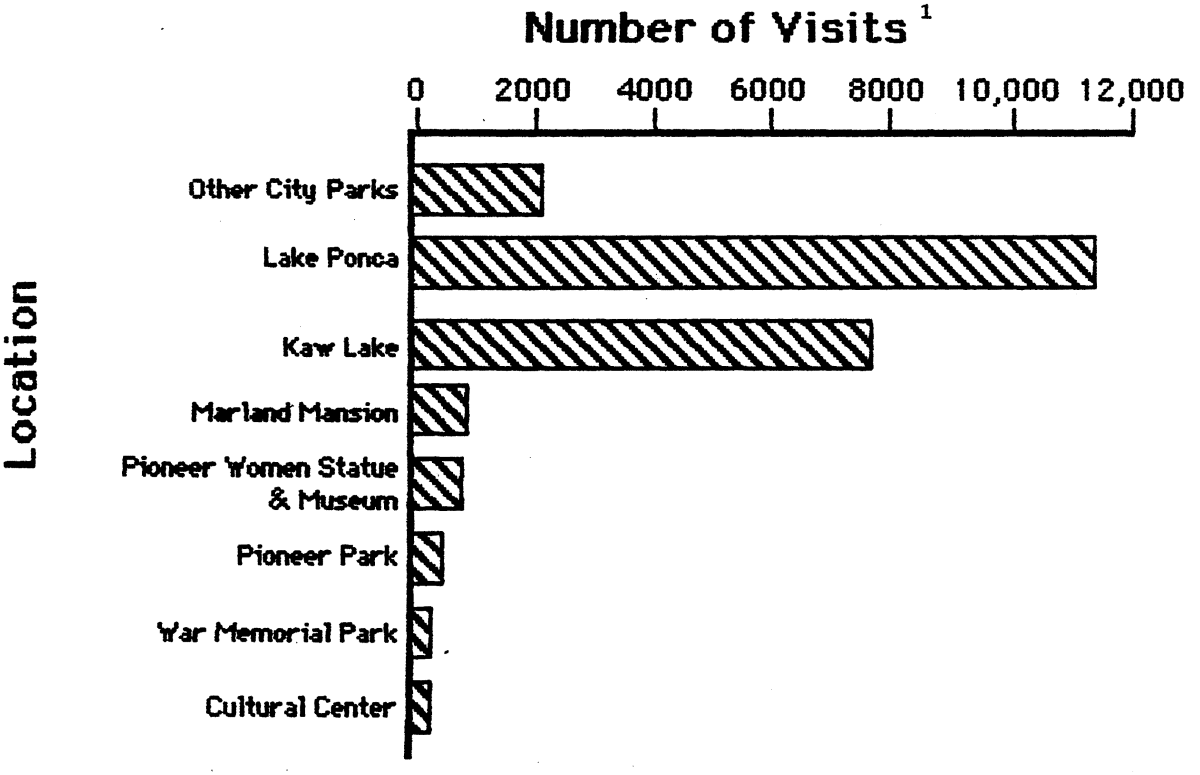
1. 1498 questionnaires were removed from the survey boxes or distributed.
2. 349 copies were completed and returned to the boxes.
3. 67 copies were completed and returned by mail.
4. A total of 416 copies were received during he survey, which equals a 28% return. Twenty-two forms were received by mail after the cutoff date, which would increase the return to 29%.

The box response, especially at the restaurants, was affected by the location in which it was displayed. When it was openly visible to the customer, more questionnaires were taken; however, when the box was placed in an out-of-the-way area or was poorly lit, fewer forms were removed. In some instances, there just was no good location for it without interfering with the restaurant operation. The best response came from the library box, which was placed directly in front of the main doors. This box was replenished several times; 132 forms were removed and 49 were returned.

Few responses were received from persons who had never been to Lake Ponca. This, together with the vast difference between the number of copies taken and returned, would imply that many nonusers at least were made aware of the recreational facility. Of course, one must assume, also, that some were discarded by users.

Results

Several graphic charts display the data obtained from the survey. Figure 7 shows the number of times respondents said they visited Lake



[1]Total number of times per year that each park facility was visited by the respondents to a community survey conducted in April, 1987.

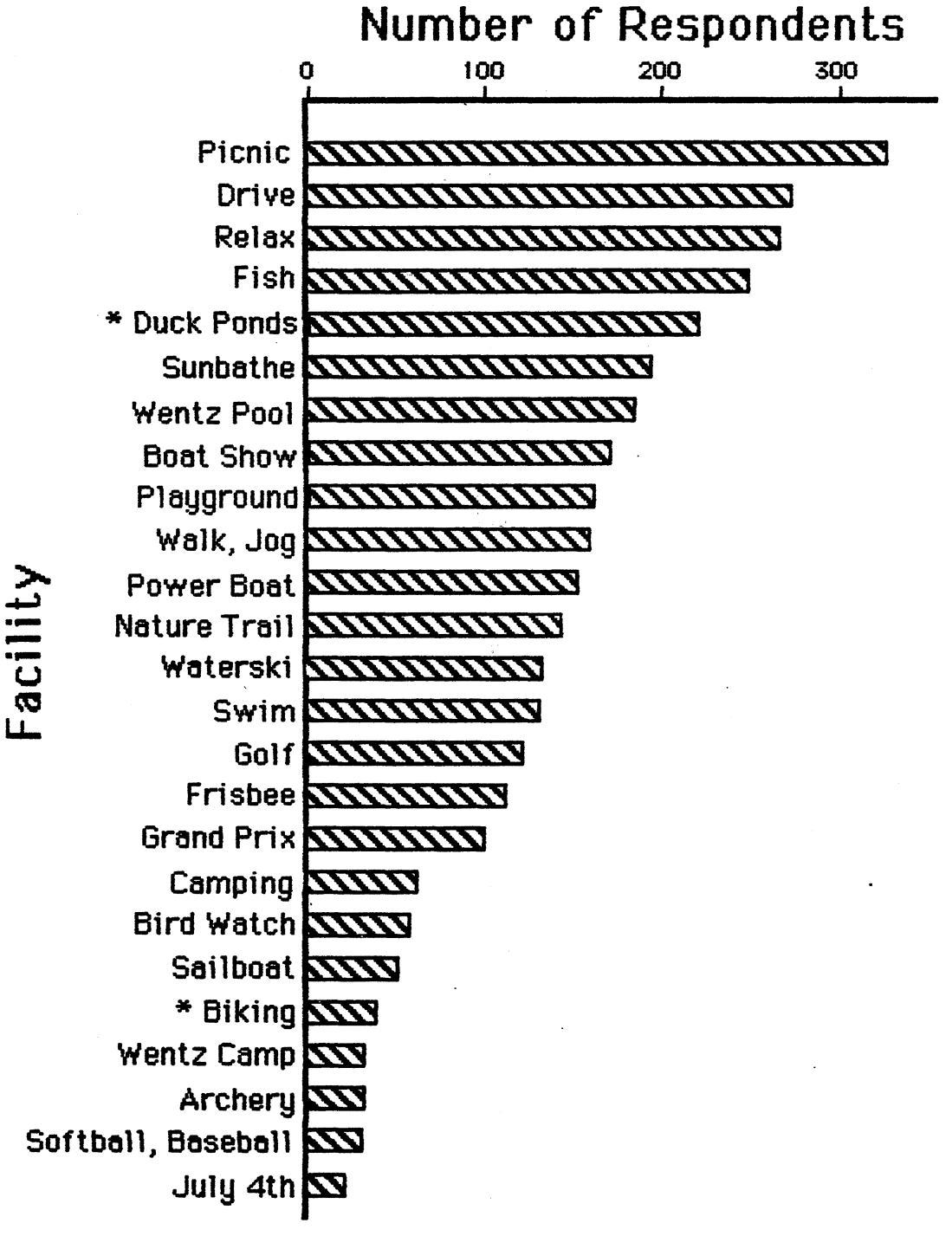
Figure 7. Annual Visitation Rates to Ponca City Parks

Ponca per year. Many of the forms were left incomplete on this question; sometimes only a check mark was placed in the space instead of a number, and only one visit was recorded. When the respondent wrote "a few times," the number three was used. When the answer was "many times," the number 25 was used. When there was no mark in the space, zero was used. All but a few of these latter forms were filled out by users of Lake Ponca. Because some leverage was used in adjusting the numbers, the totals on Figure 7 are not accurate. However, the overall percentage is correct--that Lake Ponca is the most frequently visited park.

Figure 8 shows the facilities used and activities engaged in by the most people at Lake Ponca. On the first 200 questionnaires printed, the duck ponds and biking were left off; therefore, one assumes that the numbers reflected in the graph or these two categories are lower than they should be. Picnicking, pleasure driving, relaxing, visiting the duck ponds, and fishing were the top five forms of recreation.

Facilities desired by persons using Lake Ponca are illustrated in Figure 9. Two facilities, outdoor theatre and bikeways, were absent from the first 200 questionnaires; therefore, their numbers are assumed to be low. A swimming beach was the overwhelming first choice. Respondents were asked in an open-ended question to list improvements needed at Lake Ponca. The answers are reflected in Figure 10. The need for a swimming beach was the most frequent answer here also.

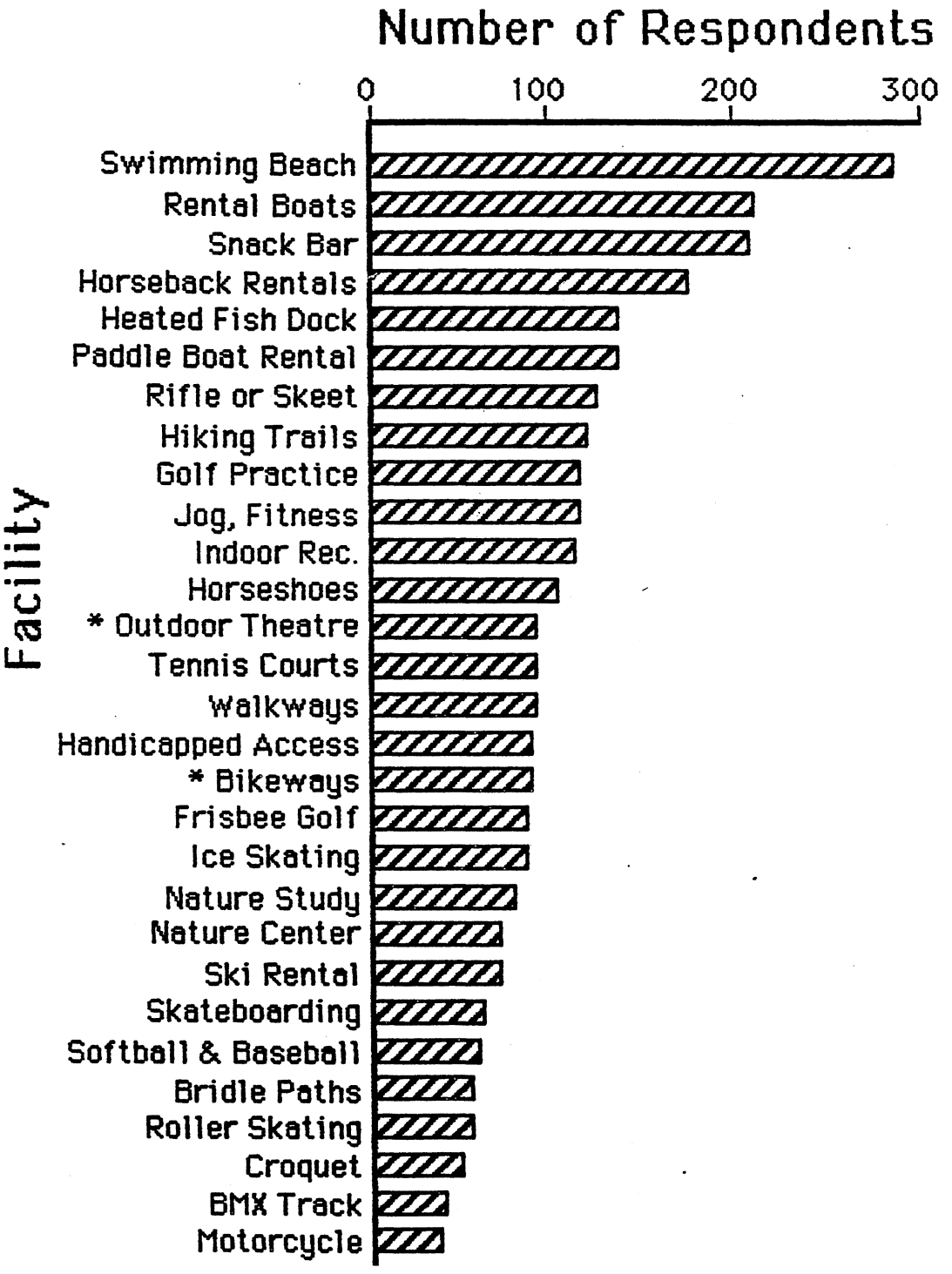
Many problems were noted by respondents in the open-ended questions. The most frequent answers are displayed in Figure 11. Improving fish management was the number one response with road improvements and alcohol and drug abuse tied for second.



* These facilities were not listed on all the questionnaires; therefore, the response numbers above are assumed to be lower than they should be.

NOTE: Facility participation at Lake Ponca was compiled from the results of a community survey conducted in April, 1987.

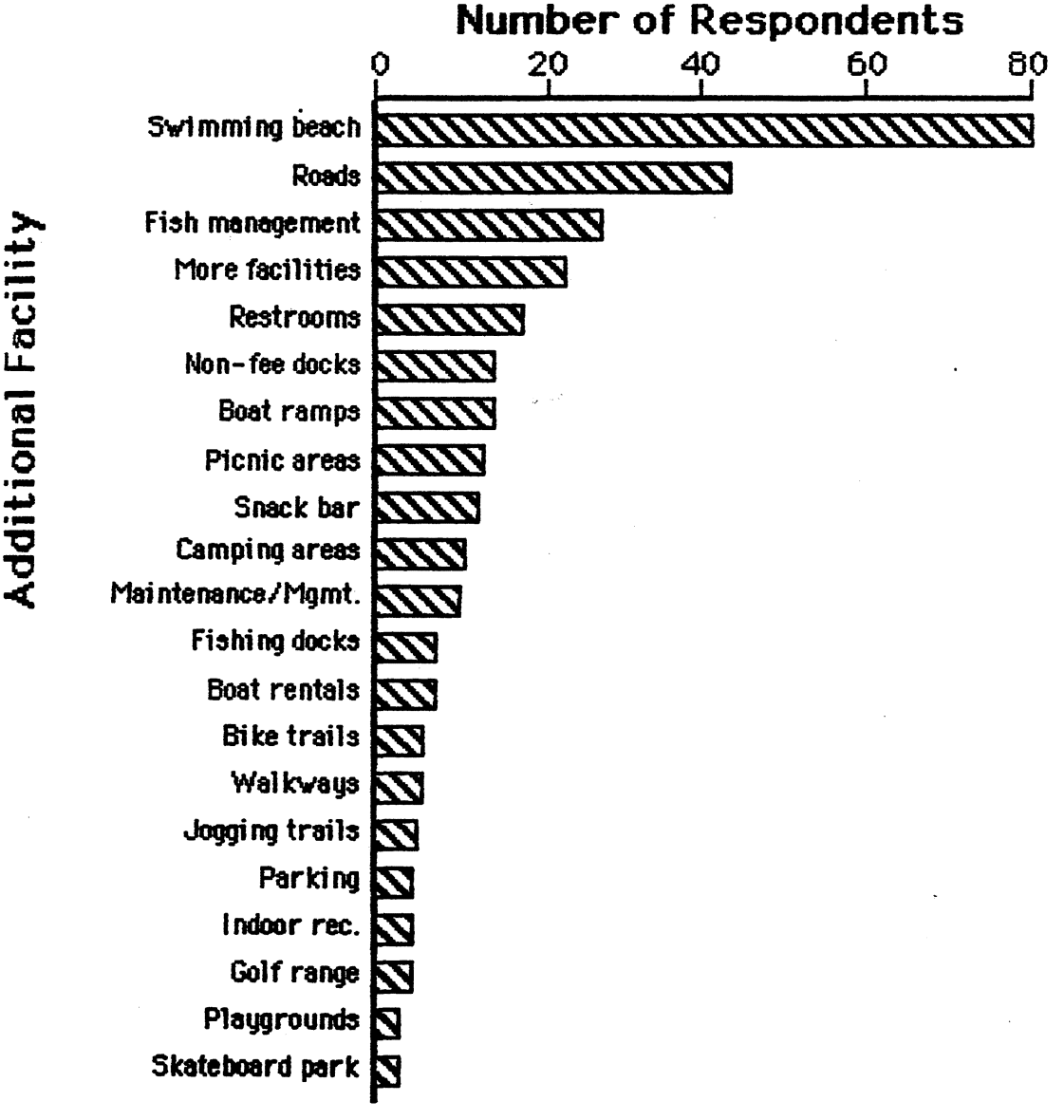
Figure 8. Recreation Participation at Lake Ponca



* These facilities were not listed on all the questionnaires; therefore, the response numbers above are assumed to be lower than they should be.

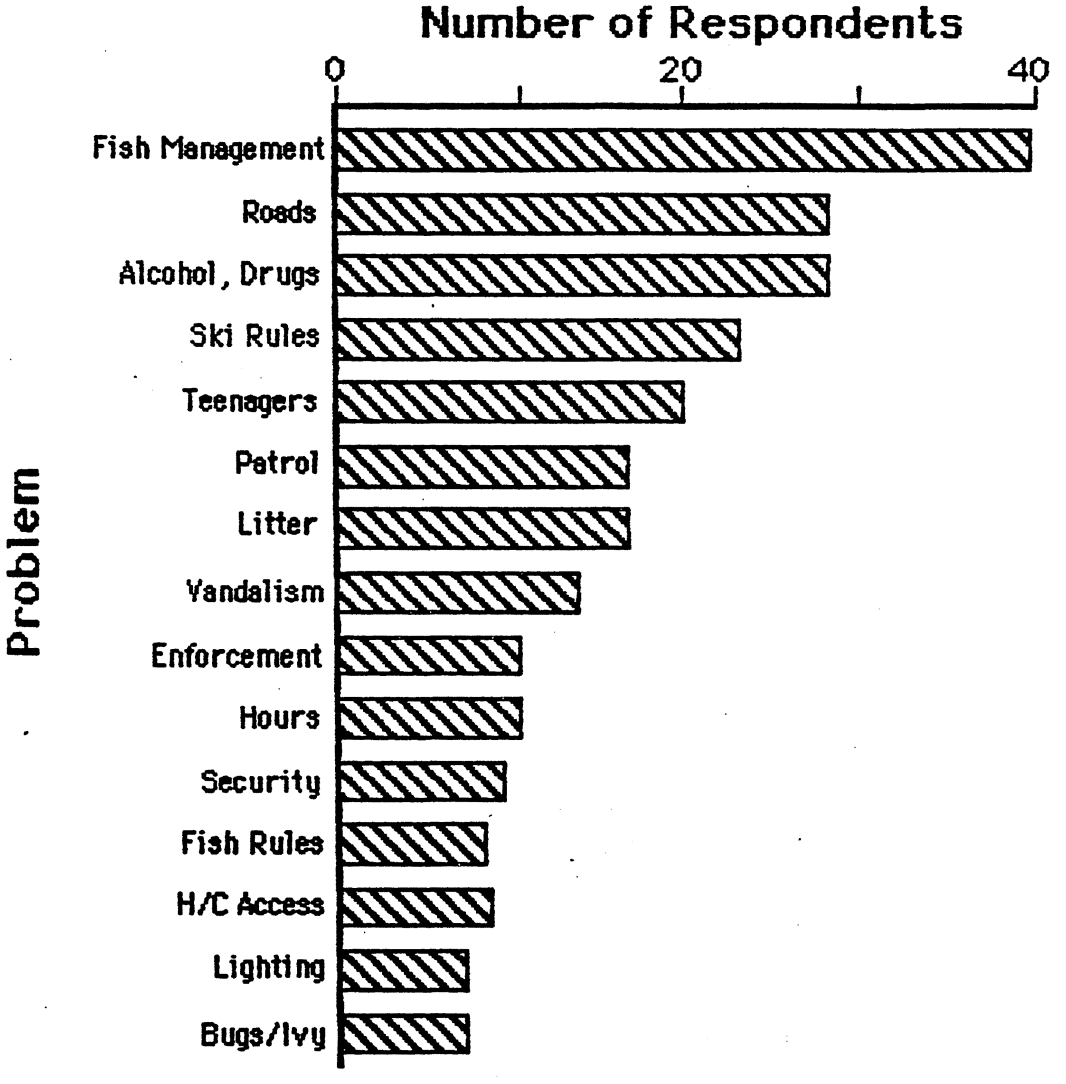
NOTE: These facilities were requested for development at Lake Ponca by respondents to a combination closed and open-ended question in a community survey conducted in April, 1987.

Figure 9. Recreation Facilities Desired at Lake Ponca



These facilities were requested by respondents to an open-ended question in a community survey conducted in April, 1987.

Figure 10. Additional Recreation Facilities Desired at Lake Ponca



Problems most often listed as needing to be addressed at Lake Ponca by respondents to a community survey conducted in April, 1987.

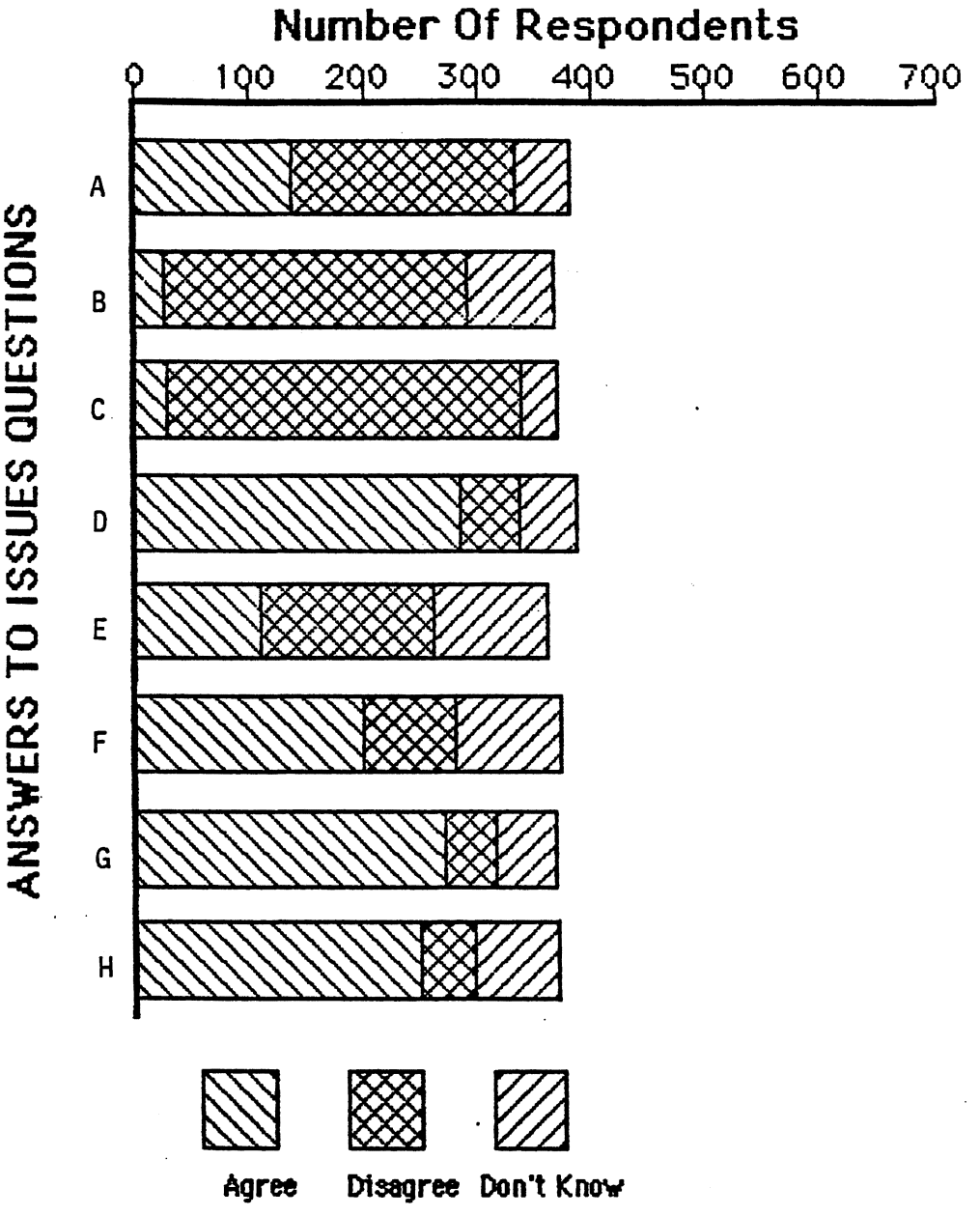
Figure 11. Problems at Lake Ponca

How the community feels about the different economic issues concerning Lake Ponca was the basis for Figure 12. Here the respondents were decisive on some issues but more divided on others. They were very much against increasing the present user fees and against charging an admission fee to the park. However, they were in favor of the city retaining ownership of the park, seeking federal and state assistance for park improvements, and for increasing the city expenditures for park improvements.

Two demographic results are shown in Figures 13 and 14. Age distribution is displayed in Figure 13. The total number of households responding to the survey was 416, and the total in number of persons in the households was 1194. However, the blanks were not always filled in so the actual number per household is higher than 2.87, which was based on the actual numbers obtained. The average number of persons per household in 1988 in Ponca City is projected to be 2.36. The median age of the respondents was in the 25-34 group; whereas, the median age for a Ponca City resident in 1988 is projected to be 33.16 (47, p. 85).

Figure 14 depicts income ranges of the respondents. Surprisingly, 376 answers were received to this question despite the comment occasionally that it was "none of your business." The average household income here was approximately $30,000, compared to the medium household income for Ponca City in 1988 being $38,708 (47, p. 85).

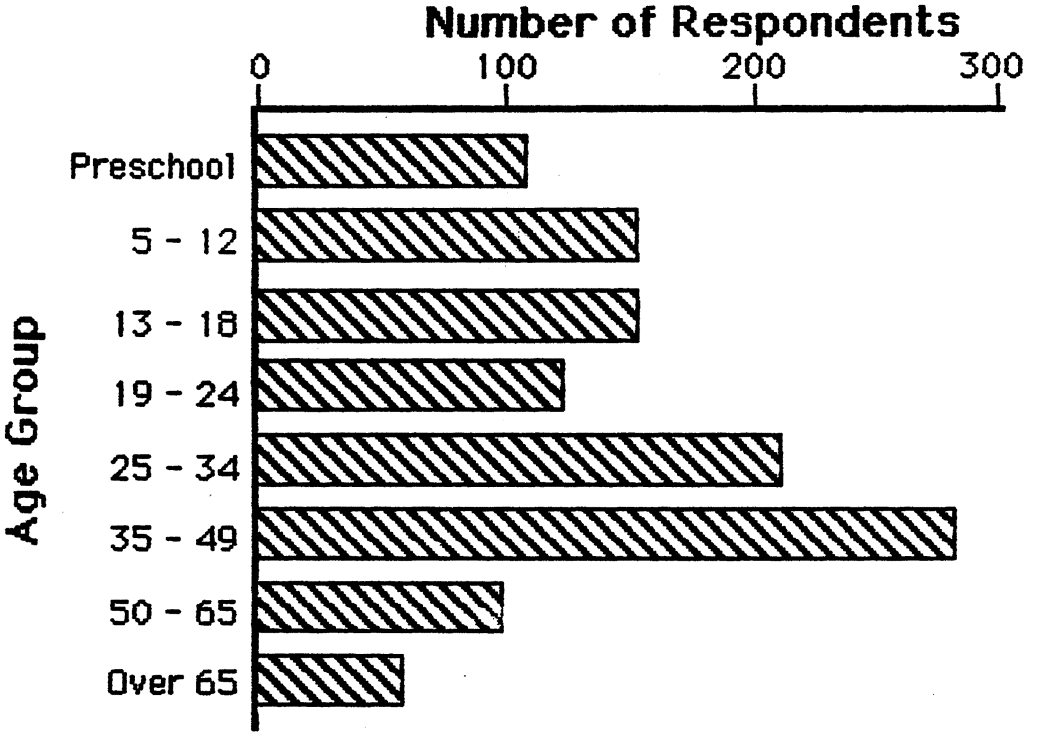
Only nine nonusers (persons never having been to Lake Ponca or who had not been there in the last year) filled out questionnaires. Their most frequent reasons for not visiting were as follows: "too busy," "didn't know about the facilities," or "not attractive."



Answers to the following statements are totaled above according to the results of a community survey conducted in April, 1987.

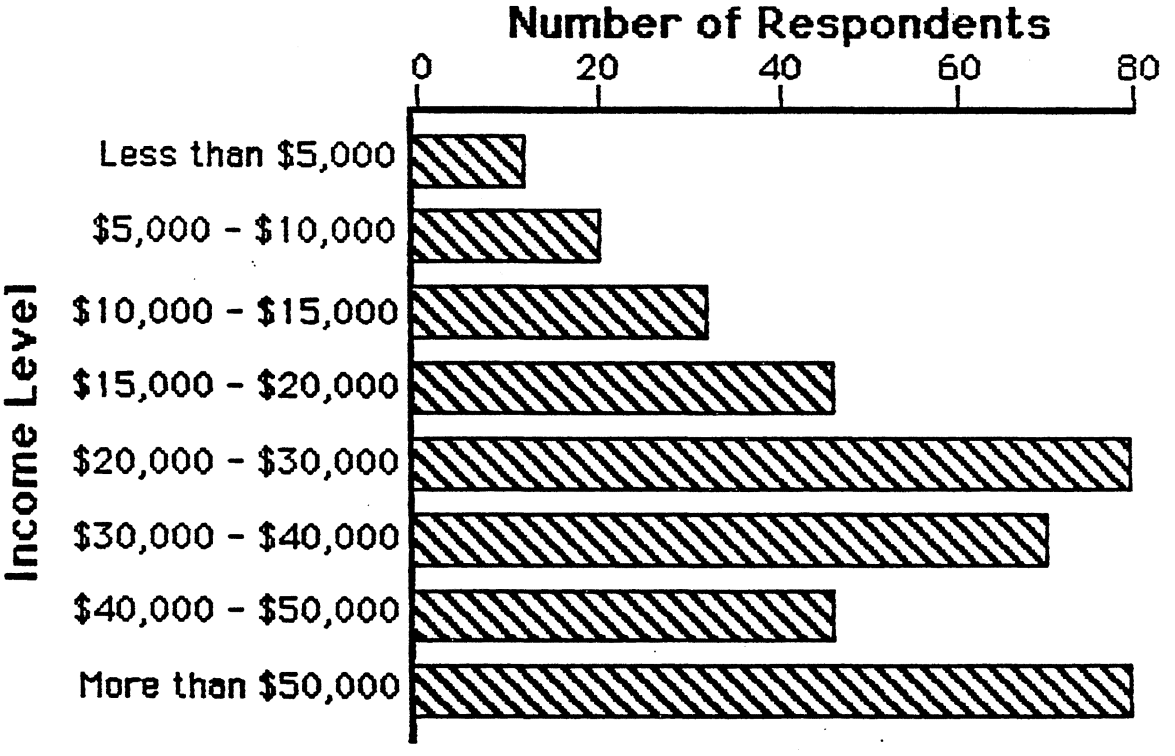
A. User fees should be charged at Lake Ponca.
B. User fees should be increased at Lake Ponca.
C. Admission fees should be charged at Lake Ponca.
D. The City should retain ownership of Lake Ponca.
E. Lake Ponca could be better managed as a State Park.
F. Private vendors should be used at Lake Ponca.
G. Federal and state assistance should be sought for improvements at Lake Ponca.
H. City expenditures should be increased for improvements at Lake Ponca.

Figure 12. Issues Facing Ponca City Residents



Ages of household members of participants in a community survey conducted in April, 1987.

Figure 13. Age Groups in Households



Total income of respondent's household as reported in a community survey conducted in April, 1987.

Figure 14. Household Income

The average length of time respondents lived in Ponca City was 22.95 years. The shortest time of residency was 0.1 year, and the longest was 71 years.

Those who visit Lake Ponca do so overwhelmingly on the weekends. The complete responses were as follows: 348 visited on weekends, 211 on weekdays after 5:00 p.m., 144 on weekdays before 5:00 p.m., and 72 spent vacations there. The vast majority lived within ten miles of the lake. Distances from the respondent's home to Lake Ponca were as follows: 209 lived 1-5 miles away, 114 lived 6-10 miles away, 31 lived 11-15 miles away, 10 lived less than 1 mile away, 5 lived 31-25 miles away, and 9 lived over 25 miles away. The automobile was used by 374 respondents as the means of transportation to the park. Even without bikeways, 9% rode their bikes.

Two supplemental pages were attached to the user questionnaires; one was for fishermen and boat users and the second was for golfers (Appendix, pp. 184-185). Fishermen and boat users listed their most needed improvements in the following order: more boat ramps, more fish stock, a tackle and bait shop, more fish attractors, more fishing docks, nonfee boat docks, boat storage, marine supplies, more boat docks, better activity separation, and docks at ramps. On the other hand, the golfers overwhelmingly listed a practice range their priority, and maintenance and cart trails tied for a distant second choice. In all cases, the users response to how often they visited the park was once a week. The second choice ranged from almost daily for the fishermen to six times a year for the golfers and boaters. Only 6 of the 58 respondents did not have an annual fishing permit, boating permit, or annual golf membership. The

only reason listed by golfers for not having a membership was because they didn't play often enough to warrant having one.

When the users were asked to rate 22 categories at the park, the following had the most "very good" checks: Wentz pool, golf course, trees and shaded areas, helpfulness of park personnel, duck ponds, open green spaces, and Wentz Camp. Those categories most often marked poor were as follows: restrooms, concessions, roads, parking for trailers, parking for cards, docks, rules enforcement, boat ramps, and helpfulness of park personnel. This latter category had quite a range in its ratings. It was fourth in marks under "very good," tied for eighth under "poor," thirteenth under "good," twentieth under "fair," and seventh under "don't know." Additional concerns were expressed about overcrowding and water safety.

As to the question about the parkland's boundary, 43 responded that the present park was adequate, 31 said the park should be expanded, and only 2 wanted it to be smaller.

Several comments were received concerning the economic issues. They ranged from wanting all the facilities to be free, charging only out-of-towners to pay user and admission fees, charging user fees for boats only, and admission fees to special events only. Others didn't object to paying fees "if improvements result" or "if it will help get the things I enjoy to do." There was a question in some people's minds about the difference between user and admission fees.

The majority of the respondents lived in the northwest and northeast quadrant of Ponca City. The smallest group from Ponca City lived in the southeast quadrant. The quadrants were bounded by U.S. 177 and U.S. 60. Not all the respondents marked their place of residence, but 247 did so.

They lived as far as Blackwell, Arkansas City, and Stillwater. Of those, 228 lived in Ponca City, and 9 lived in Osage County.

The overall response to the survey was that it was a positive step forward to revitalize and improve on an existing natural resource. One respondent commented, "I think Lake Ponca has a large, untapped potential as a recreational area and that this survey is a good first step." Another wrote, "I'm glad to see these ideas brought forth as the lake could have only one way to go--'UP.' I think the public would take a positive interest."

Three areas of data are required for a thorough understanding of the recreation site (39, p. 14). First, "levels of use" is concerned with how many people visit, how often, and when the site is visited. Second, "characteristics of site visits" includes mode of transportation, distance traveled, time necessary to get there, route taken, relationship of this site to other recreation areas, and facilities used and activities participated in. Third "characteristics of recreation site visitors" acknowledges sociodemographic data (age, sex, etc.), how they feel about the area, and any improvements they desire. In his paper on effective measures, Delles listed twelve park programs and the most effective method of data collection for each (14, p. 28). Eight of the twelve were best inventoried by a citizen survey and two more used the citizen survey in conjunction with another method of data collection.

Thus, the importance of a citizen survey cannot be overstated. It is a way for citizens to anonymously air their views and at the same time alert managers of the needs and concerns of the community. These were the only incentives for filling out the questionnaire.

CHAPTER VI

DEVELOPMENTAL CONCEPTS

All of the information in the preceding chapters culminates in the concept stage of the design process. The aforementioned data is synthesized into concepts that reflect both the needs of the community and the site suitability of those needs. The following concepts place emphasis on three different themes.

The first concept deals with the issues and concerns of the community with the present recreational environment at Lake Ponca. In the second concept, historical structures are the hub of the recreational experience. The third concept segregates recreational usage into specific areas within the park.

Concept 1

Four issue categories were examined at the State Recreation Action Conference in 1982. They were (1) environmental quality and preservation, (2) behavioral needs, (3) recreation activities and facility trends, and (4) economic and human constraints (43, p. 90). Each region listed its top five concerns under each of the above topics. The results are shown in Table XII for Region 7, NODA (Northern Oklahoma Development Association) and for the state. Interestingly, the region agreed with the statewide choices in all but four choices; and then only the ranking of importance differed.

TABLE XII

RECREATION ISSUES*

Issue[1]	Statewide Ranking	NODA Ranking
A. Environmental Quality and Preservation		
Water quality/preservation	1	3
Long-range planning	2	1
Waste disposal	3	
Natural area preservation	4	
Population, Urbanization, Immigration	5	5
Programs to enhance appreciation		2
Littering, vandalism		4
B. Behavioral Needs		
Increase public awareness	1	1
Outdoor environmental education	2	3
Security/law enforcement	3	5
Cultural/historical preservation	4	4
Enlarge recreation experience	5	2
C. Recreation Activities and Facility Trends		
Management/operation	1	1
Accommodating popular activities	2	2
Improve park distribution	3	
Promotion of activities	4	5
Improve access to recreation facilities	5	
User fees		3
Improve facility design		4
D. Economic and Human Constraints		
Energy	1	3
Individual expendable income	2	4
Inflation	3	1
Available funding	4	2
Role of private sector	5	5

* Statewide Comprehensive Outdoor Recreation Plan (Oklahoma City, OK, 1982), p. 101.

[1]The following four topics list those issues pertinent to each topic according to participants at the State Recreation Action Conference in 1982.

Issues

In talking with city officials as well as tabulating survey results, the same concerns were being expressed locally as were expressed on the regional and statewide levels. Those concerns most often expressed under the topic, environmental quality and preservation, were littering and vandalism, preservation of natural areas, insect and poison ivy control, educational programs about nature, underdevelopment versus overdevelopment, fish management, park funding, and planning.

Concerns voiced under behavior needs were security and law enforcement, alcohol and drug abuse, increasing public awareness of the lake, preservation of the historical structures, outdoor recreation education, increased recreation facilities and programs, physical fitness, park aesthetics, safety, and park usage regulations.

Recreation activities and facility trends brought forth concerns about management and operation, additional facilities and programs, promotion of the park facilities, improved design of specific areas within the park where safety and congestion are a problem, user and entrance fees versus right to use public facilities without charge, underuse and overcrowding, improvements funding, conflict of area use by different user groups, access to the facilities, especially for the handicapped, and park maintenance.

Under the topic of economic and human constraints, funding sources--federal, state, and municipal, private vendor leasing of facilities, cabin and patio dock leases versus public use, city utility services, and expansion of existing parklands were the concerns.

Solutions

Possible solutions to environmental quality and preservation issues offered in SCORP appropriate to consider for Lake Ponca were as follows:

1. Long-Range Planning
   - master plan with phasing
   - "citizen input"
   - city services consideration
   - educate public
   - "educate" public officials of recreation importance
   - seek funding
   - promote the park to increase interest in it
   - use citizen survey to evaluate needs
   - work with Chamber of Commerce and private sector
2. Littering and Vandalism
   - enforce littering laws and make regulations known
   - educate public about impact from abuse to area
   - "cleanup days"
   - increase number of park personnel in order to patrol adequately
   - public participation in implementing new programs
   - night lighting
   - "adequate litter receptacles" in more appropriate places
   - park personnel "sets an example for public"
3. Funding for Parks
   - "user fees"
   - use of private vendors
   - "volunteer maintenance"
   - nonresident "user fees"
   - land donations adjoining Lake Ponca
   - "program tournaments"
   - demand justification of programs (43, p. 105)

Under the topic, behavioral needs, the following solutions were offered:

1. Increase Public Awareness
   - expand programs to increase participation
   - advertise the programs in the media and print brochures
   - send information to the schools
   - citizen input into "planning and design"
   - "utilize special events for publicity"
   - "promotion through poster competition or competitive advertising"
   - send information with city services statements monthly
2. Security and Law Enforcement
   - hire more park security personnel
   - enforce laws and park regulations
   - better train and pay park security personnel

- increase security personnel's visibility
- educate public as to vandalism costs to them
- night lighting
- "design facilities and landscapes to restrict vandalism"
- control park access
- set hours when gates are locked

3. Cultural and Historical Preservation
   - "identify sites with cultural and historical importance"
   - promote interpretive programs and publicity of historical sites
   - hire "qualified and trained staff"
   - conduct educational programs at historical sites
   - provide funding for maintaining facilities
   - provide security and maintenance
   - involve Historical Society in supporting sites
4. Outdoor Environmental Education
   - conduct educational programs and field trips at Nature Center and other sites in park
   - educate detrimental "effects of littering and vandalism"
   - provide programs for youth
   - "employ naturalists"
   - promote facilities and programs through media and increase public awareness
   - offer hands-on experiences in designing and maintaining areas
   - "develop nature trails"
5. Enlarge Recreation Experience
   - advertise recreation programs
   - "increase programs directed at special populations"
   - allow private vendors
   - hire trained personnel for new programs
   - provide programs for "specific age groups, cultures, and the handicapped"
   - hire naturalist
   - add more programs (43, p. 106)

Similar solutions are sometimes offered for different concerns; this is true for recreation activities and facility trends concerns.

1. Management and Operation
   - hire more qualified park personnel and pay them more
   - continually educate park personnel
   - encourage volunteer help
   - use citizen surveys to assess needs and desires
   - "identify short- and long-range goals"
   - promote community involvement through park board
2. Accommodating Popular Activities
   - provide programs that are desired
   - "promote more group activities"
   - community survey to assess needed programs
   - develop new programs
   - provide better access to Lake Ponca
   - "maintain and develop a trail system"

3. Promotion of Activities
   - better advertising
   - arrange special transportation to special programs
   - coordinate with the private sector
   - involve schools and civic groups in promotion
   - use of slide promotions
   - "encourage self-starting activities"
4. Increase Number of Support Facilities
   - "require all facilities to accommodate all ages and special groups"
   - solicit private vendors to lease facilities
   - use user fees to improve existing facilities
   - increase camping facilities
5. Improve Facility Design
   - "design facility with energy conservation features"
   - multi-use facilities
   - consult specialists
   - citizens input
   - both active and passive forms of recreation
   - on-site inventory (43, p. 107)

Economic and human constraints issues have the following possible solutions:

1. Available Funding
   - use user fees
   - "encourage donations from private sector"
   - needs and supply coordination
   - private vendors
   - "use funding in less expensive activities (i.e., trails)"
   - public fund raising
2. Inflation
   - group rates for activities
   - "low-cost recreation activities"
   - "provide transportation"
   - user fees
   - encourage "volunteer labor"
   - increase "maintenance-free activities"
3. Role of the Private Sector
   - solicit private donations
   - solicit citizens "expertise"
   - lease facilities to private vendors
   - seek support of civic clubs for programs
   - private sector represented on park board
   - cooperation between public and private sectors
   - "encourage donations with usage of name"
   - solicit prizes from private sector (43, p. 108)

Problem Locations

In Figure 15, page 83, specific areas within the park that have special problems or concerns are identified. Symbols are used in the legend to locate the following:

1. areas where preservation of the natural beauty and/or historic structures are important
2. areas that are underutilized because of a lack of facilities or inappropriate activities
3. area for a swimming beach
4. areas where access is a problem
5. areas that are unattractive because of abuse or lack of maintenance
6. tentative location for bridle trails
7. areas where safety is needed
8. areas prone to vandalism
9. areas where there is a lack of parking or parking needs to be restricted
10. areas where facilities might best be maintained by private vendors.

Concept 2

Concept 2 is illustrated in Figure 16, p. 84. Its emphasis is on preserving the historical structures on the site, providing access to them, and forming linkages between them.

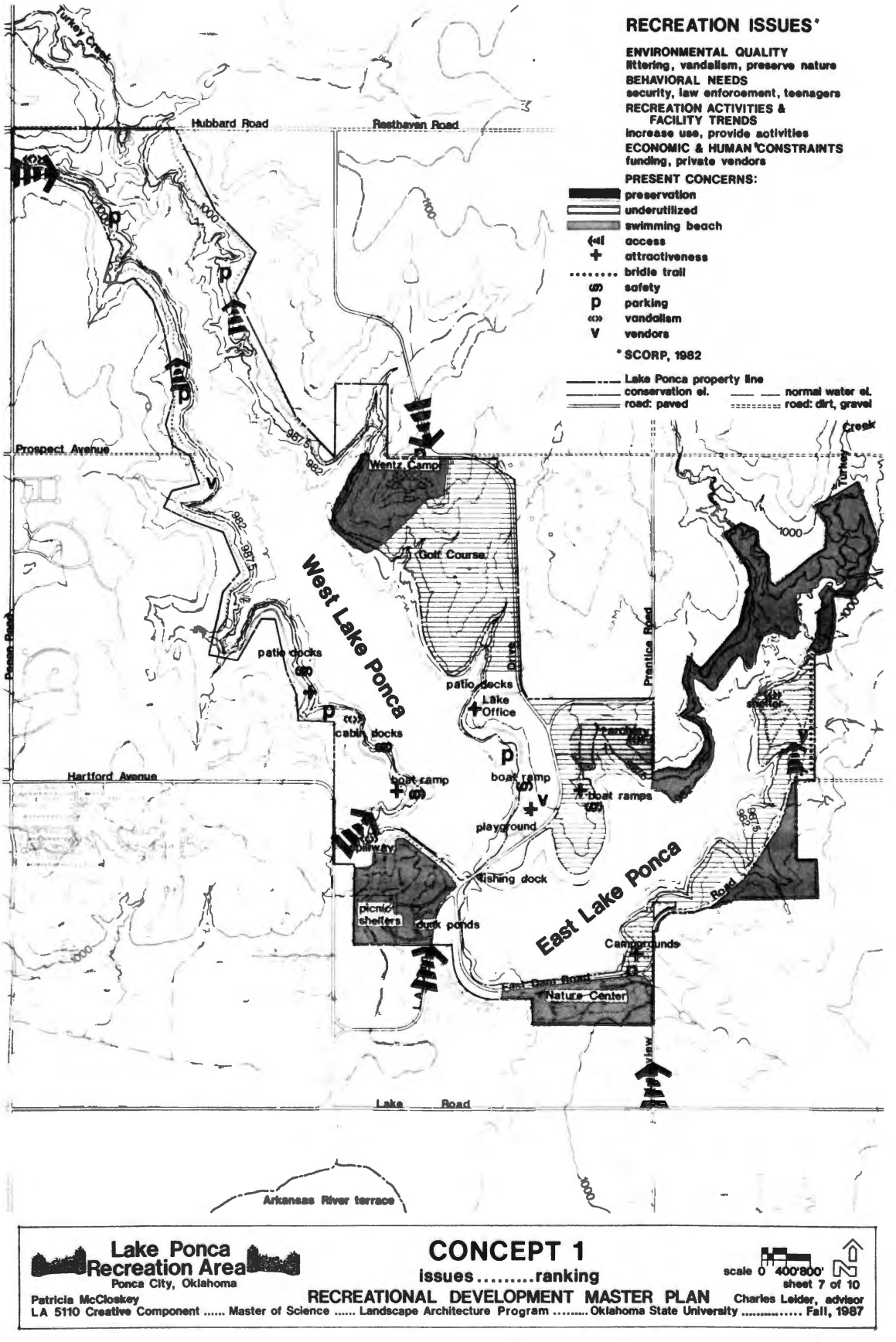


Figure 15. Concept 1

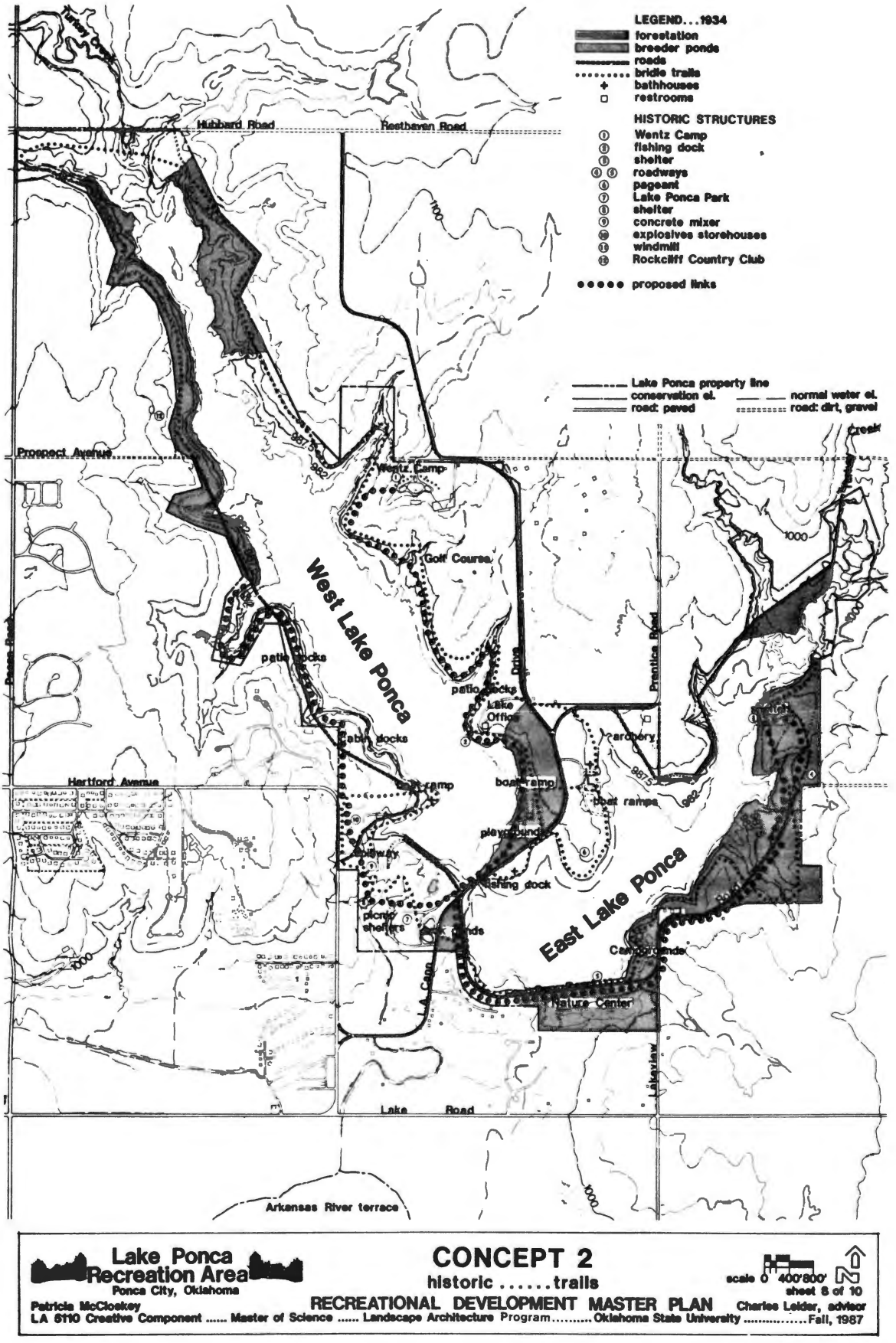


Figure 16. Concept 2

Park Plan, 1934

The only known plan for Lake Ponca after its inception is provided in a map drawn by E. A. Jones, city engineer, in 1934. The legend listed five proposed improvements for the lake area after impoundment was completed: reforestation, roads, bathhouses, restrooms, and bridle trails.

This initial plan laid out the primary roads, L. A. Cann Drive, Prentice Road, and East Lake Dam Road, much as they are today. However, a main road along the northern edge of East Lake Ponca never developed. The road along the west side of West Lake Ponca was to be more free-flowing than it is now. These latter two changes are the result of the water level being raised by the heightening of the dam in 1944. This is made clearer when one looks at the water elevation line in 1955 on the slope map on page 43. This would have been the approximate normal water elevation as predicted in 1934 when the lake was being built.

Forestation was to take place at many areas around the lake. That this was done is in evidence today with the simple majesty of the huge American elms in the Lake Ponca Park area and the arching canopies of the Osage Orange trees in the Nature Center. Forethought was given not only to restoring the trees that were removed when the lake was being impounded from the existing creeks but also to the prevention of siltation that would occur from soil erosion without the vegetative cover that had been removed.

Bathhouses were planned for three lake locations, indicating that swimming was intended in the lake's original inception. However, these were never built and swimming is currently illegal at Lake Ponca.

Restroom locations were indicated at five points. Three of these have been built, but the others are in areas that have not been developed for active usage.

The original park plan had an abundance of bridle trails. Interestingly, there were no pedestrian trails indicated in this plan.

Historical Structures

1. Wentz Camp. There are many structures of historical significance on the site, but none so unusual as Wentz Camp--castle-like structures on the prairie instead of at Disneyland. Wentz Camp was built in 1930 by Lew Wentz as a Boy Scout youth camp. Originally there were 10 cabins, a caretaker's house, 2 restrooms, mess hall, water tower, and the swimming pool. The golf ball-like water tower is 100 feet in height and was one of the first riveted towers made. It was custom-made in Chicago for a golf course but not purchased as planned, so Mr. Wentz bought it for the camp.

The elaborate swimming pool and the sunbathing steps were completely tiled. The pool overlooks the lake and the Lew Wentz public golf course. Originally, it featured an elaborate fountain and neon lights around the inside walls of the pool above the water line. Mrs. Smith, the former caretaker at Wentz, recalled how Mr. Wentz enjoyed sitting up in the pool tower in the evenings and making the lights "dance" off and on (56).

Mr. Smith, the camp's original caretaker, added a double garage to the caretaker's home. He converted the two original restroom buildings into cabins after building two new restroom buildings. The present concession building north of the pool was also built by Mr. Smith. All of

the above improvements were constructed of stone collected from the site and built in the same style as the original camp structures.

Southwest of the camp is a boat house where Mr. Wentz used to keep his boat. Mrs. Smith said he enjoyed taking the children out on the lake for rides (56). West of the mess hall is a stone serpentine wall and steps built into the limestone outcrops as well as a large firepit. The area has become covered with vegetation due to a lack of maintenance.

2. Fishing Dock. It is not known when this dock was built, but its native stone walls have been incorporated into the natural limestone outcrops and shoreline of the eastern bank of West Lake Ponca.

3. Shelter House. This shelter was apparently built by the CCC in the 1930's when they built the bridges for the road leading there. It is in an underutilized area and has suffered from neglect and vandalism.

4. Limestone Right of Way. Cut limestone boulders are to be found along the roadway leading to the shelter above.

5. Limestone Right of Way. As in No. 4, limestone boulders were placed along the roadway to delineate the roadbed. Other boulders can be found along other roads in the park, but this one on East Dam Road is the most prominent. Also in the park are numerous fence rows made with stone fence posts.

6. Pageant Area. When asked on the survey if they had been to the pageant, over 40 respondents said they had; however, only 10 of the respondents had lived in Ponca City at the time of the pageant. No date is definite, but sometime in the mid-1950's, one summer a pageant was held.

"Bride of the Morning Star" was performed for only two or three nights because of rain on the other evenings. The play was about the opening of the west and Pawnee Indian customs, namely, the sacrificing of a young maiden to the spirits. Mr. Truman Smith, who was a participant in the original play, recalled it was a huge production with many actors, musicians, and stage props--wagons, canoes, horses (58). In the grand finale, the Boy Scouts lit campfires across the lake. The show, which was seemingly seen by so few, was such a success that to this day the site on which it was staged bears the name Pageant Area.

7. Lake Ponca Park. This was the original campsite for the CCC boys in 1935. The large shelter house with a kitchen and the restrooms were built by the CCC. They also built an outdoor oven, numerous fireplaces, one of which is approximately 12-foot tall, pedestrian bridges, and paths throughout this area.

8. Shelter House. This has become known as the "Crows Nest" as it sets on the bluff overlooking Lake Ponca Park below. It was constructed of native stone and has an adjacent patio with firepit. Seating was arranged around the perimeter by fitting the stones together to form seating areas. Stone steps still lead down to the creek below. Along this western edge of the creek is the limestone bedrock from which the stone was quarried during the busy building period of the 1930's.

9. Concrete Mixers. Here is where the concrete was mixed on-site to build the massive spillway. An article in the Ponca City News from that period described three different levels from which concrete was

being poured into the construction forms (46). All that remains today are shells of those structures.

10. Explosives Storage. Two stone buildings with steel doors still stand as reminders of 1934 when the lake was being formed. The lake was carved out quite deep in the middle, and the abundance of limestone must have necessitated the use of dynamite. These buildings were used for storing those explosives.

11. Windmill. A windmill was built into the limestone ledge to catch the natural runoff draining into West Turkey Creek. At this time one can only use their imagination to hear the windmill turning and wonder where the splashing water was being piped away to.

12. Rockcliff Country Club. The present VFW building was originally the clubhouse of the Rockcliff Country Club. According to Mrs. Smith, the country club went bankrupt and Lew Wentz took it over. The golf course itself became part of West Lake Ponca when it was impounded. Most of the land there and elsewhere was sold to the city for approximately $50 per acre so that the two lakes could be built.

Summary. In order for the public to fully appreciate the history of the park, a path system linking all the historic structures would be an important part of this concept. It would also be important to educate the public about the history at each site through pamphlets, signs, guides, etc. Another element to consider would be the building of an amphitheater to stage each summer the "Bride of the Morning Star" as well as other productions and concerts.

To insure the preservation of the existing structures, steps should be taken to place them on the National Historic Register. It would also be appropriate to establish guidelines for future development to insure that new developments adhere to the historical theme of the park. An example would be the use of native stone veneers on all future structures. Gateways at the major entrances similar to those at Lake Ponca Park would be a key element to establishing the park's historical identity as well as making the entrances more pronounced.

Concept 3

Marion Clawson classified recreation areas into three types: user oriented, resource based, and intermediate. Characteristics of these three were based on location, size, major activities, when usage occurs, and agency in charge (8, p. 136). Another classification established by the Outdoor Recreation Resources Review Commission consists of the following areas:

Class I - High-density Recreation Area
Class II - General Outdoor Recreation Area
Class III - Natural Environment Area
Class IV - Unique Natural Area
Class V - Primitive Area
Class VI - Historic and Cultural Site (7, p. 36)

Gold classifies parks and recreation areas as one of the five subgroups under community development and social welfare. The other subgroups are "historic preservation districts, cultural and archeological sites, public and institutional building sites, and land use buffers" (25, p. 59). Gold emphasized that parks are only one use of open space, and the designation "open space" can be multipurpose.

Concept 3 classifies recreation areas within Lake Ponca according to their usage. It is illustrated in Figure 17, p. 92 . Its emphasis is on the separation of activity areas and circulation patterns. These activity areas are designated by usage as follows: active recreation, passive recreation, and natural areas.

Active Recreation

Activities included in the active recreation classification would be as follows: power boating, waterskiing, jet-skiing, sail boating, golfing, camping, swimming (both in a pool and on a beach), team sports (baseball, softball, etc), snack bar concessions, tennis, horseshoes, ice skating, rifle and archery ranges, vehicular roads, biking trails, jogging and fitness trails, handicapped access, and special events (such as the Grand Prix and Boat Show). Associated with these activities are the elements of major disturbance to the natural environment through loud noise, traffic size, participation rate, time to engage in the activity, and minimum space requirements.

Passive Recreation

Passive recreation would include activities such as fishing, picnicking, relaxing on benches, pleasure driving and sightseeing, walking, handicapped access, and biking. An outdoor theatre could be here or in the active recreation classification since its capacity usage time would be so limited. Activities in this classification usually require less space, less density and congestion by participants, and lower noise levels, resulting in less disturbance to the natural environment.

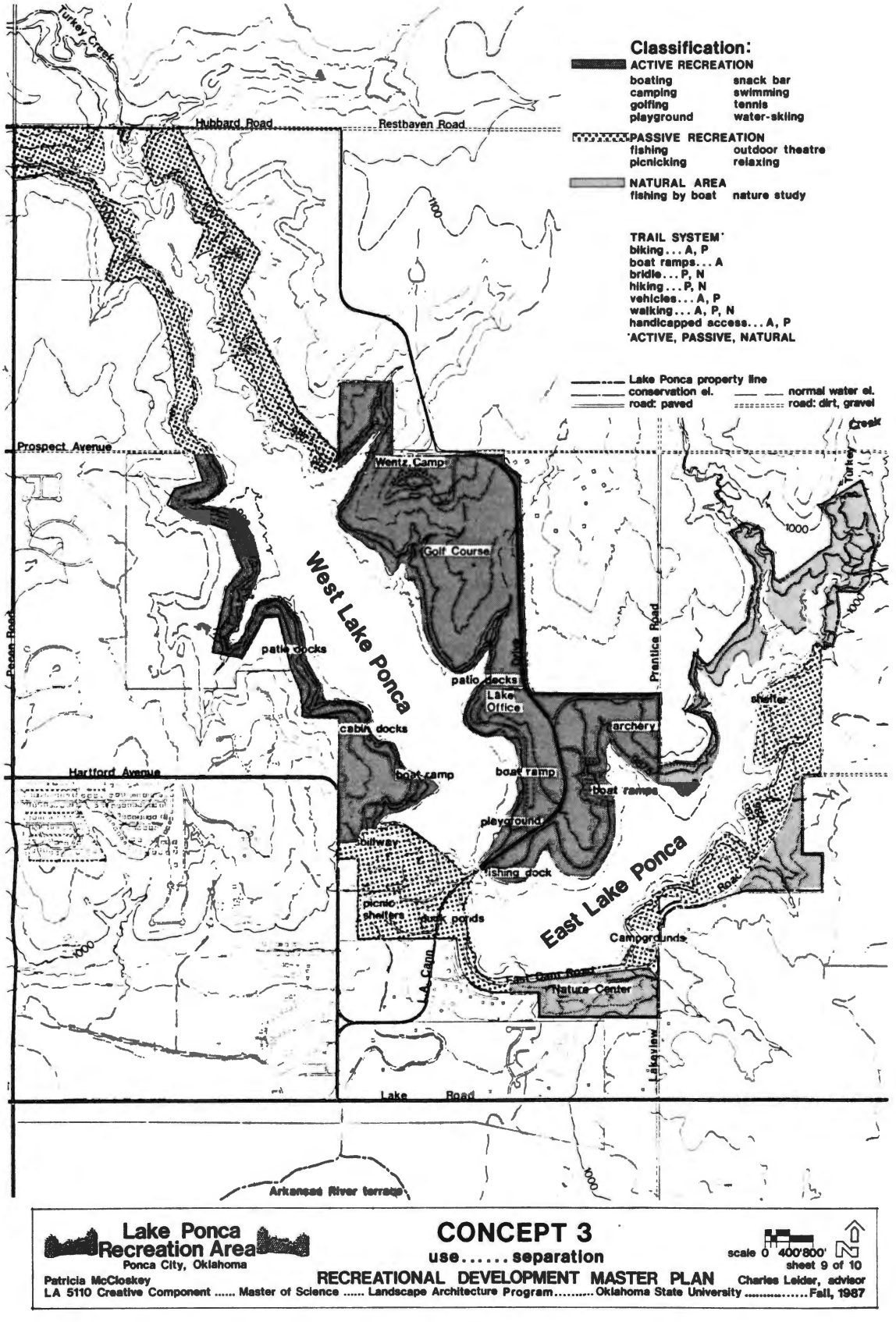


Figure 17. Concept 3

Natural Areas

Natural areas will not exclude man's presence but will limit his usage of the area. Here it will be important to disturb the ecological makeup of the area as minimally as possible. No hard surface roads or paths should be allowed, nor pollution emitting equipment. Here activities such as hiking trails, bridle trails, boat fishing, bird watching, and nature study are conducive to this environment.

By concentrating like activities in specified areas, the overall result will be more satisfaction to users, less disagreement by users, and a safer environment because enforcement and patrol can be localized where it is most needed.

Summary

The above three concepts for a master plan design were presented to a joint meeting of the park board members, parks and recreation director and landscape architect, and the city planner. There was discussion about all three concepts and their merits. However, when asked which concept they favored developing further, the consensus was that parts of all three plans should be used in the final plan. Primary focus was given Concept 1, but elements of Concepts 2 and 3 were incorporated into the master plan, especially the preservation of the historical structures and the siting of compatible activities together.

It seemed appropriate when reflecting on the existing economic conditions in Oklahoma and Ponca City to enforce the plan that first directs itself to existing problems on the site. The priority issues here are for the health, safety, and well-being of the users. New and improved

facilities are the consequence and a more aesthetically pleasing and enjoyable experience will be the end result.

CHAPTER VII

MASTER PLAN

Design Guidelines

In creating the master plan certain design guidelines were established. These fell into five categories: (1) physical amenities, (2) social development, (3) maintenance, (4) economics, and (5) future development.

Physical Amenities

In the earlier discussions of issues, problems, and concerns at Lake Ponca, the most ovvious ones were those you can "see" with your senses. Following is a list of those physical amenities demanding attention:

1. park boundaries
2. signage
3. parking lots
4. off-road parking
5. boat ramps
6. trailer parking
7. public docks
8. fishing docks
9. handicapped access
10. walking trails
11. facility linkage
12. road improvement
13. dead end roads
14. swimming beach
15. preservation
16. picnic areas
17. night lighting
18. benches
19. retaining walls
20. restrooms
21. water fountains
22. architecture

Park Boundaries--Signage

If a first-time visitor came to Lake Ponca, he would have trouble finding the park; the signage off-site is poor. The signage on-site is also poor. In fact,, one is never told where the park begins and ends. Signs are needed at the entrances to the site to designate the areas as a "park." A sign in combination with a structure would further identify for the visitor where the park boundaries are. Gate structures such as those at the entrances to Lake Ponca Park could be easily recognizable and in keeping with the essence of the park.

Signage within the park should include road names (all interior roads), directional signs to facilities (including arrows), regulatory signs (fishing, boating, park usage regulations), enforcement signs (fines for littering, etc.), and the customary traffic signs. In addition, graphic map signs should be displayed at the lake office and at other points to make visitors aware of where they are in relation to the whole park as well as informing them about the various facilities in the park. All of the park signs should use graphics as well as the written word whenever possible. They should be large enough and well displayed to be easily read by everyone.

Parking

There is a shortage of designated parking areas within the park. There are no curbs, so it is not unusual for cars to pull off the roadway and drive to wherever they want to park. This has resulted in loss of vegetation and soil erosion, especially along the shore. The "make your

own road" has resulted in many crisscross rut patterns throughout the park.

Off-road parking should be prevented through the construction of more paved parking areas, by using bollards or fences along the roadway, with signage forbidding this casual act, and enforcement of the regulations. Some overflow areas should be designated for peak times and special events only.

Boat Ramps

All of the boat ramps need improved design to make them safer and more efficient. There should be a 75-foot diameter turn at the top of the ramps to insure better maneuvering of the trailers backing into the water. There should be no cross traffic at the entrance to the ramp. Ramps and their adjacent trailer parking areas should be completely separate from park roads. Adequate trailer parking should be provided at each ramp.

Docks

Public docks should be provided at all the ramp locations for loading and unloading boats. Mooring rails or additional docks should be available for tying up the boats when not in use. It would be advisable to also provide docks and/or mooring rails at picnic areas to discourage overcrowding at the ramp areas.

Fishing docks are needed throughout the park. Presently there is one stationary dock near the lake office and a floating dock at the canal between the two lakes. However, the access to the latter is steep and dangerous, especially for the elderly. The Oklahoma Department of

Wildlife Conservation presently has a program whereby they will match the city's funds 75-25 for the purchase of two fishing docks (28).

Handicapped Access

There is no handicapped access at Lake Ponca. Even Wentz Camp, which was built for youth by a man who was one of the founders of the Oklahoma Crippled Children's Society, has no ramps or restroom facilities for the handicapped. The heavily-used picnic area at Lake Ponca Park has no ramps or evenly paved walks to aid the handicapped; and the only access to the restrooms is by stairs.

All new improvements should provide barrier-free access (5). Older areas such as Wentz Camp and Lake Ponca Park should be redesigned so that the handicapped are not turned away but can also participate at these facilities.

Walking Trails

A system of trails should be established throughout the park. This is an activity for all ages whose participation rate is on the increase. Presently there are only a few sidewalks in the park at Lake Ponca Park, and these are covered with soil and vegetation and are unevenly surfaced.

The new walks would provide a healthy means of low-cost recreation for many. In addition, the walks would provide the public with more access to the park grounds and would link the different facilities within the park. These trails could be a combination walking, jogging, and biking trail initially. Later it could be determined if the traffic demands separate trails.

Road Improvement

Approximately half of the park's roads are dirt surface. Their vulnerability was most apparent this last year with all the heavy precipitation which left them wet for long periods. They became impassible unless one had a four-wheel drive vehicle. There are several areas where the roadbed surface becomes a limestone outcrop that feels like potholes from the erosion that has taken place. Several blind turns in the roads make 20 MPH feel unsafe, especially when the roads narrow at the same time.

The asphalt-paved roads have some of the same problems as above--narrow roadbeds, blind turns, and the on-going problem of potholes.

Congestion problems around the ramps will be alleviated by the construction of a new road alignment that bypasses the ramp areas. Another solution to the problem will be the addition of more parking areas to eliminate the constant "parking on the side of the road" problem. In addition, it is recommended that the present road on the west bank of West Lake Ponca become an auxiliary road for the cabin dock and patio dock leasees and that a separate new park road be built. There would be one entrance to the cabin dock area and one entrance to the patio dock area off the main park road. This would alleviate the traffic problems on the main road and offer more security for the leasees' property. The two roads should be separated by trees, bollards, or fences.

Dead End

The road on the western shore of West Lake Ponca dead ends at its northernmost point. In the past, there was a bridge that crossed the

creek and connected it to Resthaven Road, but it has been down for several years. It is recommended that this road now be connected to Pecan Road, thus alleviating the necessity for a bridge to be rebuilt. By making this a through road, the problem with dumping should improve as usage is increased and patrol is made easier. Trash and even discarded appliances are being junked where the road currently dead ends.

Swimming Beach

The question of swimming in Lake Ponca has been around since the lake's inception. When waterskiing was permitted at West Lake Ponca, swimming was not. However, disregard for the "no swimming" rule has plagued park patrolmen. There has been difficulty in enforcement because of the lake's size and lack of manpower.

The safety of the swimmers and general demand from the citizenry has prompted the Parks and Recreation Department to recommend the construction of a swimming beach. However, their first choice was a site near the lake office and boat ramp. Upon closer examination of all the site factors, however, it is recommended that the beach be located on East Lake Ponca. The slower boats on that lake coupled with the reduced wave action should provide a safer and more stable beach area. The proposed site is tucked into a cove where it is sheltered from the winter winds but subject to the summer winds cooling effect across the water. There is also ample exposure to the summer sun for sunbathers.

The difficulties necessitated by this location are the removal of many existing trees and the need to move the sailboat marina to another location and eliminate the archery area. After the trees removal, there will still be a large forest buffer area remaining on the northern edge

of the beach. The ramps at the sailboat marina were needing improvement and only mooring rails were left in the marina. Need for the archery area has diminished, and this large acreage has been underutilized and abused in the past.

Preservation

Concern has been expressed by park officials and others to preserve some of the natural areas in the park. The Nature Center falls into this realm. Although a parking lot is recommended for this area, this can be created by changing the road alignment at the intersection of East Dam Road and Lakeview Road without much impact on the Nature Center's interior boundary. The paths within the Center need to be improved, especially in low, swampy areas. Informational signage throughout the area, wildlife blinds, and trail maps are needed here also.

Historic preservation is the other concern at Lake Ponca. Many of the structures at Wentz Camp and the shelter house at Lake Ponca Park are more than 50 years old and are significantly important to the history not only in the park but of the area in which they were built. It is important to maintain these structures and preserve them for generations to come. These and other structures in the park have obviously suffered from lack of maintenance and abuse. It is recommended that these existing structures be preserved and new structures be built with architecture and materials in keeping with the historic theme of the present structures.

Picnic Areas

Lake Ponca Park is the primary picnic area in the park. Its two shelters are nearly always reserved on weekends from spring through fall. The setting here is very conducive to a picnic in the park. There are large, mature shade trees, gently rolling terrain to a creek bed, and a backdrop of forested slopes on the other side. One also has the historic architecture of the shelter house, restroom buildings, steps, and bridges. In addition, there is play equipment, duck ponds, and the spillway to visit.

To alleviate the usage here, it is recommended that new supplemental picnic areas be added along the park roads on West Lake Ponca and at the old shelter house location on East Lake Ponca. These new locations will have the added dimension of providing views of the lakes themselves while one enjoys his picnic. Also, they will be located on the trail system and have dock access to the water.

Night Lighting

Adequate lighting should be provided along the roadways in the park where necessary for safety--at intersections and at directional signs. Boat ramp areas should have sufficient lighting to maneuver safely when loading and unloading boats. Lighting should be provided in all parking areas. There should be adequate lighting along walks and at structure entrances to provide safe access.

Benches

Along walkways, benches should be provided at 600-foot intervals in actively used areas and at one-quarter-mile intervals in outlying areas. This will permit the use of these walks for all ages, including the elderly, for exercise as well as enjoyment. Walkers can use the benches for resting, enjoying the view, bird watching, and nature study.

Retaining Walls

The Turkey Creek area in Lake Ponca Park needs a more stable shoreline, especially where the water is released from the intake tower. The constant release of water and flow velocity is causing soil erosion and continual bank cutting in the release area. The flooding and consequent siltation since the heavy rains of 1986 have caused the water to stagnate between the release valve and where the release channel reaches Turkey Creek below the spillway channel.

Much topsoil from Lake Ponca Park was lost during the flooding of 1986 as well as picnic tables, fireplaces, and bar-b-ques. A retaining wall along the creek area would not stop the water from encroaching into the area during a 100-year flood, but it would prevent the erosion caused by the frequent fluctuations in the lake level when water is released over the spillway. The retaining wall would create a refined edge separating the park from the creek bed.

Restrooms and Water Fountains

Restrooms and water fountains should be located in actively used areas such as Lake Ponca Park, Ambucs playground, and at all boat ramps.

In addition, water fountains are recommended for other picnic areas, playgrounds, and along walks wherever possible. Restrooms should be within 600 feet of activity areas for easy access by all, including the handicapped. Door openings and fixtures should be handicapped accessible. All structures should be well lit with natural and/or artificial light.

Architectural Elements

In keeping with the existing character of the park, all new structures should have a native stone veneer. Also, the bright green restrooms and snack bar should also be faced with native stone. Mr. Smith, the former caretaker at Wentz Camp, knew the importance of preserving the historical flavor of the older structures by keeping new structures in the same architectural mode. He devoted much time and effort to building several structures, two restroom buildings and the concession stand, which he could well take pride in. In this same vein, it is important to maintain a consistency in materials and workmanship as was done at Wentz Camp. The cost is higher for craftsmanship, but the return is even greater--just look at how well the 50-year-old structures have stood the test of time.

Social Development

The second category of design guidelines is concerned with the human side of improvements. Unless the public is made aware of what facilities and programs are available, they will not know to use them. They also need to know the proper usage of facilities and the consequences to them if these facilities are abused. Following is a list of programs for the public's social development:

1. public awareness
2. regulations
3. field trips, classes
4. participation
5. cooperation

Park regulations should be clearly posted at the appropriate places (boating rules at the boat ramps) with more detailed information available at the lake office. Before the busy summer season begins, it would be appropriate to reiterate park rules in the Ponca City News as well as sending literature to Ponca City households with monthly statements and/or via public school take-home pamphlets. Unless the citizenry understands what the regulations are, they can't be expected to know if they are breaking the rules. To be effective, the rules must be enforced.

A step forward in lake programs education would be on-site lectures and hands-on field trips with trained and knowledgeable guides. In this way, interested persons can learn more about the natural environment, park history, fishing methods, boat safety, etc. At the same time, attendees would have the opportunity to enjoy the lake facilities in a more appreciative and safer manner.

The public should be encouraged to be a participant in park decisions--attend park board meetings, have representatives from interest groups join in discussion groups about policy making and improvements for the lake. Suggestion boxes should be set up at central locations for ideas and comments from park users.

Park users should be encouraged to think of others as well as themselves when using the facilities by adopting a slogan such as "litter hurts," "think green," etc. Park personnel must set an example for the

citizenry so that the proper usage and regulations don't lose their importance.

Maintenance

The third set of design guidelines is directed at park maintenance. Following is a list of factors important to improved maintenance:

1. adequate staff size
2. knowledgeable staff
3. cleanup-day volunteers
4. group participation
5. garden clubs
6. prioritizing maintenance areas
7. litter
8. abuse enforcement
9. cleaning deposit
10. capacity standards

To first have a good maintenance program, the staff must be of the appropriate size to handle the jobs that must be done. In addition, the personnel must have the proper training and equipment to do the work properly and in the most efficient manner. To meet these two requirements means appropriating adequate funds for the continual maintenance of the park. A public awareness campaign should be undertaken to inform the citizenry of the high maintenance costs of a recreation facility such as Lake Ponca.

One way to increase public knowledge is through a hands-on experience such as "cleanup day." The annual cleanup day should be better attended. Representatives from different civic and social organizations should participate in addition to members of special interest groups using the lake facilities such as skiing, fishing, and boating groups and patio and cabin dock leasees. In actually participating, the volunteers will better appreciate the degree of maintenance required to keep the

park beautiful and, in turn, can pass this information on to their fellow group members, friends, and neighbors.

In addition, groups and organizations should be encouraged to have their own cleanup day each year in which they as a group devote a day to working in the park--"adopt a mile" or similar programs. The youth of Ponca City, especially the junior-high and high-school age should have their own special day to participate in a volunteer program. Afterwards a picnic and dance could be the rewards for a job well done. A mural competition could be held by the youth to select a mural to be painted on the spillway walls by the youth of Ponca City. This would alleviate the graffiti problem and give the youth an accomplishment to take pride in.

There are six garden clubs in Ponca City. The vast parklands provide ample opportunities for each garden club to "adopt" an area to plant with seasonal color and maintain as their own during the year. High visibility areas would be at the proposed entrance structures to the park and along the proposed walkways. This project would beautify the grounds without increasing the maintenance load of the park employees. It would also bring more users to the park to view the spectacular color displays.

Areas within the park need to be categorized as high-maintenance, medium-maintenance, and low-maintenance areas with time and personnel allocated accordingly. High-maintenance areas should be those areas most visible to park visitors and most often in demand--as usage increases, so does the maintenance. Medium-use areas require less maintenance, and the low-maintenance areas may require only occasional mowing. Summer is the high-usage time for the park and the need for maintenance jumps. It is a time also when youth are available for summer employment.

To ease the litter problem, trash receptacles should be placed in appropriate numbers at sites where they are needed. They should be kept emptied so they don't result in a litter and pest problem. They should be visible but not eyesores; and, ideally, their structure should be more in keeping with the park character.

There is a sign posted at Lake Ponca Park citing the penalty for littering. Enforcement must accompany the regulation to make it effective, and this requires increased enforcement personnel. It is recommended that abusers be required to actively participate in a cleanup program to make restitution.

If an area is overused, the problem of maintenance can't be solved until the usage level decreases. It is important to establish capacity standards for all facilities to determine where control is needed to curtail activity or divert it to other areas. Capacity standards used on a state-wide basis are listed in Table XIII. Standards in Table XIII are converted to the maximum capacity levels for Lake Ponca in Table XIV.

To use the park shelters, a cleaning deposit should be required that is refundable only if the shelter is clean after its use. Repeated failure to cleanup should also include the penalty of either increasing the fee and/or being denied use of the shelter in the future.

The goal here is to have a beautiful park where one doesn't fear for his own safety because of broken glass, discarded garbage and litter, and weed and insect pests. This becomes not only the responsibility of the park maintenance employees but it is the responsibility of each park user.

TABLE XIII

OUTDOOR RECREATION FACILITY CAPACITY STANDARDS*

Activity	Instant Capacity	Daily Capacity	Annual Capacity
basketball	5/goal	20/goal	4,200/goal
bicycle trails	10/mile	50/mile	10,500/mile
boating	15 water acres/boat	1/acre	150/acre
tent camping	8-10 sites/acre	4/site	840/site
vehicle camping	6 sites/acre	3/site	630/site
canoeing	4 canoes/mile	33.6/mile	5,040/mile
fishing	4 water acres/person		75/acre
golf	36 people/9 holes	10/hole	2,250/hole
hiking trail	10 persons/mile	80/mile	18,000/mile
horse trail	5 persons/mile	20/mile	4,500/mile
hunting	4 acres/person		7/acre
nature trail	25 persons/mile	100/mile	22,500/mile
outdoor games playgrounds	6 persons/acre	24/acre	5,040/acre
picnic area	4 persons/table	6/table	1,260/table
sailing	15 water acres/boat	1/acre	150/acre
swimming beach	50 sq. ft. water/ person	0.08/sq. ft.	8/sq. ft.
swimming pool	50 sq. ft. water/ person	0.08/sq. ft.	8/sq. ft.
tennis	4 persons/court	20/court	4,200/court
viewing outdoors cultural events	1 person/seat	1/seat	120/seat
water skiing	20 acres/boat	1/acre	110/acre

* Oklahoma Statewide Comprehensive Outdoor Recreaton Plan (Oklahoma City, OK, 1982), pp. 118-119.

NOTE: Holding capacity standards established by the Oklahoma Tourism and Recreation Department.

TABLE XIV

OUTDOOR RECREATION FACILITY CAPACITY AT LAKE PONCA

Activity	Measurement Unit[1]	Instant Capacity[2]	Maximum Instant Capacity	Daily Capacity[3]	Maximum Daily Capacity
Power Boating	318 water acres[4]	15 water a./boat	21 boats	1 boat/acre	318 boats
Waterskiing	318 water acres[5]	20 water a./boat	15 boats	1 boat/acre	318 boats
Sailing	212 water acres[6]	15 water a./boat	14 boats	1 boat/acre	212 boats
Boat Ramps[7]	3 (4)	1 boat/ramp	3 (4) boats	40 boats/ramp	120 (160) boats
Swimming Beach	(600 ft. shoreline)	50 sq. ft./person	1200 persons	turnover rate: 3	3600 persons
Fishing	805 water acres	4 water a./person	201 persons		
Vehicle Camping	8 (16) acres	6 sites/acre	48 (96) sites	3 persons/site	144 (288) persons
Hiking Trail	(5 miles)	10 persons/mile	50 persons	80 persons/mile	280 persons
Bridle Trail	(5 miles)	5 persons/mile	25 persons	20 persons/mile	100 persons
Nature Trail	3.5 miles	25 persons/mile	87 persons	100 persons/mile	350 persons
Picnic Areas	35 (65) tables	4 persons/table	140 (260) persons	6 persons/table	210 (390) persons
Golf	18 holes	36 persons/9 holes	72 persons	10 persons/hole	180 persons

[1]Based on existing (and proposed) facilities.

[2]Instant capacity standard established by the Oklahoma Tourism and Recreation Department for the Statewide Comprehensive Outdoor Recreation Plan, 1982.

[3]Daily capacity standard established by the Oklahoma Tourism and Recreation Department for the Statewide Comprehensive Outdoor Recreation Plan, 1982.

[4]There are 483 water acres in West Lake Ponca; however, approximately two thirds are available for this sport.

[5]Ibid.

[6]There are 322 water acres in East Lake Ponca; however approximately two thirds are available for this sport.

[7]Standards set forth in Urban Planning and Design Criteria, p. 393.

Economics

The fourth category of design guidelines is concerned with finances. As was alluded to previously, adequate funding must be provided for the day-to-day maintenance; additional funding is needed for capital improvements. The citizen survey overwhelmingly revealed that the public favored increasing public expenditures for improvements at Lake Ponca.

Clawson states five ways in which public outdoor recreation can be provided:

1. general tax revenues (control in legislative body)
2. bond issues
3. special taxes earmarked for outdoor recreation (guns, cigarettes, tackle)
4. grants-in-aid
5. user fees (7, p. 263)

Another method used in the past in Kansas City, Missouri, was the levying of special or benefit assessment (30, p. 36).

Following is a list of revenue avenues that should be explored:

1. Wentz Camp
2. Lew Wentz Golf Course
3. Campgrounds
4. leases and permits
5. shelter fees
6. federal and state assistance
7. donations
8. fund drives
9. private vendors

Wentz Camp--Lew Wentz Golf Course

At present, revenues from most of the various user fees at Lake Ponca are not kept separate from the general fund, so it is difficult to know exactly how much revenue is generated on the site to cover the park expenses. Only two accounts, Wentz Camp and Lew Wentz Golf Course, are presently kept separate from the general fund. Table XV shows revenues

TABLE XV

REVENUES AND EXPENSES AT WENTZ CAMP AND LEW WENTZ GOLF COURSE[1]

	Wentz Camp		Lew Wentz Golf Course	
Year[2]	Revenue	Expense	Revenue	Expense
1974	$17,286.10	$104,384.29	$ 56,983.24	$ 67,107.51
1975	26,040.30	18,699.27	67,539.25	68,989.08
1976	20,661.36	27,778.58	82,592.56	76,766.10
1977	21,490.31	37,644.41	88,815.69	87,116.93
1978	20,112.39	39,008.19	82,444.24	95,655.84
1979	23,153.63	46,551.71	86,672.24	94,022.91
1980	21,251.82	46,612.21	85,812.42	100,653.40
1981	29,265.89	80,705.57	107,061.19	137,974.76
1982	22,257.22	83,054.61	123,063.00	184,738.26
1983	31,108.60	65,959.33	154,406.12	192,375.56
1984	36,056.87	69,658.02	139,336.15	180,577.39
1985	28,413.80	75,165.96	150,549.60	173,347.27
1986	26,100.45	71,983.93	131,790.48	225,260.22

[1] Records in City Treasurer's Office.

[2] Fiscal year ending July 30.

and expenditures from both for the years 1974 through 1986. As can be seen, 1975 was the only year in which a profit was made at Wentz Camp. Since then, expenses have steadily increased until doubling the revenue in 1979 and jumping to 2.75 times the revenue in 1986. In 1978, $8,263.50 was earned at the Wentz pool from admissions, and $6,546.32 was made at the concession stand. This meant that only one fourth of the revenue was from rental fees at Wentz Camp. In 1982, approximately one third of the revenues were from each division at Wentz Camp--rental fees, swimming fees, and concession sales. The camp facilities were rented for 80 days in 1978 but for only 47 days in 1982.

The golf course made a profit in 1976 and 1977. Since then, revenue has been unable to keep pace with the expenses. From a $13,000 deficit in 1978, the deficit in 1985 increased to $41,000 and in 1986, to $93,000. According to golf-course records, 1983 membership fees accounted for 39% of the total revenues, and 1985 memberships were 38% of the total revenues. From the year 1983 to 1985, green fees increased $12,831.75, trail fees increased $685, and daily cart fees increased $187. Golf-course records indicated total revenues for 1983 to be $164,607.08 and $181,689.32 in 1985; however, the city treasurer's office records indicate the total revenues to be $150,406.12 in 1983 and $150,549.60 in 1985.

Other Sources

Other sources of income at Lake Ponca are the campgrounds; cabin dock, patio dock, and ski dock leases; and fishing, boating, and water-skiing permits. Revenues collected from the above for the years 1981 through 1986 are shown in Table XVI. The corresponding number of permits sold during the same years are shown in Table XVII. Permit revenues

TABLE XVI

ADDITIONAL LAKE PONCA REVENUES[1]

Source	1981	1982	1983	1984	1985	1986
Permits	$ 6,721.25	$ 9,669.25	$10,706.50	$11,465.00	$12,180.50	$12,238.50
Campgrounds	10,663.50	10,731.00	5,489.25	5,125.50	7,334.00	7,157.30
Cabin Dock Leases	5,690.00	1,900,00	1,950.00	2,960.00	3,125.00	2,800.00
Patio Dock Leases	1,505.00	2,345.00	2,345.00	3,235.00	3,650.00	2,975.00
Ski Dock Leases		1,313.00	1,680.00	1,710.00	1,800.00	1,500.00
Totals for Year	$23,074.75	$25,958.25	$22,170.75	$24,385.50	$28,089.50	$26,670.80

[1]Records in City Treasurer's Office.

TABLE XVII

PARTICIPATION BASED ON PERMITS SOLD[1]

Type of Permit	Number Sold					
	1981	1982	1983	1984	1985	1986
Daily Fishing	921	766	651	765	905	806
Annual Fishing	373	385	469	568	635	609
Daily Water-skiing	228	335	211	133	145	125
Annual Skiing	133	193	155	165	167	164
Daily Boating	332	478	394	364	361	321
Annual Boating	336	490	428	439	477	473
State Fishing License	152	156	152	190	183	179
Totals for Year	2,475	2,803	2,460	2,624	2,873	2,677

Daily Permits	Peak Months and Number Sold									
	1981	No.	1982	No.	1983	No.	1984	No.	1985	No.
Fishing	April	217	May	153	May	126	May	144	May	199
Water-Skiing	July	68	July	118	July	89	July	43	July	46
Boating	Aug.	76	July	110	July	126	July	94	July	86

[1]Records in the Lake Office at Lake Ponca.

were at their peak in 1986 even though fewer permits were sold in that year than in 1985. After Kaw Lake was opened, many fishermen, boaters, and water-skiers who had regularly used Lake Ponca, diverted their recreation use to Kaw Lake. However, that trend has reversed since 1984 as more of the previous users seem to be returning to Lake Ponca. Permit fees were increased this year; the 1987 fees are in Table XVIII.

Campground revenues peaked in 1982, and they still remained $3,500 lower than 1982 in 1986. There are 16 electrical boxes at the campgrounds with 32 vehicle spaces. The present fee is $7 per night but was previously $5.50.

Cabin dock leases peaked in 1981 and reached a second peak in 1985. There are presently 48 cabin dock leases whose fee increased this year from an annual fee of $75 to $100. This would have meant a potential income of $3,600 in 1986 and $4,800 this year, which would indicate from the totals in Table XVI, not all the leases have been renewed.

Patio dock leases peaked in 1985 with a total revenue of $3,650. In past years there were 96 patio docks; however, now there are 38 patio docks on the western shore of West Lake Ponca and 33 patio docks on the eastern shore. The lease fee for these was increased this year from $50 to $60 per year, which means a potential revenue of $4,260 annually.

Ski dock revenues peaked in 1985 at $1,800. There are 30 docks, which means they were all leased that year with an annual fee of $60. This year, that fee has increased to $80 for a potential revenue of $2,400 annually.

The above fees should be further reviewed, especially the cabin dock and patio dock fees. For exclusive use of lake property, these fees are very low. It amounts to 27¢ per day for the cabin dock property and 16¢

TABLE XVIII

LAKE PONCA FEE ADJUSTMENTS 1987[1]

Description	Fee	Last Adjustment	Proposed Fee
Tent (primitive)*	$2.50	5/84	$4.00
Tent (electric)*	3.50	5/84	5.00
Space (electric w/no air)*	4.50	5/84	6.00
Space (electric w/air)*	5.50	5/84	7.00

Description	Annual	Daily	Last Adjustments	Annual Proposed
Motor Boat	$10.00	$1.00	4/83	Same
Jet Ski and Ski Bikes	10.00	1.00	4/85	Same
Row Boat	7.00	.50	4/83	Same
Sailboat	7.00	.75	4/83	Same
Windsurf	7.00	.75	4/83	Same
Dealer Permits †	15.00	N/A	1/78	$25.00
Ski	15.00	3.00	4/83	Same
Nonresident Ski	N/A	6.00		$20.00
Nonresident Boat	N/A	5.00		$15.00
City Ski Docks	30/60	N/A	(15 years)	$50/$100
Patio Docks #	50.00	N/A	1/85	$75.00
Cabin Docks	75.00	N/A	1/85	$100.00

				Proposed		
					Annual	
Description	Annual	Daily	Last Adjustment	Daily	Single	Family
Fishing	$3.50	$ .50	1/78	$1.00	$3.50	$6.00
Nonresident Fishing						

[1]Source: Ponca City Parks and Recreation Department.

* Fee includes use of water, dump station, and shower facilities. Residents (20-mile radius of Ponca City) - $1.00 Discount. Senior Citizens (65 or over) - $1.00 Discount.

† Dealers have to pay a state permit of $50 before their boats can use Oklahoma waters, plus a Lake Ponca permit.

After Engineering have set the property pins and with commission approval, the patio and cabin docks may be leased for the same fee.

per day for the patio dock property. Even if one only looks at the summer months as the usage period (from Memorial Day through Labor Day), the fee amounts to 94¢ per day for cabins and 57¢ per day for patios. What is even more ironic is that ski docks are more expensive than patio docks, and they are only in the water during the summer months; so they are costing leasees 75¢ per day.

Presently efforts are underway to formally survey the cabin and patio lots, tighten the rules under which they may be leased and require maintenance levels that must be maintained to renew the leases. Once these regulations are adopted, they must be enforced to be effective. There has been interest expressed for additional leases, so this should increase the pressure on leasees to pay higher fees and also improve the maintenance. In turn, the city should provide better services to the leasees. One proposal is to provide auxiliary roads to these properties to remove their direct access from the main lake road. This would mean more privacy and security for the leasees and less confusion for the general public. Signs denoting private property are confusing and sometimes frustrating for citizens seeking access to a public lake.

The use of entrance fees was overwhelmingly rejected by the respondents to the community survey. However, nonresident fees (persons living more than 20 miles outside the city limits) are feasible in addition to the current user fees. The levying of user fees is nothing new to municipalities. In Huus' book, Financing Municipal Recreation, he shows in Table XIX, p. 119, that user fees were common practice in the 1930's (Huus, 30, p. 25). In fact, user fees were no deterrent to boat users in the 1950's. Nonresidents were not allowed to put their boats into Lake Ponca on Sundays and holidays because of overcrowding in the lake.

TABLE XIX

FINANCING MUNICIPAL RECREATION*

Activity	Number Charging	Number Not Charging	Total Number	Percentage Making Charges
Municipal Baths	12	--	12	100.0
Golf Courses	89	3	92	96.7
Boating	23	3	26	88.5
Municipal Tourist Camps	9	2	11	81.8
Swimming Pools	80	26	106	75.5
Handicraft	48	27	75	64.0
Bathing Beaches	32	52	84	61.5
Basketball	53	37	90	58.9
Shooting Ranges	4	4	8	50.0
Baseball	54	64	118	45.8
Bowling on the Green	8	11	19	42.1
Horseback Riding	8	11	19	42.1
Tennis Courts	53	73	126	42.0
Drama	24	36	60	40.0
Gymnasium Classes	23	38	61	37.7
Football	15	51	66	22.7
Horseshoes	16	70	86	18.6
Community Music	11	59	70	15.7
Soccer	8	46	54	14.6
Ice Skating	8	50	58	13.8
Roque	2	14	16	12.5
Skiing	2	14	16	12.5
Picnicking	9	71	80	11.3
Archery	4	34	38	10.5

* Randolph Huus, Financing Municipal Recreation (Kenosha, WI, 1935), p. 25.

NOTE: The percentages in the table are based on the number of municipal departments reporting for each activity, except for Horseshoes, Soccer, Ice Skating, and Skiing, which were listed according to cities.

According to Johnson, reasonable fees do not reduce attendance. His contention is the "old philosophy that if something is free, it is, therefore, not worth attending" (31, p. 96). However, Clawson believes the "number of visits would fall off" if entrance fees are used (7, p. 246). He does state, however, that people would be more willing to pay user fees if they knew that the funds would be earmarked for the recreational facility and related services (Clawson, 7, p. 282).

Shelter fees are appropriate here since there are only two that are presently reserved for use. When reservations are made, there is no time limit placed on their use, so they can be reserved for one hour or all day. Oftentimes they are reserved for more hours than they are actually used and sometimes not used after a reservation has been made. As a result, others are unable to use the facilities just because they have been reserved. The proposed master plan calls for active use of the shelter house on East Lake Ponca, but one additional shelter will do little to alleviate the existing need. However, an hourly fee imposed on shelter use would deter the abuse of the reservation system that presently occurs and increase park revenue.

Federal and state assistance should be sought whenever funds are available. The city is presently seeking a $50,000 renewable federal grant geared towards recreation improvements. The Oklahoma Department of Wildlife Conservation offers many programs, including consultation, restocking, and matching grants such as the present one for fishing docks.

Owners of adjacent land should be encouraged to donate adjacent lands to the city for expansion of the existing parklands if needed in the future. Individuals and groups should be solicited to donate new trees to the park with recognition given. Many trees at Dan Moran Park

were donated and have a plaque at their base bearing the donor's name. Fund-raising drives are a possible means to securing special improvements. Special bond elections earmarked for certain improvements are another possibility. Interested individuals and organizations should be solicited for sponsorship of programs offered at the lake to offset their cost.

When professional consultations are sought by city officials, their recommendations should be followed whenever possible. One case in point is the thorough study done by Poe and Associates in 1983 on the lake spillway (17). The eventual collapse of the vertical walls was forecast in their report. It is important to bring these matters to the public's attention to draw support for the necessary funding for improvements.

The use of private vendors should be considered for programs requiring investment and personnel for which the city does not have the funds or manpower. Such improvements as stables for rental horses, a marina for rental boats, a marine and bait shop, and a snack bar are likely candidates. Local firms should be given priority consideration in leasing the facilities from the city and given ample freedom to make a profit from the venture, especially in its initial stage.

More promotion should be done for Lake Ponca and the existing facilities there. Correct and complete information should be supplied to the Oklahoma Department of Tourism and Recreation for use in their brochures--directions to the campgrounds is incorrect in their current Camping Guide. Attempts should be made to include other features also, such as Wentz Camp in their Guide to Historic Places in Oklahoma. Also, using the Red Carpet Country logo to assist in printing costs for brochures, maps, etc., is recommended.

There are few nature centers in Oklahoma, and the one in Ponca City was not even known to persons in the Audubon Society in Stillwater, just 45 miles south. Groups such as the Audubon Society and the Oklahoma Historical Society will help promote and support areas such as the Nature Center and Wentz Camp--their support should be sought. Area schools should be encouraged to bring their students to visit Lake Ponca. These students will, in turn, promote the lake to their parents.

Daniel Badger, in his report on tourism and recreation, referred to using school children to increase public awareness of the Ponca City attractions and thereby "cultivate future tourists" (3, p. 5). Tourism is the number two industry in Oklahoma, and Ponca City has Lake Ponca as one of its strong drawing cards.

Future Development

The fifth category of design guidelines is that of future developments for Lake Ponca. These are improvements that trends indicate there is a need for now or in the near future but they don't have the priority status of the physical amenities previously mentioned. These improvements need further study as funds become available for their implementation and/or demand increases their need. Possibilities include the following:

1. naturalist and Nature Center building
2. outdoor theatre
3. trails expansion
4. campgrounds expansion
5. marina
6. indoor recreation

One such program may be the need to hire a naturalist and build a structure at the Nature Center. This would be a logical expansion of the

existing facility as usage and interest demand it. A naturalist would be available to guide groups through the Nature Center and other areas of the park and answer questions as they arise concerning the wildlife and vegetation. He could also offer professional guidance when needed about environmental impact to the park from new developments, etc. A building at the Nature Center would allow meetings indoors to view slides, films, and hear presentations about the Nature Center and about other areas in the United States and their natural environments. It would also house rock specimens and other artifacts found on the site or in the area. Improvements to the existing trails--with bridges where needed and a boardwalk in the marsh area--would increase access to areas presently cutoff after rainy periods. Wildlife blinds, trail signage, informational signage, and accurate trail maps are also needed to improve the usage at the Nature Center.

An outdoor theatre was a strong request on the citizen survey and should be explored as a possibility in the future. One possible site where there is presently a man-made amphitheater setting is at the Wentz pool. The pool, which measures 50 feet by 150 feet, could be covered for a stage, or a floating stage could be designed. The sunbathing steps are adequately wide to both seat one row and act as a corridor for the row behind. Handicapped access would be available under the towers at the top of the steps. Additional seating could be arranged along the perimeter or patrons could sit on the grass. There are existing restroom facilities in the Wentz Camp for patrons and the ones under the pool could be dressing rooms for the performers. For thirty years the pageant area had a claim to the park's history for the one outdoor play that was

presented there. Perhaps "Bride of the Morning Star" could be to Ponca City what the "Passion Play" is to Eureka Springs, Arkansas.

Another development for future consideration is the expansion of the walkways. Twenty miles of walkways are proposed in the master plan. These can be widened to include use by joggers and bikers as the need arises. A fitness trail can be incorporated into this original walkway by providing stations along the trail at specified intervals. This trail system can be expanded to join a network of city trails and even a green-belt trail from Lake Ponca to the Arkansas River one and one-half miles south of the park.

Should the demand still be there, the development of bridle trails are possible in the future. This, of course, would be dependent upon the securing of a private vendor to run the needed stables. However, the area at the northern part of East Lake Ponca is overgrown and in a natural state with no access by land except to hike and make one's own trail. This would be worth investigating to use as a bridle trail area with approximately 5 miles of trails.

Camping improvements are proposed for the existing campgrounds to encourage their use. If the demand exists for further expansion of the campgrounds, this would also be worthy of future consideration. Presently there is only one small directional sign for the campgrounds at the canal bridge in Lake Ponca pointing down East Dam Road. As was mentioned earlier, out-of-town visitors following the Oklahoma guide would not be able to find it without asking for directions. Since it is off the main park road, L. A. Cann Drive, it is an unknown resource even to present park users.

There is a need for an additional indoor recreation facility in Ponca City. An indoor facility might be the remedy for the teenagers who are accused of loitering in the park. They would have a place to direct their energies into healthy activities. The building could house racquetball and basketball courts as well as providing needed rooms for crafts, games, and senior-citizen activities. Adjacent to the building, tennis courts, basketball goals, and/or a fitness trail could be built. Adequate parking would need to be provided, and the increased vehicular traffic into the park could be detrimental to the park. Whether or not it should be located at Lake Ponca or elsewhere should be explored. Perhaps a better location might be in the western or northern part of the city with choser proximity to residents.

The important point about future development is that reevaluation occur. What may be the trend today may change in the next few years. A review schedule should be set up to reexamine all the lake facilities every five years. In this way, programs that need eliminating or changing will be looked at before they are underused or overused. New programs can be evaluated to determine if the demand justifies their enactment at that time. And new future possibilities can be set aside for potential development down the road.

Master Plan Recommendations

The five preceding categories of design guidelines has culminated in the Master Plan as shown in Figure 18, p. 126. Legend symbols are used for improvements too numerous to label individually: entrance signs, cabin docks, patio docks, restrooms, fishing docks, loading docks, picnic

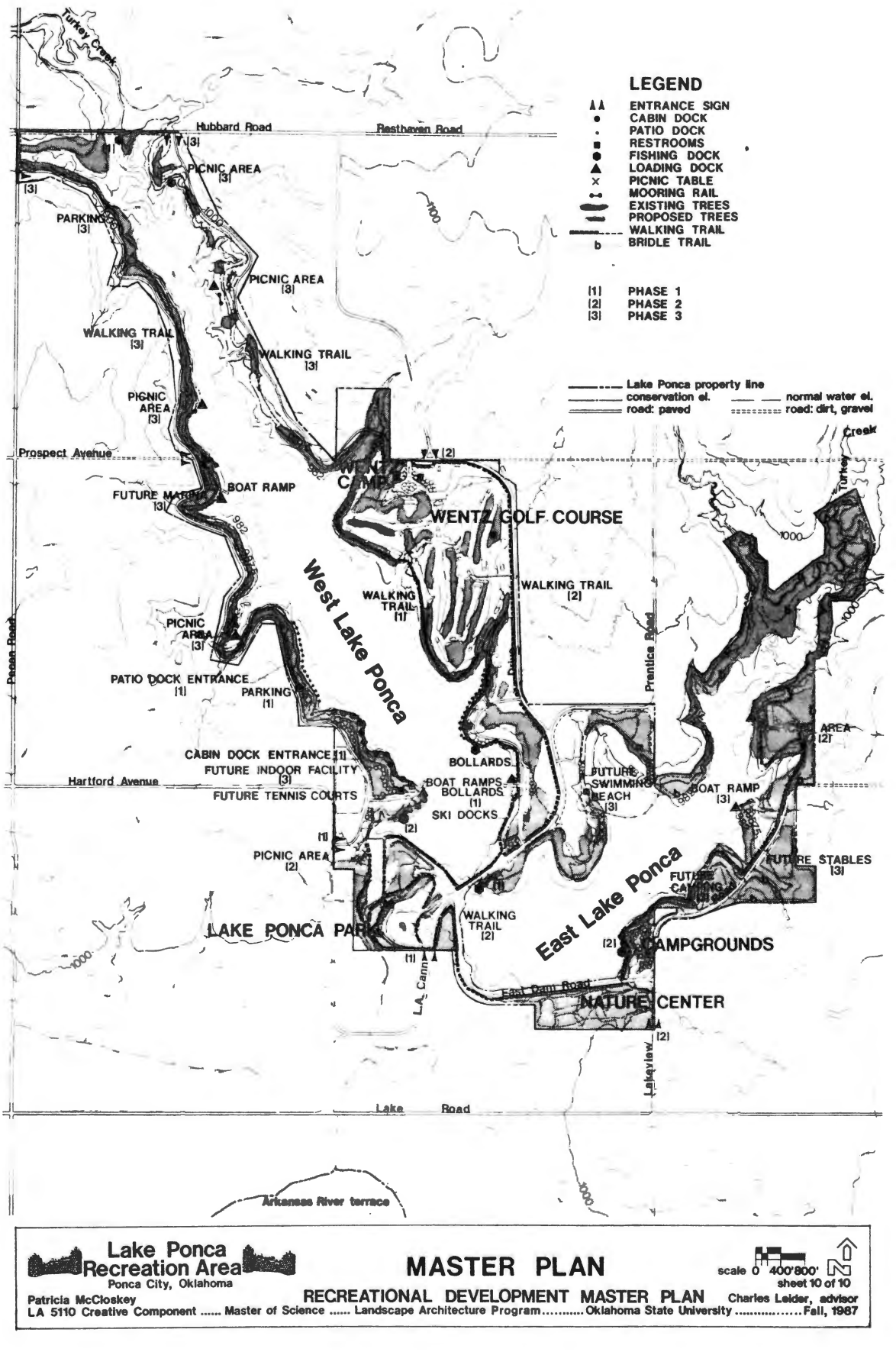


Figure 18. Master Plan

tables, mooring rails, existing trees, proposed trees, walking trails, and bridle trails.

The new facilities and improved existing facilities in the Master Plan for Lake Ponca best meet the needs of the community by providing a variety of programs for the different interest and age groups who will be using them. The Master Plan is cognizant of the needs stipulated by administrators and workers as well as the general citizenry. The recommended site placement of each facility is based on the aforementioned factors in the extensive site inventory as well as space requirements and safety considerations.

In addition to site suitability, facility selection and placement is also geared towards future site potential. Attempts have been made to anticipate future park usage and circulation needs. However, it is important to remember that change is not clearly predictable and reevaluation should be an ongoing process before and after implementation.

Following are the facilities and improvements recommended in the Master Plan for Lake Ponca.

Entrance Signs

New entrance signs are indicated for seven of the nine entrances. The entrance on Prospect Avenue should remain optional, depending on whether or not the new marina and/or boat ramp is built. Ideally, these signs would be constructed of native stone reminiscent of the entrance gates to Lake Ponca Park. They would immediately relay to the visitor where the park boundaries are and a sense of the park's character. Between the formal structures could be movable gates to control park access after hours.

Cabin Docks, Patio Docks

These areas are indicated on the map with solid circles. There are more docks, however, than there are circles representing them. In these areas, auxiliary roads are shown that service the cabin dock or patio dock area. The auxiliary road has only one entrance to the main park road that is parallel to it. This will control access to the dock areas and give the leasees more privacy. There will be less congestion on the main lake with the present off-road parking being removed to the auxiliary road. Trees are recommended for planting between the main lake roads and the auxiliary roads to buffer the dock area and improve the aesthetics.

Restrooms

There are currently five restroom facilities, besides those at Wentz Camp and the golf course, in the park; but all need improvements. The biggest improvement would be to connect them to the city sanitary sewer system. This is not proposed for the near future but should be an ultimate goal. Other improvements are improved lighting and ventilation, the addition of stone veneers, handicapped accessibility, and enlargement of the facilities. Restrooms are proposed for the new picnic area on East Lake Ponca and for the swimming beach and marina should they be built.

Fishing Docks

Fishing docks are located in those areas presently heavily used by fishermen. Parking and picnic tables are also located at two of these sites. Handicapped access is recommended for the dock at the canal bridge where present access is treacherous. A heated fishing dock

replaces one that used to exist on West Lake Ponca north of the spillway--handicapped access is recommended here also. A new fishing dock is located at the campgrounds where access to that dock should be improved to include the handicapped as many senior citizens now comprise the regular users.

Loading Docks, Mooring Rails

Loading docks are located at all the boat ramps. This will enable boat users to load and unload passengers and supplies more easily. They are also located near restroom facilities and picnic areas to enable boat users the use of these facilities. There should be signage posted at these docks designating a maximum time period for usage such as "15 minutes." This will inform boat users that the dock is only for loading and unloading and not for extended use. This will also assure other boat users the same opportunity to use the dock.

Adjacent to the loading docks at the picnic areas, mooring rails should be provided. These structures are less costly than docks and are to be used for anchoring boats for extended periods of time. In order to better utilize the new picnic areas, water users should be given ample opportunity to use the facilities; the loading docks and mooring rails will serve this purpose.

Picnic Tables

Picnic tables are indicated at the new parking areas along the shores of West Lake Ponca. This not only provides vistas for sightseers but also a place to rest for walkers and joggers and a picnic area for others. Mooring rails and loading docks are located at these areas also.

This allows boaters a place to anchor and come ashore for a picnic or shady rest. A new picnic area is located at the old shelter on East Lake Ponca also. Here again are new picnic tables, a loading dock, a mooring rail, and walking trails that connect to other areas of the park.

Trees

Most existing stands of mature trees are to be preserved. However, along West Lake Ponca where the new parking areas are to be built, the understory of these trees is to be removed so views of the lake are opened up. There should be minimal tree loss from the development of walking trails. Here a meandering walk through the trees is preferable to a straight, wide-open walk. If a swimming beach is built on East Lake Ponca, there will be considerable tree loss to that area. However, there will still be a wide band of trees remaining to buffer the beach to the north.

New tree plantings are proposed for new picnic areas and parking lots to supplement existing trees. Many trees are proposed for the open-circle area of Wentz Camp and around the cabins. Shade from trees and ceiling fans would make the cabins much more comfortable during the summer months. Many trees are also proposed for the new campgrounds lay-out. This will enable campers to park and eat in the shade. New trees are proposed for park areas that have mostly elms to supplement the potential loss of the elms to Dutch elm disease. The Parks and Recreation Department would like to keep the park planted with native species--this would also add to the historic character of the park.

Walking Trail

Approximately 20 miles of walking trails are proposed. These are designed to be parallel to the shoreline wherever possible. They are also meant to be highly visible from roadways and well lit to insure safety.

They are separate from vehicular traffic except on bridges and on the dam on East Dam Road, but the possibility of separating them everywhere should be a future concern. The trails are positioned so that only the minimum number of road crossings are necessary. At these crossings, signage and/or caution lights should be used to warn motorists of pedestrians.

The trails circle the park's perimeter except around the northern end of East Lake Ponca. The trail crosses Big Turkey Creek below the spillway. Here the roadway bridge supports that remain from a former road can be used for a pedestrian bridge--new will blend with the old to add a new dimension to the park. On the western side of the creek, the stone steps will continue the walkway until a ramped walk can be built.

Bridle Trail

Approximately 5 miles of bridle trails are shown on the Master Plan around East Lake Ponca. This is an area that is inaccessible by road because the water level is higher than originally planned when the lake was built. As a result, more land is inundated with water than was planned in 1935. Fishing by boat is the only activity along the shore in this area now. Sailing occurs in the deeper area of this lake. In the event a horseriding stable is not developed, this trail plan could easily be

used as a hiking trail. In fact, it could be laid out as a hiking, nature trail first and widened later if a bridle trail is needed.

Campgrounds

A new layout is recommended for the campgrounds site. Presently there is a circular road with continuous parking areas on both sides. There is no feeling of "territory" or privacy for each campsite as all picnic tables and bar-b-ques are in the center of the circle and shared by all. The proposed plan retains the circular drive but makes it larger in diameter. Individual spaces are arranged perpendicular to the road with a picnic table and bar-b-que recommended for each space. Multipurpose equipment such as bench swings, which can be used by seniors as well as children, are recommended for the center island.

Many of the original elm trees have either died or are in poor condition and need to be replaced with new shade trees. Currently, most of the spaces are in full sun. The restrooms are inadequate and an eyesore. They need to be faced in native stone to cover up the lime green concrete blocks. Inside, handicapped access is recommended and more privacy for the stalls and shower provided. The lighting is poor and becomes hazardous in the shower. Paper towels and/or a blower is needed.

Boat Ramps

Improved design boat ramps are proposed for the two existing boat ramps on West Lake Ponca. The main lake roads are to be routed around the entrances to the ramps and their adjacent parking areas. A double ramp, 30' × 40' wide, is recommended for the ramp on the eastern shore. A single ramp, 12-15 feet wide, is recommended for the western shore. A

75-foot vehicular turnaround is required at the entrance to the ramps (DeChiara, 13, p. 393).

Parking for trailers and cars adjacent to the ramps should accommodate 40-60 vehicles per ramp. A public dock for loading and unloading passengers is needed at each ramp.

Bollards are indicated for use on the road that crosses the turnround area at the ramp on the eastern shore. These will prevent through traffic from interfering with the launching of boats in the summertime. However, they may be removed in the winter months or when needed for service vehicle access. They can also be removed when the annual Grand Prix races are held on July 4.

Phases of Development

The above improvements are prioritized into phases of development according to demand, seriousness of the problems they solve, and financial feasibility. Although there is no set time frame for these improvements, it is recommended that Phase 1 start immediately. A long-range goal could be to complete each phase in five years with the completion of two improvements per year as an intermediate goal.

Phase 1

In the first phase, the following improvements are listed:

1. boat ramps on West Lake Ponca
2. trailer parking at ramps
3. loading docks at ramps
4. auxiliary roads/ new main road on West Lake Ponca
5. fishing docks
6. entrance signs/interior signage
7. retaining walls at Lake Ponca Park
8. handicapped access at Lake Ponca Park/canal fishing dock
9. night lighting

10. restroom improvements
11. walking trails

Boat Ramps

The two existing boat ramps should be addressed in the first phase of improvements. These are areas of heavy congestion in the summertime with safety the big goal here. The new ramp designs will also make launching the boats more efficient.

Adjacent parking areas to the ramps should be hard surfaced and are designed so trailer parking is simpler and maneuverability is good.

Loading docks at ramps will make it more convenient for passengers to board boats after they are launched. Signs will need to be posted with a time limit so they are not left unattended.

Roads

The auxiliary roads for the cabin dock and patio dock leasees on the western shore are in the first phase. These roads will essentially be the park road that exists today. Parking for the leased properties now occurs between this road and the structures. A new main park road will be built with an island or buffer zone between it and the auxiliary road. Access to the auxiliary road will occur at only one intersection for the cabin docks and an intersection for the patio docks. Trees are to be planted in the buffer zone to screen the structures from the main road.

Fishing Docks

Two fishing docks are to be added at this time because matching funds are available through the Oklahoma Department of Wildlife

Conservation. The fishing dock at the canal should be refurbished if needed because a handicapped ramp to that dock is included in this phase. The parking area there should also be improved and two picnic tables added.

Entrance Signs

Entrance signs and structures are planned for this first phase at the southern boundary on L. A. Cann Drive and at the entrance to West Lake Ponca at Kygar Road. Signage for all the interior of the park should be done at this time. They should all be consistent in style and easily read. A large map sign of the whole park should be displayed at the lake office--sandblasted/painted wood is recommended.

Lake Ponca Park

Retaining walls made of native stone should be built at Lake Ponca Park along Turkey Creek and at the release pipe from the intake tower. Handicapped access is needed at Lake Ponca Park during the first phase. The large shelter houses host many large groups, some of whom need handicapped access. Ramps from the parking area to the shelters is needed. A path is needed to connect the shelters to the restrooms without steps. Four parking spaces in the parking lot should have signage for handicapped vehicles only.

Lighting

Lighting at this area should be improved in the parking area, between the shelters and the restrooms, and in the restrooms. The restrooms should have their original windows replaced with glass and the

concrete removed. The one light fixture presently in use is inadequate and needs to be improved upon. Ventilation needs to be improved also. Handicapped access to use the facility needs to be addressed--handrails, etc.

Lighting improvements should also be made at the new ramp and parking areas as well as along the new roads. Intersection signage should be well lit also. All restroom facilities and adjacent parking areas in the park should be will lit.

Walking Trails

Approximately six miles of walking trails are earmarked for the first phase with about the same amount in each phase thereafter. The trails in the Lake Ponca Park area and along the eastern shore of West Lake Ponca are to be built first. The trails in the Lake Ponca Park area will be heavily used by visitors who picnic there already--the trails will expand their access to the different areas on the site.

The trail along the shoreline will perhaps be the most enjoyable. The public will have a close-up view of the lake and its activities while enjoying a healthy stroll. This area has been exclusively the enjoyment of those who play golf in the past--the vistas from the golf course are great. The trail will be laid out to keep adequate distance between it and the golf course tees and greens. A vegetative fence would be preferred, but a chain-link fence may be necessary to separate the two activities.

This first phase contains improvements for many interest groups--boaters, fishermen, leasees, sightseers, and handicapped. It also has

something for all age groups. It will make a day at Lake Ponca safer and more enjoyable than ever before.

Phase 2

The following improvements are listed for the second phase:

1. walking trails/benches
2. campgrounds improvements
3. nature center improvements
4. picnic areas
5. entrance signs
6. heated fishing dock
7. restroom improvements
8. parking/handicapped access at Wentz Camp

Trails

Approximately 6 more miles of walking trails are to be built in the second phase. These should be extensions of those built in phase 1, including a complete loop around Wentz Camp and the golf course and continuing out to East Lake Ponca.

Benches

Benches are to be installed along the walking trails built in phase 1 and phase 2. These should be placed in the shade facing a pleasant view. This insures that they'll not only be used by walkers for a rest, but by others to enjoy the sights from that spot.

Campgrounds

The new layout for the campgrounds should be done in the winter or early spring months so construction won't interfere with summer usage.

In fact, campers should be forewarned before improvements commence so they'll be eager to return and use the new facilities.

A hard surfaced road should be built in the campgrounds. By making the radius of the loop road larger, the same number of campsites can be accommodated, but with individual spaces so each camper has a sense of his own territory.

A new fishing dock with a ramped path should be added at this time. Improvements should be made to the restroom facility--addition of stone veneer over the green concrete blocks, doors or curtains in the shower, more efficient lighting and ventilation and a means of drying ones hands.

Shade trees should be planted after the above improvements are completed. They should be planted so each campsite will be shaded from the hot summer sun. They should also be planted around the restroom building and the caretaker's home. They should be planted along the entrance road to the campsites to make the area more inviting. Signage for the campground's entrance should have been done in phase 1, but signage within the campgrounds should be done now.

Pamphlets listing the regulations at the campgrounds and lake should be presented to each guest when he checks in. A map showing all the lake facilities should also be included. A suggestion box should be placed at the restroom building for visitors' comments and recommendations. A review of the rates charged would be appropriate at this time. Signage on the highways should be used to promote the campgrounds to travelers, and The Oklahoma Guide to Camping should contain correct directions to the campgrounds.

Nature Center

A parking area for the nature center should be built near the entrance, preferably on the same side of the road so school-age children will not have to cross the road.

Trail improvements should be undertaken when needed--bridges across streams and a boardwalk type path in the wet areas. Wildlife blinds and occasional benches would be advantageous.

Signage needs to be added--trail names and markings and informational signs at the appropriate sites. Seasonal information about the different wildlife and vegetation could be in pamphlet form at the Nature Center entrance in addition to trail maps.

Picnic Areas

Two new picnic areas are to be added in this phase. The first is located west of the crest of the spillway. This is always a point of interest, seeing the water flow down the spillway channel. A walking path was to be built connecting this area to Lake Ponca Park in phase 1.

The parking area should accommodate 10-20 cars for picnickers, walkers, and sightseers. Four picnic tables should be installed initially and more added if the need is there. New shade trees should be planted around the parking and picnic area. The "Crows Nest" shelter house should also be improved at this time as an additional picnic site. A ramped walk should connect it to the new picnic area and Lake Ponca Park below.

The second new picnic area is at the old shelter house on East Lake Ponca. The shelter needs a facelift, and the whole area cleaned up from the years of vandalism and litter here.

Additional picnic tables and bar-b-ques are to be added as needed. A ramped path to the water is to be built when a loading dock and mooring rail are to be installed. This will provide a picnic area for fishermen and sailboaters to anchor and enjoy some time on shore.

A paved parking area and access road are to be build. All the crisscrossing dirt roads will then be allowed to return to natural vegetation. This area has tall grass bluestem and other native grasses which should be preserved and not randomly mowed.

This area will connect to the central part of the park with the completion of the walking trail in this phase.

Entrance Signs

Two new entrance structures and signs are to be built in this phase. One is where L.A. Cann Drive enters the park north of Wentz Camp and the other is where Lakeview Road enters the park east of the Nature Center. It is important that these entrance gateways match those built in phase 1.

Heated Fishing Dock

There was a heated fishing dock on West Lake Ponca years ago--I was reminded of that on the citizen survey. A replacement is now recommended for that same location, north of the spillway. A paved parking area is to be provided as well as handicapped access to the dock. Signage should be added at the auxiliary road so park visitors will know where it is.

Fishing regulations should be posted at the dock along with a map giving directions to the lake office if a permit is needed.

Restrooms

Improvements should be made at all the restroom facilities. Enlargement of the facilities should be done if needed, and native stone veneer should be added to the exterior. Sanitary sewer service to the two facilities on West Lake Ponca should be added if it hasn't been already. A paved parking area should be built next to the restrooms in the patio docks area. This facility had to be moved when the new park road was built to augment the auxiliary service road to the leased properties.

Wentz Camp

Many improvements are needed at Wentz Camp. Shade trees need to be planted around the cabins and in the picnic areas to provide protection from the hot summer. There is a starkness of the stone buildings in the open which needs to be softened with landscaping. Tree plantings would be the most economical and low in maintenance.

A parking area is needed for Wentz pool users--presently parking is on the road shoulders at the entrance. The road becomes one lane for cars with patrons also walking in it. A parking area is proposed east of the entrance. The existing fence is to be moved south enough to allow for parking and to keep the lot outside of the camp itself.

The addition of amenities such as ceiling fans and screens on the windows would make the cabins more comfortable. Air conditioning in the mess hall would give campers relief from the heat also.

Providing handicapped access would create new group opportunities for the camp. All the cabins and other buildings should be connected by sidewalks with ramps at the curbs. A ramped entrance should be provided at the mess hall. There have been groups in the past who have gone elsewhere because one or two in their group needed handicapped facilities.

The pool area is losing its original tiles--they are coming lose from the cement and are cracking. Past repairs have taken the form of patching the open spaces with concrete, which detracts from the structure. Retiling the pool deck and sunbathing steps should be investigated to find the best solution to this problem. Preserving the pool's original beauty is very important, but the safety of the pool users cannot be shortchanged.

These improvements in phase 2 also meet the needs of many special interest groups--hikers, campers, picnickers, fishermen, boat owners, sightseers, and the handicapped.

Phase 3

This phase lists the following improvements:

1. entrances/entrance signs
2. road improvements
3. walking trails
4. hiking trails
5. parking areas
6. swimming beach
7. sailboat ramps
8. stables
9. outdoor theatre
10. marina

Those items numbered 5 through 10 are subject to review to determine if they are still in demand when the time arises for their implementation.

Entrances

A new entrance is proposed for Pecan Road south of Resthaven Road. The road now dead ends because the bridge is out that used to connect it to Resthaven Road. It would be more economical to take the road about 800 feet west to Pecan Road. Making this a through road would make it easier to patrol and eliminate the dumping problem existing here.

With the opening of the new entrance, it is recommended that the entrance at Prospect Street be closed. This will make park access control easier and increase use of the park road north of Prospect where new development is to take place.

Entrance Signs

New entrance structures are to be built at both of the northernmost entrances to West Lake Ponca. They should be consistent in design and materials to those formerly built at the other entrances. Gates which can be locked after hours should also be installed. This brings to a total of six the number of entrance structures built.

Road Improvements

The park roads on both sides of West Lake Ponca should be paved at this time. Road realignment should also occur where there are tight, blind corners to improve safety. Other facilities are to be built along these roads, and they need to be able to handle the increased traffic.

Walking Trails

The third phase completes the approximately 20 miles of proposed walking trails in the master plan. The trails around West Lake Ponca are

to be completed at this point. These trails will enable the longer distance walker to vary the areas he covers on different days. The proposed parking areas will also enable one to park and take short walks throughout the parklands. Again, review should be made to determine if any of the existing trails should be widened to accommodate bikers, joggers, and walkers together. These larger trails around West Lake Ponca will enable the jogger to safely jog separated from vehicular traffic which he faces when jogging on city streets.

Hiking Trails

The trails around the northernmost part of East Lake Ponca are earmarked for this phase. These should be tramped out with as little use of machinery and equipment as possible so as to cause only minimal disturbance to the natural environment. These trails should be marked so they are easily followed as the understory growth attempts to recover its ground during periods of low usage. Informational signage (mileage, etc.) should be visibly placed along the trail. Parking for the hiking trail is at the picnic area on East Lake Ponca.

Parking Areas

Four parking areas are to be built on West Lake Ponca, two on each shore. One parking area is located at Windmill Cove, site of a former boat ramp. There is already a parking area there that just needs repair and definition. Picnic tables, a loading dock, and a mooring rail are also to be installed at this parking area. The other parking area on the western shore is south of the new entrance off Pecan Road. Presently,

only a parking area is planned with some clearing of understory brush to open the views of the lake at this point.

The northernmost parking area on the eastern shore is oriented around a fishing dock. There are picnic tables, and a fish cleaning area is also planned at this parking area. The second parking area to the south has picnic tables, a loading dock, and a mooring rail. The above four new parking areas and their amenities are to be built as the demand warrants them.

Swimming Beach

The site proposed for the beach is in a cove off the main lake area, away from the sailboats, fishing boats, etc. It has slopes conducive to a beach, "above water: sand surface should be five percent or less; minimum--two percent. . . . Below water: seven percent--desirable" (Fogg, 21, p. 120). Slopes and trees behind the beach area will buffer it from the northerly winds during the winter. Yet it will benefit from the southerly breezes of summer. The proposed site meets the physical requirements for a "shoreline swimming unit." This is an area with 600 feet of shoreline, 565 feet of land corridor, 100 feet of water area, a change house, and restrooms. It can accommodate up to 1200 persons at one time (DeChiara, 13, p. 392).

Before a swimming beach can be built, however, many questions need to be answered. One is to approximate the number of persons who will be using the beach. That number will also dictate the number of support facilities needed--bathhouses, restrooms, showers, drinking fountains, telephones, parking spaces, and snack bar. There is the question of

providing life guards in addition to safety floats and swimming floats. Handicapped access to the water should also be considered.

A picnic area is proposed as an adjacent activity area. A snack bar and restrooms could be located between the two areas to provide service to both areas. Other activities, such as a children's playground, can be added.

The liability and cost of installation associated with a swimming beach must be investigated thoroughly. The citizen survey done in 1987 indicates the demand is there, but is there enough to warrant this high expenditure improvement? Fogg estimates the cost of a "shoreline swimming unit" with its support facilities to be approximately $1,000,000 (Fogg, 21, p. 183). Upon its completion, revenues could be expected from concessions, locker rentals, and user fees.

Sailboat Ramp

If a decision is made to build a swimming beach, its proposed site would mean the removal of the sailboat ramp from its present location to a new location across the lake. The present location suffers from siltation problems, a nearly level slope, and water fluctuations. The new location has a slope within the more desirable range, 13 to 15% (Fogg, 21, p. 132). A single lane ramp is proposed with a 75-foot turnaround and parking for 40 vehicles and trailers. A loading dock would be near the ramp.

Stables

If the demand still warrants horseback riding rentals, a vendor should be sought for this facility. This enterprise would require a

large initial investment of horses, buildings, trails, and personnel. Someone with expertise in a horse rental operation could best determine if the need and the available acreage would justify a profitable venture. For these reasons, seeking a private vendor to undertake this operation seems appropriate.

An area across from the proposed sailboat marina could be used as the stables area. From this point, bridle trails would be opened to merge with the hiking trails previously plotted around East Lake Ponca. A decision would then need to be made concerning the joint use of the trails by hikers and horses or if new trails would also be needed.

Outdoor Theatre

A review of demand for an outdoor theatre should be examined and also the possible sites for such a facility. Possible sites mentioned earlier were the Wentz Camp pool and Pageant Area. Another possible site would be at the new picnic area on East Lake Ponca. Each of these areas will have the needed open space, parking facilities, and restrooms. Wentz Camp already has a concessions stand. The Pageant area will have a concessions area if the swimming beach is built. All the areas will need additional parking spaces and restroom enlargements should an outdoor theatre be added to their area.

Marina

The final consideration for phase 3 is a marina operated by a private vendor. If the demand for rental boats remains high, a vendor should be sought to satisfy this need. As in the case of the stables, the initial investment and expertise necessary to manage this operation

would seem more appropriate for a private vendor. This would be an opportunity for an existing marine dealer in Ponca City to expand his operation to the lakeshore itself.

A marina and new boat ramp area is proposed adjacent to the present Prospect Street entrance. Access into the park would be easy here and the site affords a protected cove area with good slope for the ramp. Boat storage, bait and marine supplies, fuel, and boat sales are possibilities in addition to rental boats for this marina.

CHAPTER VIII

CONCLUSIONS

The preceding chapters reveal the results of my investigation of Ponca City, its people, and the need for a Master Plan for recreational development at Lake Ponca. A design process ensued which, built upon research, resulted in the Master Plan. Zeisel believes that doing research and "designing an environment" have great similarities and that understanding each can enhance the other. He states:

> Research is a purposeful, systematic way to improve knowledge. Design can also contribute to a body of knowledge when designers commit themselves to share what they know, when they approach design problems as opportunities to learn what they do not know, and when they make design decisions that contribute to inquiry (Zeisel, 63, p. 221).

The Master Plan outlined in this report is not a dictation to be followed word for word, but instead, it is a guide. It is designed as an aid to decision-makers--give them a solid base of information with which to make decisions, but it also urges them to be open-minded about garnering even more information when the time comes to make a decision.

Once the decision has been made to implement an improvement in the parklands, management can become the key to its success. According to Miles and Seabrook, "The apparent (not necessarily the actual) attitude of management in virtually every sphere dictates visitor behavior to some degree." They ascertain that the manner in which a facility is maintained and the employees' attitudes influence the way in which visitors

treat the facility. "The price of success is eternal vigilance" (38, p. 124.

For management to be effective, it must be aware of how the facility is being used by visitors, what visitors want to do at the facility, and their perception of how the facility is to be used. Monitoring activity on-site will enable management to "identify and measure changes which actually occur" (38, p. 127). Changes to the site are inevitable, but that change can be directed. Therefore, management must know what changes are occurring so that "primary operations of management--appraising objectives and policies, implementing any corrective action into the plan and imposing, if necessary, controls on future plans" can proceed (38, p. 129). Jubenville states, "Plans do not make decisions; they give goals to be accomplished and direction in achieving the goals" (32, p. 20).

Two goals were established in Chapter 1: design a master plan that best utilizes the site for designated recreational facilities and design a park that could be used by everyone in the community. The Master Plan fulfills these goals. It defines which activities and improvements should be in the park and where each is best sited. The plan does not attempt to include every program desired by the citizenry, but rather to prioritize those programs desired by the majority. In doing so, it is assumed that everyone will be able to participate in at least one program if he or she desires to do so.

The design guidelines in Chapter VII are to be used as aids in implementing the Master Plan. They explore the existing conditions at Lake Ponca and their possible remedies. They delineate why programs in the Master Plan are included and their juxtaposition to each other. These

guidelines illuminate the interrelationships within the Master Plan and how each element is an important part of the total plan.

The recommendations in the Master Plan are, however, just the beginning. The implementation, management and maintenance must follow. The implementation will be dependent on securing the necessary funding--this will be the true time determinant. Funding for improvements alone, however, is not the answer. Funds must be allotted for adequate maintenance after implementation if the improvements are to remain functional and safe. Management of the park programs also demand adequate funding. Good management can make good programs even better, and poor management can make even good programs bad.

In the end, it is the people--be it management, users, nonusers, or promotors--who will determine its fate. Lake Ponca can be a success story today, just as it was in 1935, if it has the determination, enthusiasm, and support of the citizens of Ponca City behind it.

BIBLIOGRAPHY

1. Abercrombie, Louise, Ponca City News reporter, personal interview, Ponca City, OK, February 27, 1987.

2. Badger, Daniel D. & Cabbiness, Sidney G., Market Analysis for Kaw Lake, Dandy-B-Enterprises, Stillwater, OK, 1980.

3. Badger, Daniel D., Recommendations to Stimulate Economic Impact from Tourism and Recreation in Ponca City, 1985.

4. Bain, Carl and Sarah, Wentz Camp caretakers, 1969-1987, personal interview, Ponca City, Oklahoma, March 19, 1987.

5. Barrier Free Site Design, American Society of Landscape Architects Foundation, U.S. Department of Housing and Urban Development.

6. Brown, Robert, campgrounds caretaker, personal interview, Ponca City, OK, April 21, 1987.

7. Clawson, Marion & Knetsch, Jack L., Economics of Outdoor Recreation, Johns Hopkins Press, Baltimore, MD, 1966.

8. Clawson, Marion, Held, R. Burnell & Stoddard, Charles H., Land for the Future, Johns Hopkins Press, Baltimore, MD, 1960.

9. "Climatological Data, Oklahoma," U.S. Department of Commerce, Washington, D.C., 1985.

10. "1986 Community Data," Ponca City Industrial Foundation, Ponca City, OK, 1986.

11. Community Nature Center, The, A Sanctuary for Wildlife and People, National Audubon Society, New York.

12. "Comprehensive Plan Commission: Ponca City, Oklahoma, Questionnaire on Goals for Growth," Ponca City Planning Department, Ponca City, OK, 1982.

13. DeChiara, Joseph, and Koppelman, Lee, Urban Planning and Design Criteria, Van Nostrand Reinhold Co., New York, 1975.

14. Delles, Roger E., "Assessment of Effectiveness Measures for Local Government Recreation Agencies in Oregon," University of Oregon, Eugene, Oregon, 1974.

15. "Economic Outlook for Ponca City, 1945, The," Chamber of Commerce, Ponca City, OK, 1945.

16. Eller, Richard, Lake Ponca Park caretaker, personal interview, Ponca City, OK, March 19, 1987.

17. "Engineering and Geotechnical Investigations, Lake Ponca Dam, Ponca City, Oklahoma," Poe & Associates and Petra, Inc., Tulsa, OK, 1980.

18. "Environmental Statement, Kaw Lake, Arkansas River, Oklahoma," Department of the Army, U.S. Corps of Engineers, Tulsa, OK, 1975.

19. Everett, Susan, Landscape Architect, Parks and Recreation Department, personal interviews, Ponca City, Oklahoma, January 23, 1987, February 9, 1987, February 23, 1987.

20. Ferguson, Tom, park superintendent, Parks and Recreation Department, personal interview, Ponca City, Oklahoma, February 9, 1987.

21. Fogg, George E., Park Planning Guidelines Revised, National Recreation and Park Association, Alexandria, VA, 1981.

22. Folkes, Ron, Wildlife Specialist, Oklahoma Department of Wildlife Conservation, personal interview, Kaw Lake, OK, February 27, 1987.

23. Garnham, Harry Launce, Maintaining the Spirit of Place, PDA Publishers Corp., Mesa, AZ, 1985.

24. General Plan Ponca City, Oklahoma 1968, Planning Associates, Inc., Oklahoma City, 1968.

25 Gold, Seymour M., Recreation Planning and Design, McGraw-Hill Book Co., New York, 1980.

26. Harris, Harold, City planner, personal interview, Ponca City, OK, February 9, 1987.

27. Hicks, Don, 1985, "Surveys and Recommendations--Ponca City," Oklahoma Fisheries Management Program.

28. Hicks, Don, regional supervisor, Oklahoma Department of Wildlife Conservation, personal interview, Kaw Lake, Oklahoma, February 27, 1987.

29. "History of Lake Ponca," Memorandum, Board of Commissioners, Ponca City, Oklahoma, January 29, 1936.

30. Huus, Randolph O., Financing Municipal Recreation, George Banta Publishing Co., Menosha, WI, 1935.

31. Johnson, Elvin R., Park Resources for Recreation, Charles E. Merrill Publishing Co., Columbus, OH, 1972.

32. Jubenville, Alan, Outdoor Recreation Planning, W. B. Saunders Co., Philadelphia, PA, 1976.

33. Kaw Lake, Arkansas River, Oklahoma, Public Use Plan, U.S. Corps of Engineers, Tulsa, OK, 1971.

34. Kelsey, Craig & Gray, Howard, Master Plan Process for Parks and Recreation, American Alliance for Health, Physical Education, Recreation and Dance, Reston, VA, 1985.

35. Last Run, The, Kay County, Oklahoma, 1893, Ponca City Chapter, Daughters of the American Revolution, Courrier Printing Co., Ponca City, OK, 1939.

36. Locke, Ron, golf director, Lew Wentz golf course, personal interview, Ponca City, OK, April 19, 1987.

37. Myers, John, president, Ponca City area Chamber of Commerce, personal interview, Ponca City, OK, February 23, 1987.

38. Miles, C. W. N. & Seabrooke, W., Recreational Land Management, E. & F.N. Spon Limited, London, 1977.

39. Monitoring the Use of Informal Recreation Sites, Tourism and Recreation Research Unit, University of Edinburgh, Edinburgh, Scotland, 1981.

40. "Municipal and County Parks in the United States," National Recreation Association, New York, 1940.

41. National Park Recreation and Open Space Standards, National Recreation and Park Association, Washington, D.C., 1971.

42. Nationwide Recreation Survey, 1982-83, U.S. Department of the Interior, U.S. Government Printing Office, Washington, D.C., 1983.

43. Oklahoma Statewide Comprehensive Outdoor Recreation Plan, State of Oklahoma Department of Tourism and Recreation, Oklahoma City, OK, 1982.

44. Open Space Plan, Tulsa Metropolitan Area Planning Commission, Tulsa, OK, 1968.

45. Ponca City: A Park System Master Plan, Department of Horticulture and Landscape Architecture, Oklahoma State University, 1981.

46. Ponca City News, Ponca City, OK, files 1933-1987.

47. Ponca City Master Plan, The, 1985-2010, McCune Partners, Inc., Tulsa, OK, 1985.

48. Powers, Bill, project manager, Kaw Lake, personal interview, Kaw Lake, OK, February 27, 1987.

49. Practice of Local Government Planning, The, International City Management Association, Washington, D.C., 1979.

50. "Public Recreation Survey," Department of Horticulture & Landscape Architecture, Oklahoma State University, Stillwater, OK, 1981.

51. Radcliff, Roseanna, genealogist, Ponca City public library, personal interview, Ponca City, OK, February 12, 1987.

52. Rutledge, Albert J., Anatomy of a Park, McGraw-Hill Book Co., New York, 1971.

53. Schoonover, Melvin, lake patrolman, personal interview, Ponca City, OK, February 9, 1987.

54. Sherbon, Terri, recreation superintendent, Parks and Recreation Department, personal interview, Ponca City, OK, February 9, 1987.

54. Sindelan, Jim, Parks and Recreation director, personal interviews, Ponca City, OK, January 23, 1987, February 9, 1987, February 23, 1987.

56. Smith, Helen, caretaker 1929-1969, Wentz Camp, personal interview, Ponca City, OK, March 23, 1987.

57. Smith, Herman, former mayor, personal interview, Ponca City, OK, March 6, 1987.

58. Smith, Truman, pageant participant, personal interview, Ponca City, OK, March 6, 1987.

59. Soil Survey, Kay County, Oklahoma, U.S. Department of Agriculture, Soil Conservation Service, U.S. Printing Office, Washington, D.C., 1967.

60. "1986 Statistical Data Economic Growth Factors," Chamber of Commerce, Ponca City, OK, 1986.

61. Sutton, John, car dealer, personal interview, Ponca City, OK, February 9, 1987.

62. Wilson, Bob, science teacher, Ponca City High School, personal interview, Ponca City, OK, March 6, 1987.

63. Zeisel, John, Inquiry by Design, Brooks & Cole Publishing Co., Monterey, California, 1981.

APPENDIXES

APPENDIX A

FIGURES

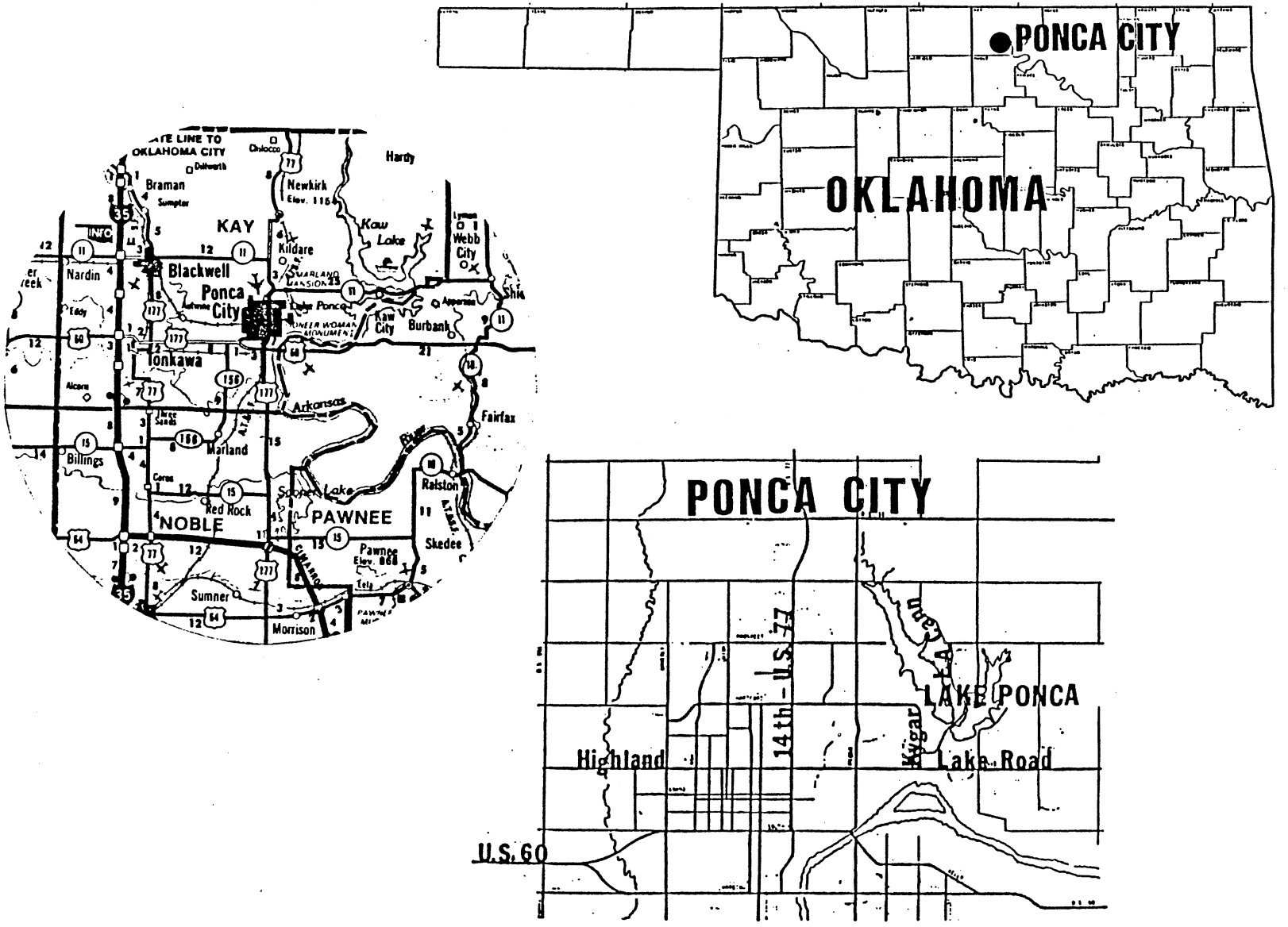


Figure 19. Lake Ponca Location Map

TEN GREAT REASONS TO VISIT PONCA CITY, OKLAHOMA!

1. MARLAND MANSION, ESTATE, AND CONFERENCE CENTER

E.W. Marland's Italian Renaissance Mansion, the "Palace on the Prairie", was modeled after the Davanzatti Palace in Florence, Italy. The 55 room mansion, built around 1925 at a cost of $5.5 million, is open to the public and sits on beautiful grounds that include small museums and a modern conference center and retreat.

2. PIONEER WOMAN STATUE AND MUSEUM

This historic 17 foot tall statue is the third largest bronze statue in the world and represents a towering memorial to the courage of thousands of women pioneers who suffered hardships to create new homes in new lands. The adjacent Pioneer Woman Museum, with free admission, houses exhibits of furniture, equipment, and pioneer memorabilia.

3. PONCA CITY CULTURAL CENTER

Oilman E.W. Marland's first showplace home, on the National Register, now houses an Indian Museum, the 101 Ranch Room, featuring memorabilia from the world famous Miller Brothers 101 Ranch, and the DAR Memorial Museum. Open for tours, the Cultural Center was built in 1916 and currently serves as both a tourist favorite and one of Ponca City's hospitality centers.

4. KAW LAKE

Less than ten minutes from Ponca City, Oklahoma's Kaw Lake attracts a large number of visitors from surrounding states. With more than 168 miles of shoreline surrounding almost 20,000 acres of water, Kaw Lake camp grounds, marinas, beaches, and other public facilities are a natural for boaters, fishermen, hunters, and other sports and nature enthusiasts.

5. LAKE PONCA AND LEW WENTZ CAMP

Located between Ponca City and Kaw Lake, Lake Ponca provides additional outdoor facilities for boating, fishing, water skiing, picnicing, and sailing. The adjacent Lew Wentz Camp features swimming, camping, along with an outstanding 18 hole public golf course and club house. Fourteen other public parks in Ponca City offer tennis, playgrounds, and other sports.

6. CROSSED ARROWS HUNTING RANCH

If you love great hunting, Crossed Arrows Ranch is just 10 minutes from Ponca City. With hundreds of acres of rolling hills, open country, and timbered areas, Crossed Arrows offers everything from guides, dogs, and relaxed country living to great food, comfortable lodging, and a general store. Quail and pheasant like you've never seen before.

7. THE 101 RANCH RODEO

Named for the famous Miller Brother's 101 Ranch near Ponca City, the annual 101 Ranch Rodeo is a Ponca City legend. Three nights of PRCA Rodeo, the 101 attracts many of the nations best each August. There's plenty of time for other recreation during the three day event which will be held Thursday through Saturday, August 20-22, in 1987.

8. GRAND NATIONAL CHAMPIONSHIP OF MOTOCROSS

During the first full week of August, 1987, some 1,500 of the nations best motocross riders will gather in Ponca City for the NMA Yamaha Grand National Championships. A spectator extravaganza, the Grand Nationals offer some of the finest motocross racing available . . . from 8 year old and under Pee Wees to 500 cc Motorcycle Professionals. A wild week and something to see.

9. FAMILY FACILITIES FOR EVERYONE

From the Water slides at Kaw Lake's Sun-N-Fun to the Mansions', Museums, and Motocross you will find something for everyone in the family just minutes from Ponca City, Oklahoma. A host of other annual events from Indian Pow Wows, celebrity golf tournaments, and an annual Octoberfest on the grounds of the Marland Mansion await you and your family.

10. MOTELS, MANNERS, AND MORE

If you're looking for a different destination this year, we cordially invite you to plan a visit in Ponca City. We think that you will find a refreshing difference in our community of 26,000 folks, and more than you can do in one vacation visit. For more information about any of the facilities or events mentioned, give us a call or drop us a note!

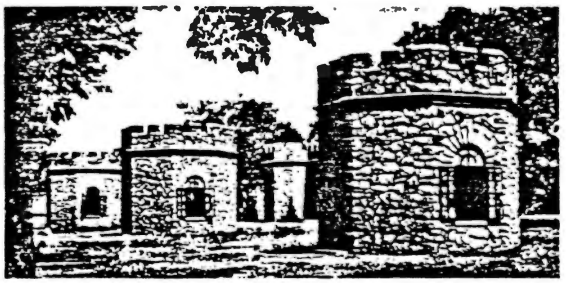
PONCA CITY CONVENTION AND VISITORS BUREAU
Box 1109 / PONCA CITY, OKLAHOMA 74602 / (405) 765-4409

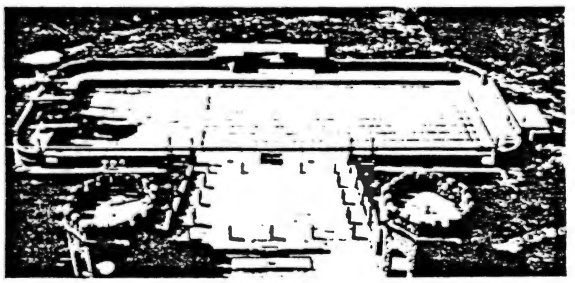
Figure 20. Ten Great Reasons to Visit Ponca City, Oklahoma

Wentz Camp

Owned and Operated by
The City of Ponca City

PONCA CITY, OKLAHOMA





Application for Camping Privileges

To:_____

_____ Date_____

_____

We hereby apply for camping privileges on the grounds of WENTZ CAMP, for the period of_____days beginning _____, 19____, and ending_____, 19____.

Approximate Number of Campers_____ Number of Adult Leaders_____

Age of Campers_____ Sex of Campers_____

Synopsis of Proposed Program_____

_____

_____

_____

_____

In case the above dates are not available our next choice of time would be

_____

This application made subject to the rules and regulations printed hereon, and such additional rules and regulations as may, from time to time, be posted on the camp grounds.

Sponsors warrant that permissison will be obtained from parents or guardians of all persons under age and agree to assume all responsibility for care of minors while in the camp. Sponsors further agree that they will not remove or permit the removal of or damage to any property or equipment of the camp, and should any occur by reason of occupancy hereunder, they will promptly reimburse The City of Ponca City for the amount thereof.

ORGANIZATION_____

BY_____, Officer in Charge

ADDRESS_____

Figure 21. Application for Camping Privileges at Wentz Camp

RULES FOR WENTZ CAMP

1. Camp will be open between the dates of May 1 and September 30.

2. Application for privileges for the camp must be made in writing to the Office of Wentz Camp, City of Ponca City, Oklahoma.

3. Camping groups must be sponsored by some organized and recognized religious, educational, fraternal, charitable, character-building, or other established public or adult organization, institution or agency. Proper and sufficient adult leadership must be provided by the sponsoring organization.

4. Program of the camping groups must be submitted with application. It must contain some educational feature, either of general nature or peculiar to the organization sponsoring the group.

5. All bedding, towels, food, supplies, etc., must be furnished by the camping group. This camp has cabins, bunks and mattresses for the accomodation of 140 persons. If any group includes more than that number, tents and bunks must be provided by it.

6. A nominal fee per person will be charged for all camping groups to assist in defraying the operating expenses of the camp. The fee, payable in advance, entitles campers to all privileges of camp and includes privileges of swimming pool and recreation hall and kitchen, but not exclusive. Rate: 65c per person per day. Minimum charge $40.00 per day. Advance pre-payment $5.00 per day.

7. Sponsoring groups must have consent of parents or guardians of minor campers before bringing them to camp, and must so warrant them to the City of Ponca City.

8. Sponsoring groups will be liable to the City of Ponca City for loss or damage to property and equipment of the camp caused by reason of their occupancy thereof.

9. Swimming schedules must be arranged with caretaker. Campers must stay clear of pool except during scheduled swimming hours. All campers must use pool as a body at specified times. They must dress in cabins and enter pool through the shower. Only limited swimming will be allowed on Monday and time shall be specified by caretaker. The pool will be closed to campers from 12 noon until 2 p.m. each day.

10. All campers are requested not to arrive before 3 p.m. on the day of their arrival and to clear the camp not later than 1 p.m. on the day of their departure. Strict adherence to this rule will be necessary for proper cleaning and disinfecting of camp facilities between camping groups.

11. All trash must be disposed of in barrels provided for that purpose, burning of trash prohibited.

12. Cabins and mess hall must be left in clean and orderly fashion.

13. All accidents must be reported to caretaker immediately. Caretaker will supply report forms to be filled out by sponsor and party or parties involved in the accident. The caretaker will assist campers in every way possible in receiving medical and first aid in case of accident. However, the City of Ponca City accepts no liability for doctors, hospital, or ambulance, in case of accident or injury.

14. Only those vehicles necessary for the movement of food and supplies will be allowed to operate within the boundaries of the Camp; all other vehicles must be parked upon arrival and remain parked until departure.

15. The City of Ponca City reserves the right to refuse admittance to the camp at all times both to individuals and groups of individuals.

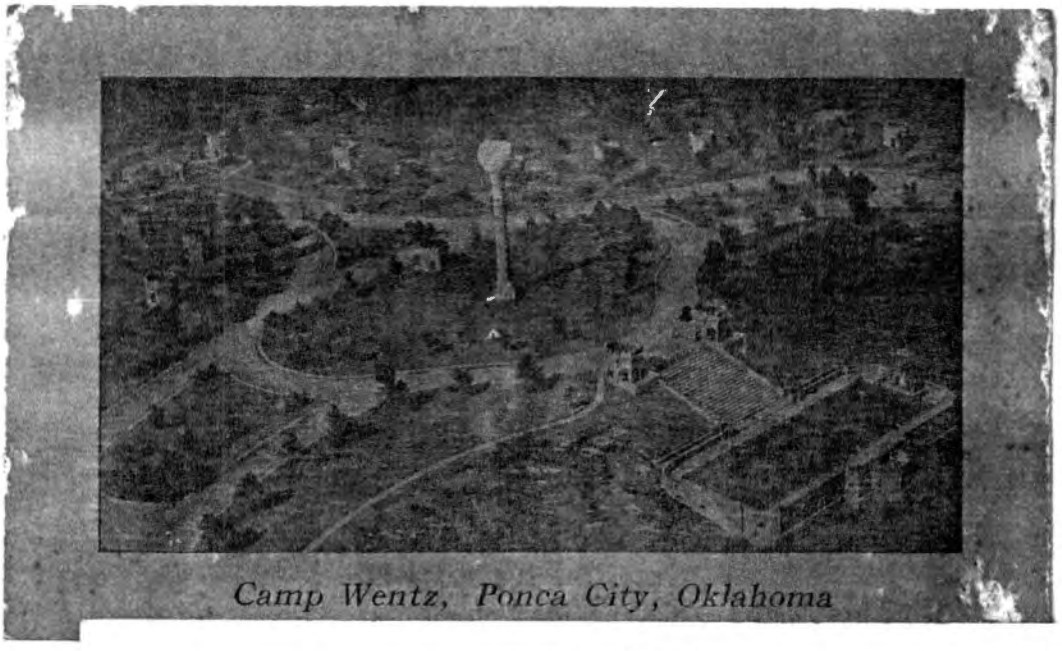
16. Campers are NOT permitted to have visitors after 9:30 p.m.; all exits to camp will be locked after 9:30 p.m.

17. To discourage others from establishing refreshment booths outside the camp boundaries, over which the City of Ponca City would have no control, the City of Ponca City will operate a well-conducted concession stand on the camp grounds. This stand will have pop, candy bars, etc., and is not to be depended upon as a source of food supply.

18. Occupancy of camp is subject to above rules and such further rules and regulations as may, from time to time, be posted by the City of Ponca City.

By Order of the Board of Commissioners, City of Ponca City

Figure 22. Rules for Wentz Camp Visitors



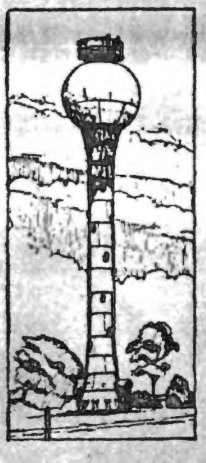
Camp Wentz, Ponca City, Oklahoma

POST CARD

PUT ONE CENT STAMP HERE

CORRESPONDENCE

ADDRESS



THE TOWER AT CAMP WENTZ

It looks like a golf ball way up in the air.
And we who have seen it, can't wait to get there
By the winding steps, that go so high
It seems we're climbing up to the sky.
Yes, a balcony up there near the moon
Is an ideal place to meet and croon,
Greet your friends, both old and new,
And treat yourself to a glorious view.

—Aunt Wilma Nelson.

Wichita Presbytery Junior-Hi Camp Wentz
Ponca City, Okla. July 19-26, 1948

Figure 23. Postcards from Wentz Camp

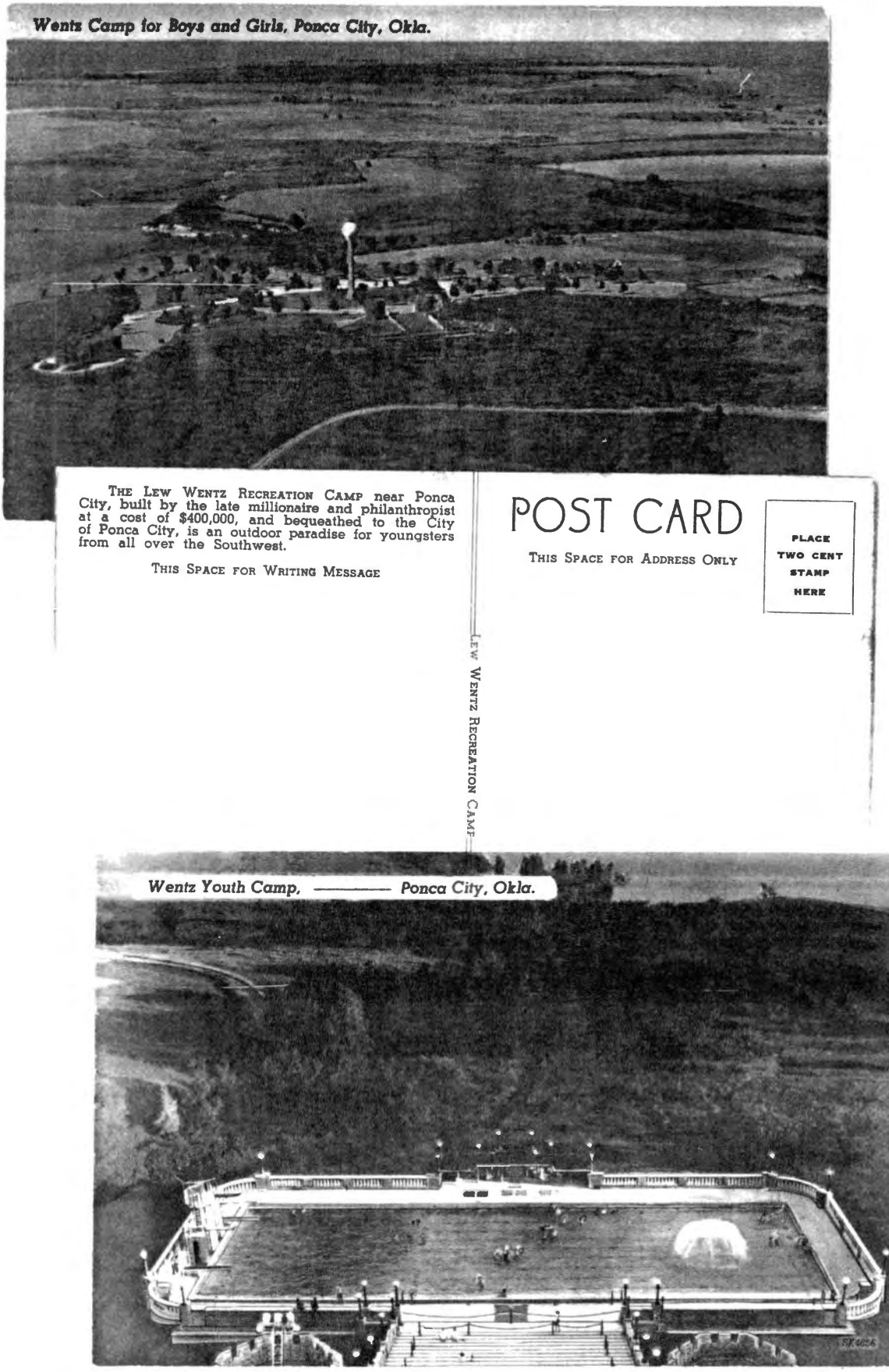


Figure 24. Postcards from Wentz Camp

PONCA CITY AREA CHAMBER OF COMMERCE

April 9, 1987

Dear Ponca City Merchant:

This letter will introduce Ms. Pat McCloskey who is assisting our Ponca City Recreation Department with a planning project related to Lake Ponca and its potential for future development.

The facilities and programs offered at Lake Ponca are a vital component in our community's efforts to promote economic development through travel, tourism, and recreation promotion. Ms. McCloskey's research will be helpful in creating a development plan that will guide Lake Ponca's future.

I hope that it will be possible for your business to assist in the distribution and collection of this questionnaire to your customers. It would really help insure that we get a good sample of responses and a more reliable measure of "public opinion".

Thanks, in advance, for your assistance. If you have any questions, please feel free to get in touch with Jim Sindelar, Ponca City Recreation Department, or with me here at the Chamber.

Sincerely,

John A. Myers
President & C.E.O.

JAM/kf

TEN YEARS
ACCREDITED
CHAMBER OF COMMERCE
Phone (405) 765-4409 — Box 1109 — Ponca City, Oklahoma 74602

Figure 25. Endorsement Letter from the Chamber of Commerce for the Community Survey

APPENDIX B

TABLES

TABLE XX

PLANT SPECIES COMMON TO THE BOTTOMLAND[1]

TREES: Common Name	Botanical Name
Box Elder	Acer negundo
Silver Maple	Acer saccharinum
Chittam Wood	Bumelia lanuginosa
Bitternut Hickory	Carya cordiformis
Pecan	Carya illinoensis
Catalpa	Catalpa speciosa
Southern Hackberry	Celtis Laevigata
Rough-leaved Hackberry	Celtis occidentalis
Red Bud	Cercis canadensis
Green Ash	Fraxinus pennsylvanica
Coffee Tree	Gymnocladus dioica
Osage Orange	Maclura pomifera
Red Mulberry	Morus rubra
Sycamore	Platanus occidentalis
Cottonwood	Populus deltoides
Mexican Plum	Prunus mexicana
Burr Oak	Quercus Macrocarpa
Chinquapin Oak	Quercus muehlenbergii
Texas Spotted Oak	Quercus shumardii
Post Oak	Quercus stellata
Black Williow	Salix nigra
Chinaberry	Sapindus drummondii
American Elm	Ulmus americana
Red Elm	Ulmus rubra

UNDERSTORY WOODY PLANTS: Common Name	Botanical Name
Ohio Buckeye	Aesculus glabra
Pawpaw	Asimina triloba
American Bittersweet	Celastrus scandens
Red Bud	Cercis canadensis
Small Flowered Dogwood	Cornus drummondi
Burning Bush	Euonymus atropurpureus
Virginia Creeper	Parthenocissus quinquefolia
Carrionflower Greenbrier	Smilax herbacea
Bamboo Greenbrier	Smilax tamnoides
American Bladdernut	Staphylea trifolia

[1]This list is a compilation of an on-site inventory of existing plants, plants common tot he soil types present, and plants listed in the U.S. Corps of Engineers Environmental Statement for Kaw Lake (18, pp. E2-E6).

TABLE XX (Concluded)

Coralberry	Symphoricarpos orbiculatus
Sweet Winter Grape	Vitis cinera
Riverbank Grape	Vitis riparia
Frost Grape	Vitis vulpina

HERBACEOUS PLANTS: Common Name	Botanical Name
Wing-stem	Actinomeris alternifolia
Giant Ragweed	Ambrosia trifida
Canada Brome	Bromus purgens
American Bellflower	Campanula americana
Sedge	Carex davissii
Sedge	Carex meadii
Spreading Chaenostoma	Chaerophyllum procumbens
Mapleleaf Goosefoot	Chenopodium hybridum
Dutchman's-Breeches	Dicentra cucullaria
Ellisia	Ellisia nyctelea
Virginia Wildrye	Elymus virginicus
White Snakeroot	Eupatorium rugosum
Catchweed Bedstraw	Galium aparine
Bedstraw	Galium circaezans
White Avens	Geum canadensis
Woodnettle	Laportea canadensis
Common Yellow Oxalis	Oxalis stricta
Pennsylvania Pellitory	Parietaria pennsylvanica
Sweetwilliam Phlox	Phlox divaricata
American Lopseed	Phryma leptostachya
Littleleaf Buttercup	Ranunculus abortivus
Limestone Ruellia	Ruellia strepens
Canada Sanicle	Sanicula canadensis
Wall Burcucumber	Sicyos angulatus
Starry silene	Silene stellata
Virginia Tovara	Tovara virginina
Broadleaf Uniola	Uniola latifolia
Bigsting Nettle	Urtica dioica
White Verbena	Verbena urticifolia
White Crownbeard	Verbesina virginica
Butterfly Violet	Viola papilionacea
Golden Zizia	Zizea aurea

TABLE XXI

PLANT SPECIES COMMON TO THE POST OAK-BLACKJACK FOREST[1]

TREES: Common Name	Botanical Name
Shell-bark Hickory	Carya ovata
Black Hickory	Carya texana
Rough-leaved Hackberry	Celtis occidentalis
Red Bud	Cercis canadensis
White Ash	Fraxinus americana
Honey Locust	Gleditsia tricanthos
Black Walnut	Juglans nigra
Eastern Redcedar	Juniperus virginiana
Osage Orange	Maclura pomifera
Red Mulberry	Morus rubra
Ironwood	Ostrya virginiana
American Plum	Prumus americana
Black Locust	Robinia pseudoacacia
Burr Oak	Quercus macrocarpa
Blackjack Oak	Quercus marilandica
Chinquapin Oak	Quercus muehlenbergii
Southern Red Oak	Quercus falcata
Texas Spotted Oak	Quercus shumardii
Post Oak	Quercus stellata
Black Oak	Quercus velutina
American Elm	Ulmus americana
Red Elm	Ulmus rubra

UNDERSTORY WOODY PLANTS: Common Name	Botanical Name
Indigobush	Amorpha fruticosa
Prickly Pear	Opuntia compressa
Virginia Creeper	Parthenocissus quinquefolia
Winged Sumac	Rhus copallina
Smooth Sumac	Rhus glabra
Poison Ivy	Rhus radicans
Riverback Grape	Vitis riparia
Frost Grape	Vitis vulpina

[1]This list is a compilation of an on-site inventory of existing plants, plants common tot he soil types present, and plants listed in the U.S. Corps of Engineers Environmental Statement for Kaw Lake (18, pp. E2-E6).

TABLE XXI (Concluded)

HERBACEOUS PLANTS: Common Name	Botanical Name
Common Yarrow	Achillea millefolium
Common Ragweed	Ambrosia artemisiifolia
Big Bluestem	Andropogon gerardii
Little Bluestem	Andropogon scoparius
Plantainleaf Pussytoes	Antennaria plantaginifolia
Azure Aster	Aster azureus
Skydrop Aster	Aster patens
Plains Wildindigo	Baptisia leucophaca
Sedge	Carex spp.
Umbrella-sedge	Cyperus ovularis
Poverty Crowfootgrass	Danthonia spicata
Pinweed	Lechea tenuifolia
Trailing Lespedeza	Lespedeza procumbens
Violet Woodsorrel Oxalis	Oxalis violacea
Panicum	Panicum dichotomum
Slimleaf Panicum	Panicum linearifolium
Roundseed Panicum	Panicum sphaerocarpon
Black-eyed Susan	Rudbeckia hirta
Fewflower Razorsedge	Scleria pauciflora
Small Skullcap	Scutellaria parvula
Indiangrass	Sorghastrum nutans
Pencilflower	Stylosanthes biflora
Hedgeparsley	Torilis arvensis
Purpletop	Tridens flavus
Baldwin Ironweed	Vernonia Baldwinii
Daisy Fleabane	Erigeron strigosus
White Avens	Geum canadense

TABLE XXII

PLANTS COMMON TO THE TALL GRASS PRAIRIE[1]

PLANT: Common Name	Botanical Name
Western Yarrow	Achillea lanulosa
Winter Bentgrass	Agrostis hyemalis
Western Ragweed	Ambrosia psilostachya
Leadplant	Amorpha canescens
Big Bluestem	Andropogon gerardii
Silver Bluestem	Andropogon saccharoides
Little Bluestem	Andropogon scoparius
Broom-sedge Bluestem	Andropogon virginicus
Prairie Threeawn	Aristida oligantha
Heath Aster	Aster ericoides
Sideoats Grama	Bouteloua curtipendula
Blue Grama	Bouteloua gracilis
Harry Grama	Bouteloua hirsuta
Japanese Brome	Bromus japonicus
Buffalograma	Buchloe dactyloides
Sedge	Carex spp.
Tumble Windmillgrass	Chloris verticillata
Bigflower Coreopsis	Coreopsis grandiflora
Wooly Croton	Croton capitatus
Illinois Bundleflower	Desmodium illinoensis
Canada Wildrye	Elymus canadensis
Flowering spurge	Euphorbia corollata
Milk-purslane	Euphorbia supina
Bedstraw	Galium texense
Annual Broomweed	Gutierrezia dracunculoides
Wild Lettuce	Lactuca ludoviciana
Fall Witchgrass	Leptoloma cognatum
Korean Lespedeza	Lespedeza stipulacea
Black medic	Medicago lupulina
Rock Muhly	Muhlenbergia sobolifera
Celestial Lily	Nemastylis geminiflora
Common Yellow Oxalis	Oxalis stricta
Scribner Panicum	Panicum scribnerianum
Switchgrass	Panicum virgatum
Purple Prairie clover	Petalostemum purpureum
Prairie Groundcherry	Physalis pumila
Kentucky Bluegrass	Poa pratensis
Wild Alfalfa	Psoralea tenuiflora
Ruellia	Ruellia humilis

[1]This list is a compilation of an on-site inventory of existing plants, plants common tot he soil types present, and plants listed in the U.S. Corps of Engineers Environmental Statement for Kaw Lake (18, pp. E2-E6).

TABLE XXII (Concluded)

PLANT: Common Name	Botanical Name
Azure Sage	Salvia azurea
Catclaw Sensitivebrier	Schrankia nuttallii
Green Bristlegrass	Setaria viridis
Missouri Goldenrod	Solidago missouriensis
Indiangrass	Sorghastrum nutans
Tall Dropseed	Sporobolus asper
Sand Dropseed	Sporobolus cryptardrus
Wild Bean	Strophostyles leiosperma
Purpletop	Tridens flavus
Baldwin Ironweed	Vernonia baldwinii

TABLE XXIII

POSSIBLE ANIMAL SIGHTINGS AT LAKE PONCA*

1. Armadillo
2. Badger
3. Big Brown Bat
4. Evening Bat
5. Hoary Bat
6. Mexican Freetail Bat
7. Red Bat
8. Silver-haired Bat
9. Western Big-eared Bat
10. Beaver
11. Bobcat
12. Coyote
13. Whitetail Deer
14. Blacktail Prairie Dog
15. Gray Fox
16. Red Fox
17. White-tip Red Fox
18. Blanchard's Cricket Frog
19. Bull Frog
20. Eastern Gray Tree Frog
21. Green Frog
22. Leopard Frog
23. Spotted Chorus Frog
24. Strecker's Chorus Frog
25. Western Chorus Frog
26. Plain Pocket Gopher
27. Eastern Collored Lizard
28. Northern Prairie Lizard
29. Slender Grass Lizard
30. Texas Horned Lizard
31. Mink
32. Eastern Mole
33. Brush Mouse
34. Deer Mouse
35. Fulvous Harvest Mouse
36. Hispid POcket Mouse
37. Meadow Jumping Mouse
38. Northern Grasshopper Mouse
39. Plans Harvest Mouse
40. White-footed Mouse
41. Muskrat
42. Little Brown Byotis
43. Small-footed Myotis
44. Opossum
45. River Otter
46. Eastern Pipistrel
47. Blacktail Jack Rabbit
48. Easter Cottontail Rabbit
49. Racoon
50. Six-lined Racerunner
51. Eastern Wood Rat
52. Hispid Cotton Rat
53. Barred Tiger Salamander
54. Gray Shrew
55. Least Shrew
56. Shorttail Shrew
57. Broad-headed Skink
58. Five-lined Skink
59. Great Plains Skink
60. Ground Skink
61. Striped Skunk
62. Missouri Slider
63. Green Shall Slider
64. Black Rat Snake
65. Blotched Water Snake
66. Broad-banded Copperhead Snake
67. Bull Snake
68. Central Lined Snake
69. Diamond-backed Water Snake
70. Dusty Western Hognose Snake
71. Eastern Coachwhip Snake
72. Eastern Chognose Snake
73. Eastern Yellow-bellied Racer Snake
74. Graham's Water Snake
75. Great Plains Ground Snake
76. Midland Brown Snake
77. Northern Water Snake
78. Prairie King Snake
79. Prairie Ringneck Snake
80. Red-sided Garter Snake
81. Rough Earth Snake
82. Speckled King Snake
83. Western Coachwhip Snake

*This list is a compilation of information supplied by Don Hicks, biologist with the Oklahoma Department of Wildlife Conservation, and animals listed in the Kaw Lake Public Use Report (33).

TABLE XXIII (Concluded)

84. Western Diamondback Rattlesnake
85. Western Massango Snake
86. Western Milk Snake
87. Western Smooth Earth Snake
88. Western Ribbon Snake
89. Western Worm Snake
90. Eastern Fox Squirrel
91. Eastern Gray Squirrel
92. Thirteen-lined Ground Squirrel
93. Dwarf American Toad
94. Great Plains Toad
95. Great Plains Narrow-Mouthed Toad
96. Plains Spadefoot Toad
97. Rocky Mountain Toad
98. Alligator Snapping Turtle
99. Carolina Box Turtle
100. Common Snapping Turtle
101. Mississippi Map Turtle
102. Ornate Box Turtle
103. Quachita Map Turtle
104. Red-eared Turtle
105. Smooth Softshell Turtle
106. Stinkpot Turtle
107. Three-toed Box Turtle
108. Western Spring Softshell Turtle
109. Yellow Mud Turtle
110. Pine Vole
111. Prairie Vole
112. Longtail Weasel

TABLE XXIV

POSSIBLE BIRD SIGHTINGS AT LAKE PONCA*

1.	American Avocet	42.	Wood Duck
2.	American Bittern	43.	Dunlin
3.	Least Bittern	44.	Bald Eagle
4.	Brewer's Blackbird	45.	Golden Eagle
5.	Red-winged Blackbird	46.	Cattle Egret
6.	Rusty Blackbird	47.	Common Egret
7.	Yellow-headed Blackbird	48.	Snowy Egret
8.	Eastern Bluebird	49.	Peregrine Falcon
9.	Mountain Bluebird	50.	Prairie Falcon
10.	Bobolink	51.	Purple Finch
11.	Indigo Bunting	52.	Red-Shafted Flicker
12.	Painted Bunting	53.	Yellow-Shafted Flicker
13.	Cardinal	54.	Great Crested Flycatcher
14.	Catbird	55.	Solive-sided Flycatcher
15.	Yellow-breasted Chat	56.	Scissor-tailed Flycatcher
16.	Greater Prairie Chicken	57.	Gadwall
17.	Chuck-will's-Widow	58.	Gnatcatcher
18.	American Coot	59.	American Goldfinch
19.	Double-crested Cormorant	60.	Blue Goose
20.	Brown-headed Cowbird	61.	Canada Goose
21.	Sandhill Crone	62.	Snow Goose
22.	Whooping Crane	63.	White-fronted Goose
23.	Brown Creeper	64.	Goshawk
24.	Common Crow	65.	Boat-tailed Grackle
25.	Black-billed Cuckoo	66.	Common Grachle
26.	Yellow-billed Cuckoo	67.	Eared Grebe
27.	Long-billed Curlew	68.	Horned Grebe
28.	Dickcissel	69.	Pied-billed Grebe
29.	Mourning Dove	70.	Blue Grosbeak
30.	Rock Dove	71.	Rose-breasted Grosbeak
31.	Black Duck	72.	Bonaparte's Gull
32.	Bufflehead Duck	73.	Franklin's Gull
33.	Canvasback Duck	74.	Herring Gull
34.	Common Goldeneye Duck	75.	Ring-billed Gull
35.	Greater Scaup Duck	76.	Broad-winged Hawk
36.	Lesser Scaup Diving Duck	77.	Cooper's Hawk
37.	Mollard Duck	78.	Ferruginous Hawk
38.	Puddle Duck	79.	Harlon's Hawk
39.	Redhead Duck	80.	Marsh Hawk
40.	Ring-necked Duck	81.	Pidgeon Hawk
41.	Ruddy Duck	82.	Red-shouldered Hawk

*This list is a compilation of information supplied by Don Hicks, biologist with the Oklahoma Department of Wildlife Conservation, and animals listed in the Kaw Lake Public Use Report (33).

TABLE XXIV (Continued)

83. Red-tailed Hawk
84. Sharp-shinned Hawk
85. Sparrow Hawk
86. Swainson's Hawk
87. Black-crowned Heron
88. Great Blue Heron
89. Green Heron
90. Little Blue Heron
91. Louisiana Heron
92. Yellow-Crowned Heron
93. Ruby-throated Hummingbird
94. Blue Jay
95. State-colored Junco
96. White-winged Junco (Snowbird)
97. Killdeer
98. Eastern Kingbird
99. Western Kingbird
100. Belted Kingfisher
101. Golden-crowned Kinglet
102. Ruby-crowned Kinglet
103. Mississippi Kite
104. Horned Larke
105. Chestnut-collared Longspur
106. Lapland Longspur
107. Common Loon
108. Purple Martin
109. Eastern Meadowlark
110. Western Meadowlark
111. Common Merganser
112. Hooded Merganser
113. Red-breasted Merganser
114. Mockingbird
115. Common Nighthawk
116. Red-breasted Nuthatch
117. White-breasted Nuthatch
118. Baltimore Oriole
119. Orchard Oriole
120. Osprey
121. Ovenbird
122. Barn Owl
123. Barred Owl
124. Burrowing Owl
125. Great Horned Owl
126. Long-eared Owl
127. Screech Owl
128. Short-eared Owl
129. White Pelican
130. Eastern Wood Pewee
131. Wilson's Phalarope
132. Eastern Phoebe
133. Pintail
134. Water Pipit
135. American Golden Plover
136. Black-bellied Plover
137. Piping Plover
138. Snowy Plover
139. Upland Plover
140. Bobwhite Quail
141. King Rail
142. Virginia Rail
143. American Redstart
144. Roadrunner
145. Robin
146. Sanderling
147. Baird's Sandpiper
148. Buff-breasted Sandpiper
149. Least Sandpiper
150. Pectoral Sandpiper
151. Semipalmated Sandpiper
152. Solitary Sandpiper
153. Spotted Sandpiper
154. Stilt Sandpiper
155. White-rumped Sandpiper
156. Yellow-bellied Sapsucker
157. Loggerhead Shrike
158. Shoveler
159. Pine Siskin
160. Common Snipe
161. Sora
162. Chipping Sparrow
163. Clay Sparrow
164. English Sparrow
165. Field Sparrow
166. Fox Sparrow
167. Harris Sparrow
168. Grasshopper Sparrow
169. Lark Sparrow
170. LeConte's Sparrow
171. Lincoln's Sparrow
172. Savannah Sparrow
173. Song Sparrow
174. Swamp Sparrow
175. Tree Sparrow
176. Vesper Sparrow
177. White-crowned Sparrow
178. White-throated Sparrow
179. Bank Swallow
180. Barn Swallow
181. Cliff Swallow
182. Rough-winged Swallow
183. Tree Swallow
184. Chimney Swift

TABLE XXIV (Concluded)

185. Scarlet Tanager
186. Summer Tanager
187. Blue-winged Teal
188. Cinnamon Teal
189. Green-winged Teal
190. Black Tern
191. Caspian Tern
192. Common Tern
193. Forster's Tern
194. Least Tern
195. Tufted Titmouse
196. Brown Thrasher
197. Gray-checked Trush
198. Hermit Thrush
199. Swainson't Thrush
200. Wood Thrush
201. Eastern Towhee
202. Spotted Towhee
203. Turkey
204. Ruddy Turnstone
205. Veery
206. Bell's Vireo
207. Black-copped Vireo
208. Red-eyed Vireo
209. Solitary Vireo
210. White-eyed Vireo
211. Warbling Viero
212. Yellow-throated Vireo
213. Black Vulture
214. Turkey Vulture
215. Black-and-White Warbler
216. Blackburnian Warbler
217. Black-throated Green Warbler
218. Black-throated Warbler
219. Blackpoll Warbler
220. Canada Warbler
221. Cerulean Warbler
222. Connecticut Warbler
223. Blue-winged Warbler
224. Hooded Warbler
225. Kentucky Warbler
226. Louisiana Warbler
227. Mourning Warbler
228. Orange-crowned Warbler
229. Parula Warbler
230. Magnolia Warbler
231. Myrtle Warbler
232. Nashville Warbler
233. Pine Warbler
234. Palm Warbler
235. Prairie Warbler
236. Prothonotary Warbler
237. Tennessee Warbler
238. Warbler
239. Yellow Warbler
240. Yellow-throated Warbler
241. Cedar Waxwing
242. Whip-poor-will
243. American Widgeon
244. Willet
245. American Woodcock
246. Downy Woodpecker
247. Hairy Woodpecker
248. Pileated Woodpecker
249. Red-bellied Woodpecker
250. Red-headed Woodpecker
251. Bewick's Wren
252. Carolina Wren
253. House Wren
254. Long-billed Marsh Wren
255. Rock Wren
256. Winter Wren
257. Greater Yellowlegs
258. Lesser Yellowlegs
259. Yellowthroad

TABLE XXV

FISH POSSIBLY FOUND IN LAKE PONCA

Common Name	Scientific Name	Collection Record		
		OSU(1)	TU(2)	CofE(3)
Spotted bass				
Largemouth bass	Micropterus salmoides	X	X	X
White bass	Morone chrysops		X	
Bluegill	Lepomis macrochirus	X	X	X
Bigmouth buffalo	Ictiobus cyprinellus		X	
Smallmouth buffalo	Ictiobus bubalus		X	
Black bullhead	Ictalurus melas	X	X	X
Carp	Cyprinus carpio	X	X	
River carpsucker	Carpiodes carpio	X	X	
Channel catfish	Ictalurus punctatus	X	X	X
Flathead catfish	Pylodictus olivaris	X	X	
Gravel chub	Hybopsis X-punctata	X		
Black crappie	Pomoxis nigromaculatus		X	
White crappie	Pomoxis annularis	X	X	X
Banded darter	Etheostoma zonale	X		
Orangethroad darter	Etheostoma spectabile	X		X
Redfin darter	Etheostoma whipplei	X		
Slenderhead darter	Percina phoxocephala	X	X	X
Longnose gar	Lepisosteus osseus	X	X	
Shortnose gar	Lepisosteus platostomus	X	X	
Plains killifish	Fundulus kansae	X	X	
Logperch	Percina caprodes	X		X
Blackstripe top minnow	Fundulus notatus	X		X
Bluntnose minnow	Pimephales notatus	X		X
Plains minnow	Hybognathus placitus	X	X	
Silvery minnow	Hybognathus nuchalis	X		
Suckermouth minnow	Phenacobius mirabilis	X		X
Mosquitofish	Gambusia affinis	X	X	
Black redhorse	Moxostoma duquesnei	X	X	
Golden redhorse	Moxostoma erythrurum	X	X	
Gizzard shad	Dorosoma cepedianum	X	X	
Bigeye shiner	Notropis boops	X		

(1) Information obtained from Oklahoma State University for the Arkansas River and tributaries in Kay, Osage, and Pawnee Counties, Oklahoma.

(2) Information obtained from University of Tulsa (1973).

(3) Collections made by U.S. Army Corps of Engineers Personnel from Salt Creek, Osage County, Oklahoma, 1973.

TABLE XXV (Concluded)

Common Name	Scientific Name	Collection Record		
		OSU(1)	TU(2)	CofE(3)
Bluntface shiner	Notropis camurus	X		
Ghost shiner	Notropis buchanani	X	X	
Golden shiner	Notemigonus crysoleucas	X	X	
Mimic shiner	Notropis volucellus	X	X	X
Red shiner	Notropis lutrensis	X	X	X
Redfin shiner	Notropis umbratilis	X		
River shiner	Notropis blennius	X	X	
Rosyface shiner	Notropis rubellus	X		
Sand shiner	Notropis stramineus	X	X	
Brook silverside	Labidesthes sicculus	X	X	X
Green sunfish	Lepomis cyanellus	X	X	X
Longear sunfish	Lepomis megalotis	X	X	X
Orange spotted sunfish	Lepomis humilis	X	X	X
Redear sunfish	Lepomis microlophus		X	

(1) Information obtained from Oklahoma State University for the Arkansas River and tributaries in Kay, Osage, and Pawnee Counties, Oklahoma.

(2) Information obtained from University of Tulsa (1973).

(3) Collections made by U.S. Army Corps of Engineers Personnel from Salt Creek, Osage County, Oklahoma, 1973.

APPENDIX C

SURVEY QUESTIONNAIRES

LAKE PONCA QUESTIONNAIRE

A master plan for recreational development at Lake Ponca is underway this year. Your assistance is needed in order to design the park for you, the citizens of Ponca City. Please fill out the following questionnaire. Return only one questionnaire per household.

Mail it to P. McCloskey, P.O. Box 35, Stillwater, OK 74076 or return it to the following locations by April 30, 1987: Lake Ponca office, Post Office, City Building, Parks & Recreation office, Library, or Pioneer Woman Museum.

Check as many spaces as apply to you.

1. Have you been to Lake Ponca in the past year?____yes ____no;
   in the past five years?____yes ____no; at anytime?____yes ____no
2. If yes to question #1, what activities did you participate in?

____fishing	____walking or jogging
____power boating	____playground equipment
____sailboating	____golf
____waterskiing	____nature trail or hiking
____picnic	____archery
____Wentz pool	____bird watching
____swimming	____relaxing
____sunbathing	____sightseeing & pleasure driving
____camping area	____frisbee
____Wentz camp	____softball or baseball
____duck ponds	____biking

____special events:____Grand Prix ____Boat & Travel Show ____Pageant
____other; specify_____

3. If no to all parts of question #1, why not?
____don't know about it or the facilities
____it's too far away
____lack of transportation
____too busy
____the activities don't appeal to me
____too dangerous there
____too crowded there
____not open at the right time
____not attractive
____costs to much to go there
____poor personal health
____too old
____don't like the other users
____other; specify_____

4. Are there facilities that you would like to have at Lake Ponca that are not there now?

____hiking trails	____heated fishing dock
____walkways	____snack bar
____bikeways	____outdoor theatre
____jogging & fitness trail	____frisbee golf
____ice skating	____swimming beach
____roller skating	____skateboarding
____tennis courts	____bridle paths
____croquet	____horseback rentals
____nature study programs	____BMX track
____nature center & field guides	____motorcycle trail
____golf practice range	____horseshoes
____rifle or skeet range	____handicapped access
____softball & baseball	____indoor recreation center

____rental boats____paddle ____ski ____other_____
____other; specify_____

GENERAL QUESTIONNAIRE

5. The facilities you checked above, are they currently available in other city parks?____yes ____no ____some are ____don't know

6. Indicate the number of times per year you visit the following sites:____Marland Mansion ____Pioneer Woman Statue & Museum ____War Memorial Park ____Cultural Center ____Pioneer Park ____Other city parks ____Lake Ponca ____Kaw Lake

7. When do you go to Lake Ponca?____weekends ____vacations ____weekdays before 5 pm ____weekdays after 5 pm ____never

8. How do you get to Lake Ponca from your home? ____walk ____jog ____bike ____motorcycle ____car ____other_____

9. How far do you live from Lake Ponca?____less than 1 mile ____1-5 miles ____6-10 miles ____11-15 miles ____16-20 miles ____21-25 miles ____26-30 miles ____31-40 miles ____41-50 miles ____more than 50 miles Circle the area in which you live on the map on the back of this page.

10. Indicate the number of people in each age group that are in your household.____preschool ____5-12 ____13-18 ____19-24 ____25-34 ____35-49 ____50-65 ____over 65

11. What is the approximate income level of your household? ____below $5,000 ____between 5,000-10,000 ____10,000-15,000 ____15,000-20,000 ____20,000-30,000 ____30,000-40,000 ____40,000-50,000 ____over 50,000

12. How long have you lived in the Ponca City area? ____years ____months

13. How do you feel about the following issues? Check one of the choices for each issue.

	agree	disagree	don't know
a. User fees should be charged at Lake Ponca	____	____	____
b. User fees should be increased at Lake Ponca	____	____	____
c. Admission fees should be charged at Lake Ponca	____	____	____
d. The City should retain ownership of Lake Ponca	____	____	____
e. Lake Ponca could be better managed as a State Park	____	____	____
f. Private vendors should be used at Lake Ponca	____	____	____
g. Federal & state assistance should be sought for assistance with improvements at L. Ponca	____	____	____
h. City expenditures should be increased for improvements at Lake Ponca	____	____	____

14. If you could change anything about Lake Ponca, what would it be?

_____

_____

Comments_____

_____

_____

Thank you for your assistance.

LAKE PONCA QUESTIONNAIRE

A master plan for recreational development at Lake Ponca is underway this year. Your assistance is needed in order to design the park for you, the citizens of Ponca City. Please fill out the following questionnaire. Return only one questionnaire per household.

Mail it to P. McCloskey, P.O. Box 35, Stillwater, Ok 74076 or return it to the following locations by April 30, 1987: Lake Ponca office, Wentz Golf Course, Parks & Recreation office, Library, City Building, Post Office, or Pioneer Woman Museum.

Check as many spaces as apply to you.

1. What activities do you participate in at Lake Ponca.

____fishing	____walking or jogging
____power boating	____playground equipment
____sailboating	____golf
____waterskiing	____nature trail or hiking
____picnic	____archery
____Wentz pool	____bird watching
____swimming	____relaxing
____sunbathing	____sightseeing & pleasure driving
____camping area	____frisbee
____Wentz camp	____softball or baseball

____special events:____Grand Prix ____Boat & Travel Show ____Pageant
____other; specify_____

2. When do you go to Lake Ponca? ____weekends ____vacations ____holidays
____weekdays before 5 pm ____weekdays after 5 pm ____1st visit

3. How do you get to Lake Ponca from your home?
____walk ____jog ____bike ____motorcycle ____car ____other_____

4. How far do you live from Lake Ponca?____less than 1 mile ____1-5 miles
____6-10 miles ____11-15 miles ____16-20 miles ____21-25 miles
____26-30 miles ____31-40 miles ____41-50 miles ____more than 50 miles
Circle the area in which you live on the map on the back of the questionnaire.

5. Are there facilities that you would like to have at Lake Ponca that are not there now?

____hiking trails	____heated fishing dock
____walkways	____snack bar
____bikeways	____outdoor theatre
____jogging & fitness trail	____frisbee golf
____ice skating	____swimming beach
____roller skating	____skateboarding
____tennis courts	____bridle paths
____croquet	____horseback riding rentals
____nature study programs	____BMX track
____golf practice range	____horseshoes
____rifle or skeet range	____handicapped access
____softball & baseball	____indoor recreation center

____rental boats____fishing ____other; specify_____
____other; specify_____

6. The facilities you checked above, are they currently available in other city parks?____yes ____no ____some are ____don't know

7. What do you feel is the biggest problem to be corrected at Lake Ponca?
_____

8. Indicate the number of times per year you visit the following sites:
____Marland Mansion ____Pioneer Woman Statue & Museum ____Cultural Center ____War Memorial Park ____Pioneer Park ____other city parks
____Lake Ponca ____Kaw Lake

9. How long have you lived in the Ponca City area? ____years ____months

10. Indicate the number of people in each age group that are in your household. ____preschool ____5-12 ____13-18 ____19-24 ____25-34 ____35-49 ____50-65 ____over 65

11. What is the approximate income level of your household?
____below $5,000 ____between 5,000-10,000 ____10,000-15,000
____15,000-20,000 ____20,000-30,000 ____30,000-40,000
____40,000-50,000 ____over 50,000

12. How would you rate the following at Lake Ponca?

	very good	good	fair	poor	don't know
roads	____	____	____	____	____
speed limits	____	____	____	____	____
parking for cars	____	____	____	____	____
parking for trailers	____	____	____	____	____
camping area	____	____	____	____	____
Wentz camp	____	____	____	____	____
Wentz pool	____	____	____	____	____
boat ramps	____	____	____	____	____
docks	____	____	____	____	____
cabins	____	____	____	____	____
golf course	____	____	____	____	____
restrooms	____	____	____	____	____
concessions	____	____	____	____	____
shelter houses	____	____	____	____	____
rules enforcement	____	____	____	____	____
helpfulness of park personnel	____	____	____	____	____
playgrounds	____	____	____	____	____
duck ponds	____	____	____	____	____
West Lake Ponca	____	____	____	____	____
East Lake Ponca	____	____	____	____	____
trees and shaded areas	____	____	____	____	____
open green spaces	____	____	____	____	____

13. The parklands around Lake Ponca are ____adequate ____should be increased ____should be decreased

14. How do you feel about the following issues? Check one of the choices for each issue.

	agree	disagree	don't know
a. User fees should be charged at Lake Ponca	____	____	____
b. User fees should be increased at Lake Ponca	____	____	____
c. Admission fees should be charged at L. Ponca	____	____	____
d. The City should retain ownership of L. Ponca	____	____	____
e. Lake Ponca could be better managed as a State Park	____	____	____
f. Private vendors should be used at L. Ponca	____	____	____
g. Federal & state assistance should be sought for improvements at Lake Ponca	____	____	____
h. City expenditures should be increased for impovements at Lake Ponca	____	____	____

15. If you could change anything about Lake Ponca, what would it be?

_____

If you fish or boat on Lake Ponca, answer questions 16-20.

16. How many people in your household fish?_____
How many people in your household boat?_____

17. How often do you fish on the average?____almost daily ____once a week
____once a month ____6 times per year ____3 times/year ____1st time

How often do you boat on the average?____almost daily ____once a week
____once a month ____6 times per year ____3 times/year ____1st time

18. Do you buy an annual fishing permit?____yes ____no
Do you buy an annual boating permit?____yes ____no

If no, why not?
____too expensive
____don't come often enough
____didn't know there was one
____don't like the other fishermen
____don't like the other boaters
____other; specify_____

19. How do you rate the following?

	good	fair	poor	don't know
number of boat ramps	____	____	____	____
location of boat ramps	____	____	____	____
boat ramp maneuverability	____	____	____	____
number of fishing docks	____	____	____	____
location of fishing docks	____	____	____	____
crowdedness	____	____	____	____
helpfulness of personnel	____	____	____	____
water safety	____	____	____	____
hours of operation	____	____	____	____
fees	____	____	____	____

20. What changes or improvements are needed at Lake Ponca?
____more boat ramps
____boat storage
____tackle & bait shop
____marine supplies
____more fish stock
____more fish attractors
____more fishing docks
____more boat docks
____non-fee docks
____separation of activites more defined
____other; specity_____

Comments: _____

Thank you for your assistance.

If you play golf at the Wentz course, please answer questions 16-20.

16. How many people in your household play golf?_____

17. How often do you play on the average?____almost daily ____once a week
____once a month ____6 times per year ____3 times / year ____1st time

18. Do you have an annual membership?____yes ____no
If no, why not?
____too high ____don't play often enough ____don't like the other members ____other; specify_____

19. How do you rate the following?

	good	fair	poor	don't know
fees	____	____	____	____
hours of operation	____	____	____	____
helpfulness of personnel	____	____	____	____
crowdedness	____	____	____	____
waiting times	____	____	____	____
parking area	____	____	____	____
proshop	____	____	____	____
snack bar	____	____	____	____
locker rooms	____	____	____	____
golf carts	____	____	____	____
cart paths	____	____	____	____
tees	____	____	____	____
fairways	____	____	____	____
water hazards	____	____	____	____
bunkers	____	____	____	____
greens	____	____	____	____
course length	____	____	____	____
overall rating	____	____	____	____

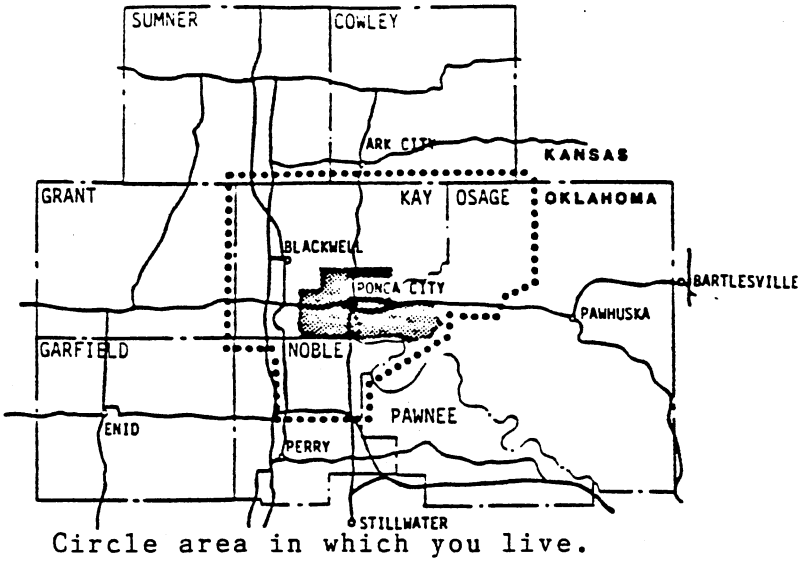
20. What changes or improvements are needed at the Wentz course?
____practice range ____more holes ____9 ____18
____course layout ____maintenance
____other; specify_____

Comments: _____

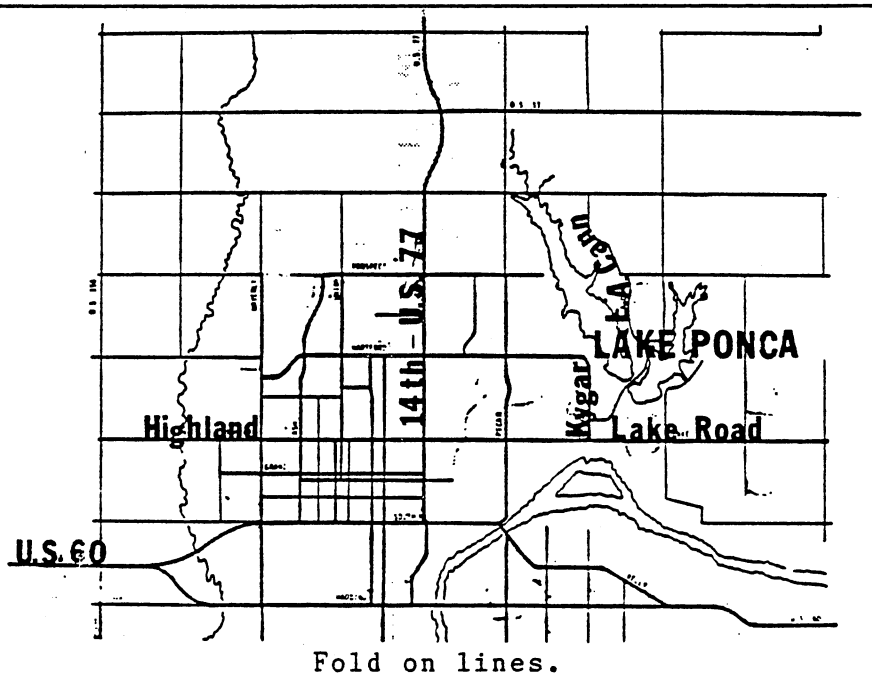
_____

_____

Thank you for your assistance.



Circle area in which you live.



Fold on lines.

Place
stamp
here

P. McCloskey
P.O. Box 35
Stillwater, OK 74076

QUESTIONNAIRE BACK