

A NEEDS ASSESSMENT OF
LAKE MCMURTRY

By

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CHAPTER I

INTRODUCTION

When pursuing recreation, people seem to be lured to areas with water. “Our Nation’s lakes have become the number one drawing card for millions of Americans seeking fun and relaxation. Whether one enjoys fishing, boating, swimming or taking part in other water sports, or one’s preference is to hike, camp, cycle, or simply relax by the water’s edge – lakes offer recreation opportunities for almost everyone” (National Recreation Lakes Study Commission, 1997).

Oklahoma is a state with an abundance of water resource areas. Oklahoma’s lakes and rivers have more shoreline than the Atlantic and Gulf coasts combined (Oklahoma Tourism and Recreation Department, Travel and Tourism Division, 1998). Within both Payne County and Noble County, Oklahoma lies Lake McMurry, a rural park owned and operated by the City of Stillwater. Of the parks owned by the City of Stillwater, Lake McMurry is the only park located outside the city limits. The rural location of Lake McMurry makes it unique from other parks in that it provides recreational resources that are different from those found in town (Report to Commission, 1991). Fishing, hunting, boating, swimming, camping, and wildlife viewing are just a few of the activities enjoyed by individuals who visit Lake McMurry. Although some of

Stillwater's parks offer similar activities, Lake McMurry is the only park that provides these activities in a rustic, rural environment.

Outdoor recreational experiences like fishing, hunting, and boating have shown to have a profound interdependence with the natural settings in which the experience takes place (Cottrell & Cottrell, 1998; Ewert, 1999; Godbey, 1978). Cottrell and Cottrell (1998) state:

There is something special found only in that environment necessary for a particular activity that is essential to the meaning of the enjoyment sought. The environment, whether natural or modified by human agencies, contributes to most recreation experiences. The quality of the environment is significant to the quality perceived or satisfaction gained from an outdoor experience. (p.65)

The outdoor setting at Lake McMurry complements the recreational activities the park provides. These characteristics are what set Lake McMurry apart from the other parks in the community, increasing the importance of recognizing the recreational role the park plays in the lives of both its users and nonusers.

Need for the Study

Parks with recreational lakes offer a vast array of outdoor activities. Boating, swimming, and sunbathing are just a few of the many opportunities that can be found in these areas. Just as the recreational opportunities at parks are diverse, so too, is the diversity of the individuals the park serves (PLAE Inc., 1993). This is why it is important that park managers ascertain the wants and needs of both the people who use and do not use a park area (Fogg & Shiner, 1981). This can be attained through public surveys and need assessments. Need assessments allow management to identify interests, opinions,

attitudes, habits or knowledge concerning recreational services for which he or she has responsibility. Assessments also provide a status report on agency efforts and an insight for future action.

Ultimately, it is the public that determines the need for a service (Fogg & Shiner, 1981). This is why it is important that park managers uncover what services draw people to and discourage people from utilizing a multiple-use park. According to Tarrant, Bright, Smith and Cordell (1999):

An understanding of recreationists' motivations for and attitudes about recreation experiences is essential to improving management of public outdoor recreation. A primary goal of recreation management is to provide a diversity of recreation experiences. To do so, managers need information about what those experiences are and what user perceptions influence the quality of their experiences. Managers also need information about the nature of future recreation use in order to determine needs for funding, staffing, and facilities. Future recreation demand can be projected by gathering information about experiences people desire. (p. 412)

When acting as a public agent, park management staff strive to provide services in which their clients express interest. Through surveys, and more importantly need assessments, park management is able to offer services that cater to a diverse population while providing services in the most effective and efficient manner.

Nine years have passed since a needs assessment has been administered on Lake McMurtry. In 1991, Duston and Caneday prepared Lake McMurtry: A Planning Document and Status Report. Of the different issues the authors addressed, one component was the study of lake users and nonusers. In a survey questionnaire administered to the public, answers to the following queries were ascertained:

Who uses Lake McMurtry? What are the visitor patterns? What qualities attract visitors to this lake? What improvements would most enhance the visitors' experiences? (p. 2)

Some of the opportunities and services provided at Lake McMurtry have changed since 1991. The lake now offers a network of trails geared toward mountain bikers. The restroom facilities on the West side of the lake were reconstructed and now meet ADA (Americans with Disabilities Act) guidelines. Recreation programs are offered at the lake, as well.

With new services being provided and an increase in lake usage, it is imperative that an assessment of the needs of the public be undertaken to ensure continued success for management and current and continued satisfaction for the public.

There are two reasons why this study is needed: (1) the results of this study will impact future planning considerations at Lake McMurtry; (2) new services have been implemented at Lake McMurtry since the study of 1991; therefore, a more current, up-to-date evaluation is needed.

Statement of the Problem

This study is designed to assess whether or not the services at Lake McMurtry are providing an environment that is conducive to the recreational needs of two neighboring communities, Stillwater and Perry. A common mistake in park and recreation agencies today is planning services for the public without considering public input. Too often park managers plan and implement services believing their interests are the same as the interests of the public (McLean, Bannon, & Gray, 1999).

This study is aimed at alleviating this problem through the implementation of a needs assessment. The assessment will evaluate the level of satisfaction by both users

and nonusers about the services at Lake McMurry. The resulting goal is a useful and effective recreational area.

Purposes of the Study

This study is conceived to determine users' overall satisfaction of the services offered at Lake McMurry. The study is meant to discover who uses Lake McMurry, when do they use the lake, and what attracts them to and discourages them from using the lake. Further, the study will discover who does not use Lake McMurry and why they do not use the lake.

The specific purposes of the study are:

1. to identify the demographic characteristics of present Lake McMurry users and nonusers;
2. to identify user time patterns;
3. to identify the services that attract lake users;
4. to identify the elements of the lake that detract from the users' recreational experience;
5. to identify why nonusers do not visit the lake;
6. to recognize the degree of satisfaction users receive from the services at Lake McMurry;
7. to identify constraints to participation at Lake McMurry;
8. to specify what new services, if any, would increase lake visitor usage.

Research Questions

Answers will be ascertained from the following queries:

1. What are the demographic characteristics of both Lake McMurry users and nonusers?
2. What are the time use patterns of users to Lake McMurry?
3. What is the overall level of satisfaction by users about the facilities and services at Lake McMurry?
4. What activities do users participate in while at Lake McMurry?
5. What lakes other than Lake McMurry, if any, do nonusers visit and why?
6. What constraints to recreational participation are experienced by Lake McMurry users and nonusers?
7. What new services would increase visitor usage rates at Lake McMurry?

Limitations of the Study

This study was limited by the following:

1. The survey was a self-developed questionnaire.
2. The data were collected during the winter and not during the summer when activity at Lake McMurry is at its highest; therefore, respondents had to rely on recollection to answer the questionnaire.
3. The interviewers used in this study were not thoroughly trained in the implementation of telephone surveys.

Delimitations of the Study

This study was delimited by the following:

1. This study was delimited to those individuals who were selected to participate in the study.
2. This study was delimited to only those lake users and nonusers who resided within the Stillwater and Perry area.
3. The results of this questionnaire were delimited only to Lake McMurtry.

Assumptions of the Study

The following are assumptions pertaining directly to this study:

1. It was assumed that a random selection of individuals in the Stillwater and Perry area would provide a sufficient sample of Lake McMurtry users and nonusers.
2. It was assumed that the use of a telephone survey was an appropriate procedure for acquiring data from Lake McMurtry users and nonusers.
3. It was assumed that the questionnaire was valid and reliable.
4. It was assumed that all responses to the questions of the survey were given in a truthful and straightforward manner.

Definition of Terms

1. Benefit: A change that is viewed to be advantageous – an improvement in condition, or a gain to an individual, a group, to society, or to another entity (Driver, Brown, & Peterson, 1991).
2. Constraint to Leisure: Anything that inhibits people's ability to participate in leisure activities, to spend more time doing so, to take advantage of leisure services, or to achieve a desired level of satisfaction (Jackson & Henderson, 1995; Jackson, 1988).
3. Deviant Activity: Acts that fall outside the socially accepted norm, which include acts of vandalism, sexual exhibits, and drug and alcohol abuse (Suren & Stiefvater, 1997).
4. Facility: Something built or installed for a particular purpose (Mish, et al., 1989).
Example: Lake McMurtry.
5. Lake Nonuser: Any individual who has not utilized Lake McMurtry for recreational purposes between April, 1999 and March, 2000.
6. Lake User: Any individual who currently utilizes or has utilized Lake McMurtry for recreational purposes between April, 1999 and March, 2000.
7. Leisure: Relative freedom from the external compulsive forces of one's culture and physical environment so as to be able to act from internally compelling love in ways which are personally pleasing, intuitively worthwhile, and provide a basis for faith (Godbey, 1994).
8. Manager/Management: The person or persons controlling and directing the affairs of a business, institution, etc. (Flexner, et al., 1993).

9. Needs Assessment: An evaluation helping the agency determine the direction it will take in developing programs and services while incorporating citizen input in the decision-making process (Rossman, 1995).
10. Recreation: Activities, which are voluntarily entered into for pleasure during leisure without being negative to oneself or to society (Bucher, Shivers & Bucher, 1984).
11. Recreational Carrying Capacity: The level of recreational use an area can withstand while providing a sustained quality of recreation (Wagar, 1964).
12. Safety: A conscious and intelligent attempt to minimize hazards we must face to gain the enjoyment, satisfaction, and physical and mental fulfillment of participating in the outdoor recreational activity (Clarke, 1998).
13. Satisfaction: fulfillment, gratification, contentment (Flexner, et al., 1993).
14. Service: An act of helpful activity. The providing or provider of accommodations and activities required by the public (Flexner, et al., 1993). Example: concession/bait shop, bulletin boards, trails, patrol by lake rangers, picnic grills and tables, etc.
15. Vandalism: Any willful act of physical damage that lowers the aesthetic or economic value of an object or area (Harrison, 1982).

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

The review of related literature consists of four sections. These sections are (a) history of Lake McMurry; (b) trends in parks and outdoor recreation; (c) user satisfaction of a park/lake environment; and, (d) citizen input into park planning. The section on trends in parks and outdoor recreation has three components which consist of activity participation rates, benefits, and leisure constraints. The section on user satisfaction of a park/lake environment has four components, which consist of maintenance, signage, user fees and safety and vandalism. The section on citizen input into park planning has two components, which consist of needs assessments and telephone surveys.

History of Lake McMurry

Lake McMurry is located in the southeastern corner of Noble County, Oklahoma between the cities of Stillwater and Perry (Appendix A, Lake McMurry surrounding area). In the mid 1960s, the City of Stillwater purchased the property from Noble County

(Duston & Caneday, 1991). In 1970, the City of Stillwater, in conjunction with the Stillwater Creek Watershed of the Soil Conservation Service, U. S. Department of Agriculture, began construction of Lake McMurtry. The major objectives for the development of Lake McMurtry were:

1. To give major consideration to the flood control and water supply aspects of the lake area.
2. To develop Lake McMurtry as a recreational area, with the general public receiving prime consideration.
3. To give major consideration to the conservation of existing flora and fauna, and to maintain the ecological balance of wildlife in the area as much as possible.
4. To complement, rather than compete with, Lake Carl Blackwell in recreational aspects (Guernsey & Watkins, 1970).

At the time of construction, two factors made it difficult to affirm the degree to which water supply would remain the paramount purpose of Lake McMurtry. In the early 1970s, Lake Carl Blackwell was experiencing deteriorating water quality due to siltation, which would ensure Lake McMurtry's water supply role. However, the degree of importance could be reduced by the construction of Kaw Reservoir (Oden, Bartlett, Banks, Crumley, Frick, Humphrey, Maxwell, Parikh, Radloff, Sprehe, Steincamp, Thompson, Wells, & Williams, 1971). Stillwater currently obtains its water from Kaw Reservoir near Ponca City, Oklahoma. The water supply aspects of Lake McMurtry now play a secondary role.

In establishing a priority of uses for the land around Lake McMurtry to be enjoyed by the general public, it was conceded that picnicking, swimming, hunting,

camping, fishing, observation and contemplation of nature, sailboating and light motor boating, and cabin and semi-permanent home rental should be considered (Guemsey & Watkins, 1970). Currently, all of these recreational activities are offered with the exception of cabin and semi-permanent home rental.

Lake McMurry has an East Recreation Area and a West Recreation Area (Appendix B, Lake McMurry). The East Recreation Area is located six miles west of State Highway 177 on Burris Road and offers hiking and mountain biking trails, fishing, boating, primitive and improved camping, shelter, bait/concession shop, and restrooms. The West Recreation Area can be found by going four miles on 51 West from Stillwater and then going 2.5 miles north on Redlands Road and then 1-mile west on Airport Road. The West Recreation Area has the same services and amenities as the East Side Recreation Area as well as an enclosed fishing house and gun range.

In the early 1990s, the City of Stillwater reviewed the possibility of turning the property of Lake McMurry over to another agency for operation because of the inability to offset operating costs. The Oklahoma Department of Wildlife Conservation expressed interest. However, this agency would consider only allowing fishing and waterfowl hunting to lake visitors. The Wildlife Department just did not have the funding or personnel to manage the other recreational aspects of the lake (Report to Commission, 1991). The City of Stillwater also considered handing the management responsibilities of Lake McMurry over to the Oklahoma Division of State Parks. After review, it was decided that passing Lake McMurry on to this agency would put an added financial burden on Oklahoma's State Park System (Report to Commission, 1991). In 1995, Mercruiser, one of Stillwater's largest employers, considered buying Lake McMurry as a

site to secretly test their boating products but eventually also withdrew their interest in the lake (McNutt, February 16, 1995).

Within the last six years (1995-2001) the City of Perry has made several attempts to obtain water from Lake McMurry. Perry currently gets its drinking water from Lake Perry. However, Lake Perry, which was built in 1934, is 14 years past its expected life span and every year the water level decreases due to siltation (McNutt, January 20, 2000). This has caused city officials to order mandatory water rationing during the summer months.

Between 1995 and 1997, Perry attempted to purchase Lake McMurry but was unsuccessful due to a sales tax that was rejected by Perry voters. If passed, the sales tax would have enabled Perry to generate the money needed for the purchase of Lake McMurry (McNutt, November 18, 1996). Even if the sales tax would have passed, Perry would have met resistance from concerned Stillwater citizens who value Lake McMurry not only as a place for recreation, but also for its peacefulness and serenity (Drummond, July 16, 1996; McNutt, April 7, 1995).

In April of 1999, Perry filed an application with the Oklahoma Water Resources Board seeking a permit which would allow them to use 1,681 acre-feet of surface water a year from Lake McMurry (McNutt, April 9, 1999). "The lake just wouldn't yield the water that would be necessary to supply the need of recreational users," said Wyatt Irving, Stillwater's water utilities director (McNutt, April 9, 1999). In February of 2000, the Oklahoma Water Resources Board approved Perry's permit to obtain water from Lake McMurry. "The water board found that Stillwater lost its exclusive water rights to

Lake McMurtry because it hadn't used them for at least seven years" (McNutt, February 9, 2000).

Perry has five years to construct the 13-mile pipeline for water transport which will be funded by a 1.25 cent sales tax or it will lose its access to Lake McMurtry (McNutt, April 26, 2000; McNutt, February 9, 2000). Time will tell the degree to which lower water elevations will effect the recreational aspects of the lake.

Trends in Parks and Outdoor Recreation

More and more individuals are utilizing the opportunities provided at area parks/lakes for recreation and leisure. Crompton (1999) states that:

The demand for park and recreation services has grown at a much faster rate than anticipated. For example, projections of outdoor recreation for the year 2000 that the Outdoor Recreation Resources Review Commission made in 1962 were reached by 1980. The range of services delivered is now more extensive than it has ever been, embracing the spectrum from heavily subsidized social welfare services to highly profitable revenue-generating and economic development activities. (p. 4)

This sudden growth in outdoor recreation participation has propelled park and recreation agencies to identify the characteristics of their clientele to better suit their recreational needs. Crompton states that:

Recent studies have shown that approximately 95% of the people 16 years of age and over participate in outdoor recreation activities in the United States. Over half of the population engage in walking and visiting a beach or waterside. More than 25% picnic, fish, swim, attend outdoor sports events, visit nature centers, go bird-watching or bicycling. (Loomis & Walsh, 1997, p. 33)

In a nationwide study by Godbey, Graefe and James (1992), 75% of all respondents used local parks for recreational purposes either frequently or occasionally. Increasingly, recreation and leisure has become a highly valued component in American society.

This trend continues to support the importance of public parks, lakes and recreational areas such as Lake McMurtry. Lake McMurtry offers an immense range of recreational experiences. It is the only park owned by the City of Stillwater that is located in a rural area where individuals can get away from the oftentimes noisy and overcrowded atmosphere of the City and participate in activities in a quiet, scenic, outdoor environment. For nature-based parks such as Lake McMurtry, there are ten activities which usually account for most of the recreation time of its users: picnicking, hiking, camping, fishing, swimming, sunbathing, sightseeing/pleasure driving, and relaxing. Wildlife viewing (animals, birds, and plants) is also considered both a primary and secondary activity (Fogg, 1990).

Activity Participation Rates

Activity participation rates warrant research by park and recreation management especially if the participation, or lack thereof, in activities is offered by that agency. By being aware of up-to-date and emerging trends, management personnel can plan outdoor recreation experiences accordingly. The importance of awareness concerning outdoor recreational needs in America was never more apparent than in the 1950s.

In response to flourishing interest and increasing public demand in outdoor recreation in the 1950s, in 1958, Congress established the Outdoor Recreation Resources

Review Commission (ORRRC, 1962). The ORRRC was responsible for surveying the public to determine present and future outdoor recreational needs as well as the future supply of outdoor recreational resources (ORRRC, 1962). The findings prompted the ORRRC to make 50 specific recommendations which were intended to assure that outdoor recreation would continue to benefit Americans both now and the future (ORRRC, 1962). The 1962 ORRRC report prompted subsequent reports concerning outdoor recreation: *Outdoor Recreation for America – 1983* and *Americans Outdoors: The Legacy, the Challenge – 1987* to keep current on outdoor recreational trends (Driver, Douglass, and Loomis, 1999).

National recreation surveys were also conducted by the National Survey on Recreation and the Environment (NSRE) in 1960, then again in 1965, 1970, 1972, 1977, 1982-83, and most recently, in 1994-95 (Cordell, 1999). The following data come from the NSRE unless otherwise noted. This was done because the NSRE had the most current data at the time of this study.

Hiking

Hiking has experienced increased levels of participation over the past few decades (Wellner, 1997). A 155.2% increase in participation occurred between the 1982-83 and 1994-95 surveys (Cordell, McDonald, Teasley, Bergstrom, Martin, Bason, and Leeworthy, 1999). Cordell et al. state:

Among the outdoor adventure types of activities, hiking is the most popular in terms of number of participants on an annual basis. Almost 24 percent of the population 16 years and older, about 48 million people, went hiking once or more during the 1994-95 survey period. (p. 225)

Hiking is a highly preferred activity because it takes place outdoors and it is as challenging or as easy as a person wants it to be (Wellner, 1997). Hiking is an activity that is equally enjoyed by both men and women (Kraus, 2000). The increase in participation is also related to the exercise aspects of the activity (Cordell et al., 1999).

Picnicking

Between 1982-83 and 1994-95, participation in picnicking rose 15.9 percent (Cordell et al., 1999). According to Wellner (1997) almost half of the people aged 16 or older picnicked in the past 12 months. Alone, family gatherings outdoors, which usually includes picnicking, ranked third among all activities studied by the NSRE (Cordell et al., 1999). Picnicking is so popular because it does not require great physical skill and can be enjoyed by everyone regardless of physical and mental ability (Cordell et al., 1999).

Biking

Although mountain biking was not listed in the top 10 for nature-based activities by Fogg (1990), mountain bike trails are offered at Lake McMurtry; therefore, this activity deserves attention. The NSRE included mountain biking into one general category titled biking which included biking on streets, roads, and trails. Their study found that 28.6% of the population 16 years or older participate in biking (Cordell et al., 1999). According to the Sporting Goods Manufacturing Association (SGMA), sales statistics on mountain bike equipment indicate strong growth in participation (Cordell et

al., 1999; Chavez, 1996; Hollenhorst, Schuett, Olson, & Chavez, 1995). Participation levels for this activity increased by 114% between 1987 and 1989 (Cordell et al., 1999; Hollenhorst et al., 1995). Cordell et al. state:

It appears that mountain bike riders are committed to the sport and will continue to participate. While the number of mountain bike riders may eventually peak, those who ride may do so more often and go to more places for new recreational experiences. (p. 246)

Camping

Approximately one in four Americans aged 16 or older participated in some form of camping at least once in the 12 months of 1997 (Wellner, 1997). In 1997, the SGMA found tent camping to be the second most popular outdoor activity with 41.2 million people above the age of six participating (Information Plus, 1999). Tent camping can either be done in developed or primitive areas. While developed camping grew approximately 42 percent between 1982-83 and 1994-95, primitive camping grew by approximately 72 percent (Cordell et al., 1999).

Another form of camping is RV (recreational vehicle) camping. It ranked sixth in overall participation by people six years and older in SGMA's survey in 1997 (Information Plus, 1999). According to Information Plus:

RV sales peaked in the mid-to late-1970s. The Recreation Vehicle Industry Association (RVIA) reported that in 1978, shipments totaled 389,900 units. A declining economy around 1980 dragged sales to 107,200. Since then, sales have climbed steadily. In 1997, 254,500 RVs were shipped. (p. 38)

With the population growing older, this activity is expected to increase in participation.

Swimming

Some of the most popular outdoor activities in the United States involve the use of water. Among all the outdoor sports and recreational activities studied by the NSRE, swimming ranked fifth behind walking, sightseeing, picnicking, and attending outdoor sporting events (Wellner, 1997). According to Cordell et al:

Swimming was enjoyed by almost one-half the population in 1960, and its popularity has continued to grow. In 1960, swimming was an activity of 47 percent of people 12 and older; currently the estimated percentage participating is 59 percent. The growth of this percentage combined with population expansion has resulted in a near doubling of numbers of participants in just over 35 years, from 61 million in 1960 to 118 million in 1994-95 (p. 238). Of the estimated 109 million people who swim out of doors, just over 78 million swim in "natural" waters such as streams, lakes, ponds, and oceans. (p. 228)

Boating

By far the most popular boating activity is motor boating (Cordell et al., 1999). "Motorboating is one of the most-popular watersport activities, with 23 percent of Americans having been on a motorboat in the past 12 months" (Wellner, 1997, p. 200). The National Marine Manufacturers Association (NMMA) estimated that in 1998 alone, 74.8 million Americans participated in some form of recreational boating (Information Plus, 1999).

Closely related to motor boating is jet skiing which is also an engine-powered watercraft. This is a relatively new water-related activity and its popularity has already reached over 10 million participants (Cordell et al., 1999). Among muscle-powered

watercrafts, canoeing is the most popular. Approximately 15 million people participate in canoeing regularly (Cordell et al., 1999).

Fishing

For many years, fishing has been one of the most popular outdoor recreational activities in the United States with almost three out of every ten Americans aged 16 and older having participated in 1997 (Wellner, 1997). According to Cordell et al:

Number of participants and percentages of the population who fish decreased between 1982 and 1994. The percentage of the population that fishes was between 33 and 34 percent in 1960, 1965, and 1982-83; the percentage dropped somewhat to 32 percent in 1994-95. (p. 237)

In the 1996 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation administered by the U.S. Department of Interior, Fish and Wildlife Service and U.S. Department of Commerce, more than 35.2 million U.S. residents were found to have enjoyed a variety of fishing activities throughout the United States (Information Plus, 1999). For the most part, participation in fishing has remained stable over the last decade (Wellner, 1997).

Hunting

Although hunting was not listed by Fogg as one of the 10 “natural-type” activities, waterfowl hunting is allowed at Lake McMurtry; therefore, it warrants discussion. According to Cordell et al:

Hunting is one of the few steadily declining activities in this country. Cultural shifts and the difficulty of finding places to hunt seem to be the primary reasons for this decline. (p. 222) The estimated number who hunted in 1994-95 is less than the estimated number in the 1960s. The proportion of the population that hunts decreased in these 35 years from 16 percent in 1960 to 10 percent in the 1990s. (p. 236)

Another reason for the decline in participation is more people are hunting for sport than for both sport and necessity (Kraus, 2000).

Wildlife Viewing

Surprisingly, wildlife viewing is more popular than jogging and almost as popular as bicycling among people above the age of 16 (Cordell et al., 1999). With 31 percent of Americans bird watching, observing nature near water, or just viewing wildlife in general at least once within the year, it ranks just behind swimming in popularity (Wellner, 1997).

Cordell et al. State:

Bird watching, by casual as well as by avid participants, has the highest percentage growth rate of any activity listed (an increase of over 155 percent). Bird watching also had one of the highest rises in millions of participants (32 million), second only to walking, which had an increase of 40 million. (p. 239) Viewing, feeding, and photographing birds and other wildlife have long been popular across all ages and social strata. Almost 63 million people in the U. S. over the age of 15 view mammals and reptiles. Just over 54 million watch birds. (p. 225)

Sightseeing

This activity is usually thought of as driving to scenic and interesting destinations to see what there is to see or whatever is going on (Cordell et al., 1999). Participation in sightseeing jumped from 81.3 million people participating in 1982-83 to 113.4 million in 1994-95 (Cordell et al., 1999). It ranks fourth out of all the activities studied by the NSRE (Cordell et al., 1999). Pleasure driving/sightseeing popularity stems from the lack of physical exertion needed to participate, the increase in vacationing/traveling, and anyone 16 years and older can participate (Information Plus, 1999).

Sunbathing

Although sunbathing was listed by Fogg in the top 10 for "natural-type" activities, it was not one of the activities examined by the NSRE; therefore, no participation rates were found, however, research shows that this activity receives the highest participation rates from people 16 to 35 years of age with the majority being women (Information Plus, 1999).

Benefits

When planning park services for the public, management personnel need to be aware of the benefits people look for in a recreational experience. Driver et al. state that:

The public now expects managers of recreation resources to provide not only recreation activity opportunities, but also to provide "benefit

opportunities.” (p. 3) Managers must mesh their professional skills in managing recreation settings with appraisals of customer needs and preferences to determine which packages of benefit opportunities to provide in which settings. (p. 11)

People visit parks for different reasons. No two individuals are exactly alike. The benefits ascribed by one person may not be benefits for another. Loomis and Walsh (1997) state that:

Recreational benefits are multidimensional. For some these benefits will be exercise, for others relaxation. For some the benefits will include stimulation or challenge, for others mental and physical relaxation. Whatever the motivations, if individuals realize these desired outcomes, they are made better off by some measure. (p. 14)

Driver et al. also state that:

Some of these benefits are pretty obvious and immediate. Recreation is fun and enjoyed instantly; it can fill voids people perceive in their lives. Other benefits are less obvious; they often accrue steadily over time and are more indirect. Building valued memories and better health are among these less obvious and less immediate benefits. (p. 1)

Godbey et al. (1992), found that the two most frequent responses about the benefits of local recreation and park services were exercise/fitness and relaxation/peace. Other benefits with a high response rate included open space, fun and entertainment, place for children to go, family time together, and enjoyment of the outdoors and natural resources. According to Cordell (1999), the Roper Starch survey conducted in April of 1994 asked respondents to rate reasons for participating in outdoor recreation. Percentages that responded “important” or “very important” were: to have fun - 76%, for relaxation - 71%, for health and exercise - 70%, and for family time together - 69%.

Extensive research has been implemented concerning the benefits users receive from parks and recreation. What about the nonusers? Do they receive any benefit? The study in 1992 by Godbey et al. found that:

There is evidence that many individuals who do not use local recreation and park services still ascribe benefits to them either for other family members or for the community as a whole. (p. 13)

The most frequently mentioned nonuser benefits of having a park nearby were: availability – 12.2%, keeps youth off street – 7.1%, keeps youth busy, occupied – 5.4%, and community awareness – 5.3% (Godbey et al., 1992). Even though some nonusers of park and recreational areas still ascribe some type of benefit to these areas, a greater examination must still be employed to discover why people are not frequenting these areas (Godbey et al., 1992).

Leisure Constraints

While it is important to identify why people visit park and recreational areas, it is just as important to identify why they do not. If a goal of park management is to offer park patrons worthwhile leisure experiences, then it is imperative that management recognize the constraints that interfere with and/or prevent individuals from attaining satisfaction from their leisure (Edginton, Jordan, DeGraaf & Edginton, 1998).

Extensive studies on this topic have spawned several theories about leisure constraints. Crawford, Jackson, and Godbey (1991) have proposed a hierarchical model of leisure constraints in which people encounter and negotiate through leisure constraints progressively or through phases. The first phase individuals are confronted with are intrapersonal constraints (leisure preferences). Through negotiation they overcome intrapersonal constraints and then encounter interpersonal constraints (interpersonal compatibility and coordination). Upon mastering the effects of interpersonal constraints,

individuals encounter structural constraints by which participation or non-participation in a leisure activity is realized.

Jackson and Henderson (1995) conducted a gender-based analysis of leisure constraints. The theoretical framework for their study not only included the biological characteristics of males and females but also involved the social expectations and cultural definitions associated with one's biological sex. In short, women and men's' leisure choices are influenced not so much by their sex biologically, but through the context and relationships within their lives.

Kay and Jackson (1991) found that leisure constraints could be experienced at various levels. That is, constraints can cause complete non-participation in leisure to participation in leisure where constraints are apparent and can either be dealt with or overcome. Of those constraints reported, most can be overcome and some actually have no practical effect on the level of leisure participation.

This is just a minute sample of the current research and theory about leisure constraints. Studies have also addressed constraints to leisure as they pertain to ethnic origin, educational status, personal ability, and free versus obligated time.

Even though leisure is highly valued in today's society, current literature has found that not having enough free time is one of the top deterrents to participation (Cordell et al.; Fogg, 1990; Godbey et al., 1992; Information Plus, 1999). "Over 90 percent of all people who say they would like to attend parks more often do not do so because, according to them, they do not have the time" (Fogg, 1990, pg. 5). However, this perception of time constraints comes during a period when hours-spent working at the job site are at an all-time low. Robinson and Godbey (1997) found that free time rose

from less than 35 hours a week in 1965 to almost 40 hours a week in 1985 for all people aged 18-64. According to Cordell et al:

Despite rapid advances in technology, many people still find that they have relatively little time or energy for recreation. . . . the primary participation barriers for the general population were not enough time and money, personal health limitations, not having a companion, and outdoor pests. About 20 percent cited inadequate information about outdoor recreation opportunities and crowding as constraining factors. Seventeen percent did not participate because of inadequate site facilities. Inadequate transportation concerns about personal safety and poorly maintained areas were a problem for about 14 percent of those who reported they do not recreate. (p. 266)

Godbey et al. (1992) found similar results. Reasons for non-participation in recreation and park services were not enough time to participate (52%), don't have enough information (33%), local park and recreation services are not planned for people like me (23%), there aren't other people for me to participate with (15%), not interested in park and recreation services (14%), and local park and recreation services are too expensive (6%) (Godbey et al., 1992).

User Satisfaction of a Park/Lake Environment

There are several factors that are important in considering user satisfaction of a park/lake environment. These factors, which are included in the overall appearance of the facility, are the availability of areas to be used for recreational pursuits, a peaceful, quiet atmosphere, and a clean, well-maintained park.

Maintenance

Appearance is a critical factor in providing an environment that complements the atmosphere of a park. As mentioned earlier, many outdoor recreational activities are dependent upon the environment in which they take place (Cottrell & Cottrell, 1998; Ewert, 1999; Godbey, 1978). Park managers need to focus not only on the services offered to the public, but also to the areas that surround the service which ultimately enhances the overall appeal of the experience.

People often retreat to rural parks to get away from the hustle and bustle of the urban environment. This includes not only visual pollution such as litter, but also noise and odor pollution (Shelby & Heberlein, 1986). People want to experience rustic parks, such as Lake McMurry, for their natural attributes. That experience is tainted when trash is strewn all over the ground, noise from other individuals is excessive, and foul odors emanate from overflowing trash receptacles and unclean restrooms (Ewert, 1999).

Maintaining a public park is no simple task. However, maintenance is a critical component of the park system. Crompton (1999) states that:

While acquisition of recreational facilities and park land has been expanding substantially, the costs of maintaining them has become disproportionately more onerous because of lower standards of visitor behavior and because of increased vandalism and littering that stems from proliferation of such technological “improvements” as disposable bottles and cans, spray paints, fast-food packaging, felt-tip pens, and filter-tip cigarettes. (p. 5)

Park maintenance is a never ending process, but critical in satisfying its users. Tarrant et al. (1999) analyzed customer data about satisfaction of park setting attributes using the

importance-performance method which was developed by Martilla and James in 1977. In their study, they found that:

.....three of the 14 general setting attributes fell into the “concentrate here” quadrant for the general setting: cleanliness of restrooms, facilities and grounds, clear directional signs, and maps, informational signs and bulletin boards. These factors represent attributes where managers should direct most of their attention because they are likely to reduce visitor satisfaction. (p. 414)

Signage

People who use the park system need clear and well-defined signs to inform them of the attractions, services, and regulations associated with the park. Signs designed to attract the park users’ attention should not detract from the overall appearance of the park and should be placed in appropriate places both inside and outside the park (Sharpe, 1982).

The use of signs and interpretive material are important components in parks and recreational areas. Their purpose in the park system is to assure that the park visitor has an enjoyable and worthwhile experience. This is achieved by informing, educating, directing, and warning the public through various forms of media (Hultsman, Cottrell & Hultsman, 1987). For example, instituting new policies necessitates informing and educating the public; attracting new clientele involves advertising and promotion; locating primitive camping spots within recreational areas includes direction; minimizing resource and social impacts as well as maximizing public safety involves warning (Fishbein & Manfreda, 1992). The following paragraphs are intended to give the reader a

more thorough understanding of the role signage and interpretive material play in the park environment.

Highway signs that advertise are vital to attracting new visitors. For first time visitors, road signs constitute the initial contact or starting point for their recreational experience, especially for individuals who camp and are looking for a place to stop-over before traveling on to their primary destination (Duston & Caneday, 1991). These signs need to show the public what a park has to offer as well as how to get there. If numerous roads from a major highway must be taken to reach the park as in the case at Lake McMurtry, then additional signs should be used to reinforce the distance visitors must drive. Signs should also alleviate any frustration where possible confusion as to direction would occur (Duston & Caneday, 1991).

Road signs within the park serve similar functions, however, direction is now focused on how to get to the park's various services and amenities. These signs must capture a visitor's attention and interest, give them understanding of the subject, and in most cases, cause a behavioral response (McIntosh, 1982). Confusion should be at a minimum and clarity at a maximum. Careful consideration must be given to the design, placement and amount of signing; signage can complement the overall aesthetic experience or just as easily detract from it (Fogg, 1990; Sharpe, 1982).

It is unlikely that visitors will have all the information they need upon their first visitation to a park (Sharpe & Hodgson, 1982). Through signs and interpretive material found on park bulletin boards and at visitor centers, this lack of information can be alleviated. Information and education are vital to sound management. Through information and education, park patrons become familiar with how to use, what to know

and how to enjoy a park (Sharpe, 1982). Lake McMurtry currently has bulletin boards in its highest use areas. The information on park bulletin boards should achieve the following three objectives: (1) assist the visitor in developing a keener awareness, appreciation, and understanding of the area he or she is visiting; (2) accomplish management goals by encouraging thoughtful use of the recreation resource on the part of the visitor, helping reinforce the idea that parks are special places requiring special behavior; (3) promote public understanding of an agency's goals and objectives (Sharpe, 1982).

Visitor centers are another service that is commonly found in parks. Not only do visitor centers provide park visitors with much of the same information found on signs and bulletin boards, but it also affords visitors person to person contact with knowledgeable park staff (Sharpe & Hodgson, 1982).

Lake McMurtry currently utilizes its bait/concession shops as visitor centers. At these shops, park visitors can acquire a variety of materials about the lake. Sharpe and Hodgson (1982) state that one of the main functions of the visitor center is to offer an opportunity for visitors to have their questions answered which can be accomplished through knowledgeable, friendly employees, brochures, and maps.

Most visitors are from urban and suburban areas where the rules of conduct and inherent dangers are different from those found in a rural park or outdoor area (Sharpe & Hodgson, 1982). Informing visitors about the rules of behavior and warning them about possible hazards not only reduces the likelihood of imposing fines, it also enhances their awareness of rules and regulations while increasing their level of safety. One form of interpretive media found to be very successful is personal contact. Roggenbuck (1992)

states that the majority of park managers believe personal contact with the visitor is a very effective management tool for controlling problem behaviors. Lake McMurry has several park rangers who currently patrol the grounds. A significant component of their job is interactions with the public.

User Fees

User fees have been one of the most controversial issues in parks and recreation (Bowker, Cordell & Johnson, 1999; Emmett, Havitz and McCarville, 1996; More, Dustin and Knopf, 1996; Reiling, Cheng and Trott, 1992). For so long usage of public lands for recreation has either been free or at a minimal charge due to the belief that leisure facilities and services supported the overall good of the community. Due to falling appropriations, increasing expenses, and the need to provide quality services, public land managers have been forced to initiate fee programs (Brademas & Readnour, 1989). Emmitt, Havitz and McCarville stated that leisure in parks is a primary part of a fulfilling and productive life and when individuals are excluded due to monetary restrictions it is viewed by the public as inappropriate (1996).

Opponents to user fees feel that being charged to utilize public land contradicts the belief that leisure is a merit good or something a person deserves (Harris & Driver, 1987). Harris and Driver (1987) state that opponents believe fees and charges are implemented to suit an agency's financial need and not the benefit and enjoyment of the public. User fees also serve as a type of double-taxation and discriminate against low-income individuals who cannot afford to pay. Such exclusion seems contradictory to the

mandate of public and not-for-profit leisure service providers who typically operate under explicit social service mandates (Bowker et al., 1999).

Proponents feel user fees are a necessary tool to continue providing quality recreational services. According to Harris and Driver, the two main reasons fees have been implemented are to recover costs and generate needed revenue (1987). Advocates also maintain that user fees minimize resource overuse due to overcrowding and increase fair competition with private agencies.

Park user fees account for a large portion of a park and recreation agency's revenue and, for the most part, people who frequently use park and recreation areas have little concern about paying a fee if they know it will benefit the park (Bowker et al., 1999). Bowker et al. (1999) found a general receptiveness by the public for recreation fees with over 95 percent of the respondents in the sample supporting either user fees or a combination of user fees and taxes to fund at least one recreation service on public land. Typically, local park systems generate approximately 40 to 60 percent of their operating revenues from fees and charges, which only reaffirms the importance of this tool in an age of limited funding (National Park System User Fees, 1997).

Safety and Vandalism

Safety is a big concern at park and recreational areas (Greenbaum, 1991; Harrison, 1982). Increasingly, parks have become a location for vandalism, usage and distribution of drugs, and public sexual activity (Suren & Stiefvater, 1997). These types of socially unacceptable activities have been termed "Purple Recreation" (Suren &

Stiefvater, 1997). According to Namba and Dustin, when seen in the eyes of the recreating public these deviant behaviors not only detract from their visit, but also question the issue of safety (1992). People will not frequent parks if they feel their well being is at risk.

It has been found that most deviant activity occurs at night (Christensen, Istvan & Sharpe, 1992; Harrison, 1982). Harrison (1982) states:

The classic invitation to the vandal is a dark, hidden, or isolated facility that appears poorly maintained. Vandals often operate in seclusion, thus selecting a locale where there is little enforcement of regulations or chance for observation. A section of a park that is poorly lit and rarely patrolled is a good target. (p. 589)

Other characteristics that attract vandals are the appearance of the facilities. If vandals see buildings and equipment that look old and/or flimsy and view past damages that have not been repaired, they are more likely to vandalize than if facilities are readily repaired and/or renovated (Harrison, 1982). Parks that require user fees for admittance also deter vandals who don't want to pay to gain access (Harrison, 1982).

There are different approaches park managers can take to combat deviant activity. As for overnight camping, Hultsman et al. state that camp hosts who oversee a camping area 24 hours a day are a great approach to deterring vandals while giving campers a sense of comfort and safety (1987). Locking entrance gates at campsites at night is another effective technique (Hultsman et al., 1987). Locked entrance gates at night were found to be of major importance concerning personal safety by campers in a previous study of Lake McMurtry (Duston & Caneday, 1991).

In areas other than designated camping, it might be beneficial to have artificial lighting during the nighttime. In a study conducted by Stillwater Parks and Recreation

covering all of the parks in the City, respondents were specifically dissatisfied with the security lighting at Lake McMurtry (1992). Harrison states that lighting systems and removal of cover like trees and shrubbery near buildings is an excellent deterrent to vandalism (1982).

Education of the public is another way to deter deviant activity (Foley & Pirk, 1991; Greenbaum, 1991; Harrison, 1982). Harrison states that if people are made aware of the importance of park land and all the opportunity that these areas provide, they start to identify with its purpose and begin feeling a sense of ownership. When people start identifying an area as their own, they are more likely to protect it than people who do not (1982).

Citizen Input into Park Planning

When providing services for the public, it is imperative that park managers ascertain the needs of those individuals who use them. Through the administration of needs assessments, this can be accomplished.

Needs Assessments

A needs assessment is an evaluation helping an agency determine the direction it will take in developing programs and services while incorporating citizen input in the decision making process (Rossman, 1995). To gain a better understanding of needs

assessments, it is important that one understands the differences between human needs, wants, values and interests.

Rossman (1995) defines need as “a state of deprivation arising out of the basic innate biological characteristics of humans” (p. 137). That is, all humans strive to participate in activities that are intrinsically motivating and rewarding to satisfy their inner need, a need that is not created or influenced by society (Rossman, 1995). Reviere, Berkowitz, Carter & Ferguson (1996) define need as “a gap between the real and ideal conditions – that is both acknowledged by community values and potentially amenable to change” (p. 5). This definition incorporates values into the make-up of an individual’s needs.

Values are ideas based on an individual’s judgment and behavior about what is good, right, and desirable (Reviere et al., 1996). A person’s own needs are largely based on that individual’s values; therefore, needs, can be described as value judgments (Rossman, 1995).

Rossman (1995) defines want as “a culturally learned behavior pattern for satisfying specific needs” (p. 138). People have far more wants than they do needs (Rossman, 1995). For example, to satisfy the “need” of participating in something intrinsically rewarding, a person “wants” to participate in tennis, fishing, crafts, or reading (Rossman, 1995). Another difference between needs and wants is that wants are constantly being altered by outside forces which allow park and recreation professionals to manipulate and influence programs to fit a person’s wants (Rossman, 1995).

Rossman (1995) defines interest as “an awareness or feeling about what one would like to do or acquire” (p. 138). Interests, like wants, are learned and influenced by social forces (Rossman, 1995).

When interpreting data from a needs assessment, it is important to determine if the data have revealed a person’s wants, interests, or needs (Reviere et al., 1996; Rossman, 1995). All three concepts have varying degrees of intent to participate, which in turn, affects both the method and the effort park and recreation agencies apply concerning present and future management decisions (Rossman, 1995).

It is important to note that needs assessments do more than just identify needs. Needs assessments are an excellent way to publicize the agency’s services and activities, promote awareness of the needs of target groups, and provide information about service availability (Reviere et al., 1996).

Ultimately, needs assessments use both client and non-client input to identify current and future recreational needs (Rossman, 1989). When analyzing the needs of both users and nonusers as is the case in this particular study, DeGraaf, Jordan and DeGraaf (1999) sum it up by stating:

We include users in the needs assessment process because we want to keep their business. We try to determine how we can address the loyalty of these individuals so as to retain their business. We include nonusers in needs assessments because we wish to add these people to our user list. Being service-oriented, we want everyone to participate and have an opportunity to have their leisure needs met through efforts of our agency (p. 83).

Surveys

Services and programs are minimally successful when planned without the consideration of public input (McLean et al., 1999). When users of a park are involved in the planning process, it not only gives them a sense of ownership but it shows commitment and receptivity on the part of the park and recreation agency (McLean et al., 1999). DeGraaf et al. (1999) state:

Through involving a wide range of constituencies, working to help create leisure experiences that meet their needs as well as raising issues for those who cannot speak for themselves (e.g., children), leisure service professionals begin to balance the need to deliver quality experiences to customers with the responsibility to meet the general needs of society (p. 37).

There are many ways the public can voice its opinion concerning park and recreation issues. One of the most common methods is through town hearings/meetings. Another way of assuring that the needs of a community are assessed is through the administration of surveys. Miller and Miller state that mail and telephone surveys are usually undertaken to assess community needs, evaluate public policy and services, and plan for future services (1991). Salant and Dillman state that these types of surveys have shown to be quite effective in studies dealing with recreation, leisure, and outdoor activities (1994).

Since the researcher used the telephone survey method for this study, A Needs Assessment of Lake McMurtry, it is important that the reader gain an understanding of the advantages and disadvantages of both the mail survey method and the telephone survey method. The advantages of utilizing a telephone survey method in the needs assessment process include: relatively low administration costs, quicker production of

results than with a mail survey method, greater control by the interviewer, and supervisor assistance and control concerning survey problems when conducted at a central facility (Crompton & Tian-Cole, 1999; Salant & Dillman, 1994; Dillman, 1978).

The disadvantages of utilizing the telephone survey method include: incomplete telephone directories, often untrained interviewers, residences with no telephones, and the dependency on being able to communicate vocally (Crompton & Tian-Cole, 1999; Salant & Dillman, 1994; Dillman, 1978). Respondents can also be easily influenced by question/voice inflections from the interviewer (Crompton & Tian-Cole, 1999; Salant & Dillman, 1994; Dillman, 1978).

To minimize errors in planning and the squandering of program and service funding, surveying the public is a must. Molnar and Rutledge (1986) state:

Broad assumptions about recreational usage are no longer enough. Responses from the specific populations to be served must be gathered and analyzed. Before the fact, surveys, formal or informal, must be made to determine what the future users of the park want to do, see, hear, enjoy. After the fact, observations must be made and objective conclusions drawn concerning successes and failures in user satisfaction. (p. 10-12)

CHAPTER III

METHODOLOGY

Introduction

The objective of this study was to determine whether the services at Lake McMurry were meeting the recreational needs of the citizens of Stillwater and Perry. This study was aimed at identifying user frequency of visitation to Lake McMurry, users' overall level of satisfaction with the facilities and services, the activities in which users participate while at Lake McMurry, and, what new services would increase visitation and participation. This study also focused on why nonusers do not utilize Lake McMurry, what other recreational lakes they visit, what constraints to recreational participation they experience, as well as what new services would attract them to Lake McMurry. Lastly, this study sought to identify Lake McMurry user and nonuser demographics. To identify the stated research objectives, a telephone survey was developed and administered to both Lake McMurry users and nonusers.

Development of the Survey

The survey for this study was based on a questionnaire used in an earlier study on Lake McMurtry (Duston & Caneday, 1991). The questionnaire was altered to suit the purposes of this specific study. First, the 1991 study was conducted using both mail and telephone surveys to retrieve its data whereas this study was done entirely by telephone. The introductory and consent statements remained almost the same with the exception of the author's questionnaire either continuing the survey over the telephone or scheduling a later time to call the interviewee back (Appendix C, Introductory Statement).

While viewing a copy of Duston and Caneday's study, it was realized that a copy of the user questionnaire form was missing; therefore, the author cannot state with any validity that the questions contained in the user questionnaire (Form A) of this study were the same or not the same as the questions in the user questionnaire of the previous study. However, the author did have some general knowledge of the questions asked due to the user's comments section. While it is believed that some of the questions in both questionnaires were similar, the degree is uncertain. For a copy of questionnaire Form A used in this study see Appendix D.

Pertaining to the nonusers questionnaire (Form B), all nine possible questions and possible responses were the same in regards to both studies with the exception of Question #6 in both the 1991 study and the author's study. The author altered the possible responses of this question to better suit the objectives of this study. This was done by grouping similar activities listed in the response section of the 1991 nonuser questionnaire and then adding new activities in the response section, which were not

included in the 1991 nonuser questionnaire. This was done because there were changes in recreational offerings that occurred between 1991 and 2000 at Lake McMurry. For a copy of questionnaire Form B, see Appendix E.

The demographics that were analyzed in both studies were also different. Duston and Caneday's study examined user and nonuser length of residency, plans to move, household income, age, number of persons in household, and disability (1991). The author's study examined user and nonuser sex, age, and annual household income.

The Stillwater Parks and Recreation Department retains past lake permits, which identify past lake users, their addresses, and the date they visited. It was originally thought that a mail survey would be administered to a random sample of individuals who had used Lake McMurry between April, 1999 and May, 2000. Through a random sample obtained from a Stillwater/Perry telephone directory, nonusers would be surveyed by telephone. In the end, both Lake McMurry users and nonusers were surveyed by telephone.

There were several reasons that it was decided to survey Lake McMurry users by telephone instead of by mail. First, a significant amount of past (April, 1999 to May, 2000) lake permits, were not completely filled out or were unreadable. This would have compromised the likelihood of every user having an equal chance of being selected to participate in this study. Between April, 1999 and May, 2000, some Lake McMurry users appeared on more than one permit due to several visits to the lake within that time frame. Because of this, these users would have had a greater chance of being selected for the study than those users who only visited Lake McMurry once within the designated time frame. Second, the administration of mail surveys are more expensive than

telephone surveys when the sample size is small and long distance charges are paid for by a supporting agency (Dillman, 1978). Both criteria applied to this study. Lastly, it takes longer to obtain data from mail surveys than it does from telephone surveys (Dillman, 1978). This aspect was important to this study due to time constraints.

Sample

The population parameters of this study were Stillwater and Perry residents. The sample for this study was drawn from the December 1999/2000, Southwestern Bell, Stillwater Region telephone book. Each telephone listing that made up the list frame was randomly sampled. The random sample was obtained by unknowingly, with regard to page number, opening the Stillwater Region telephone book and selecting a name from the listings by blindly pointing to a name and then closing the telephone book. This process was repeated until the list frame was completed. Stillwater and Perry residents were identified within the telephone book by the abbreviations "SLW" and "PRY" found within resident addresses. Telephone listings that did not contain "SLW" or "PRY" within the address were omitted, as were business listings. In instances where resident listings contained both a home number and office number at the same residence, the office number was omitted. If identified as such, children's telephone listings were also omitted. Only one listing was considered for individuals who had more than one telephone line. If a telephone listing was discarded from the list frame, it was replaced with another listing from the same town. This was done by selecting the next listing below the original listing in the telephone book. Even though substitution of an

unavailable respondent for an available respondent is not a good survey practice due to the lack of similarity between both respondents, substitution was still done to obtain an adequate number of respondents (Dillman, 1978).

Sample Size

In order to ascertain the size of the list frame, a count of the number of Stillwater and Perry households listed in the telephone book was undertaken. The total number of Stillwater household listings in the telephone book totaled at 18,227. The total number of Perry household listings totaled at 2,765. The total number of household listings for both towns was 20,992.

With regard to sample size, there is no simple rule that can be applied to all evaluations (Henderson & Bialeschki, 1995). In determining the sample size for this population, it was found that a sample of at least 377 individuals from a population of 20,992 would be a representative sample of the study population (Henderson & Bialeschki, 1995; Krejcie & Morgan, 1970; Salant & Dillman, 1994). This sample size of 377 was determined from using Krejcie and Morgan's (1970) "Table for Determining Sample Size for an Evaluation." With the current usage of telemarketing and caller identification, it was concluded that a maximum of 500 potential respondents should be contacted to attain the desired goal of 377 usable surveys.

To ensure adequate numbers of usable surveys in the cities of Stillwater and Perry, a proportionate sampling rate with respect to citizen population was used. From the total number of Stillwater households (18,227) listed in the telephone book, a

percentage (2.382%) was calculated to determine how many individuals (434) from Stillwater were to be surveyed. From the total number of Perry households (2,765) listed in the telephone book, a percentage (2.382%) was calculated to determine how many individuals (66) from Perry were to be surveyed. A ratio of 2.382 was the closest ratio that could be used so that each city had an equal amount of respondents in relation to their population and where the total amount of survey attempts between both cities would equal 500. Therefore, 434 individuals from Stillwater and 66 individuals from Perry made up the population of 500 in the list frame.

$$\begin{array}{r}
 18,227 \\
 \times 0.02382 \\
 \hline
 434.16714 \\
 \\
 434
 \end{array}
 \quad
 \begin{array}{r}
 2,765 \\
 \times 0.02382 \\
 \hline
 65.8623 \\
 \\
 66
 \end{array}
 \quad
 \begin{array}{r}
 434.16714 \\
 + 65.8623 \\
 \hline
 500.02944 \\
 \\
 500
 \end{array}$$

Instrumentation

The instruments used in this study included two questionnaires that were administered by telephone. Questionnaire form “A” (see Appendix D) was administered to individuals who had visited Lake McMurry within the last year. Questionnaire form “B” (see Appendix E) was administered to individuals who had not visited Lake McMurry within the last year. Before the survey was administered, the author obtained approval from the Institutional Review Board at Oklahoma State University (see Appendix F).

The interviewees for this study included the researcher and two friends of the researcher. These were the only two individuals the author could obtain to assist in the

administration of the survey. The reason for the lack of assistance was because the survey period was during the week before Spring Break so many possible interviewers were busy studying for midterms.

A training meeting was held a few days before the survey was to be conducted. The objectives of the meeting were to go over the survey and identify any areas where the interviewer or interviewee may have problems or become confused. The meeting allowed the interviewers to become familiar with the survey as well as the history of and current recreational services at Lake McMurtry. The interviewers were also made aware of how voice inflections can influence interviewee response and were encouraged to maintain a level of courtesy throughout each telephone interview.

The questionnaire began with a consent statement informing the individual who the researcher was and what the study was about. It also stated that responses would remain strictly confidential and anonymous, and that responses would assist the city in future planning considerations. The individual was then asked if she/he would be willing to participate.

The first question asked respondents if they had visited Lake McMurtry within the last year. If the answer was "yes," then questionnaire form "A" was administered. If the answer was "no," then questionnaire form "B" was administered.

For those who had visited Lake McMurtry within the last year, they were asked how often they visited Lake McMurtry; what time of the day/week/year they visited the lake; and when visiting Lake McMurtry, if they preferred to be alone, with friends, or with family. The following question asked respondents how they first obtained information about Lake McMurtry.

The fifth and sixth questions asked respondents why they do not visit Lake McMurry more often and what activities they participate in while at the lake. The seventh and eighth questions asked respondents to rate their overall satisfaction of the facilities and services offered at Lake McMurry. These two questions allowed respondents to rate their overall satisfaction by stating they were either “very satisfied (1),” “satisfied (2),” “very dissatisfied (3),” or “not familiar (NF)” with that facility or service. Although this response scale and the scale of responses in the eleventh question are not a full spectrum of responses, there were several reasons why this was done. According to Dillman, interviewees have difficulty remembering all the possible responses when they are numerous (1978). The way the order of responses are listed within the questionnaire may also imply an order of feeling from extremely positive to extremely negative to the interviewee (Dillman, 1978). Respondents cannot visually see the responses like they can with a mail survey. Although information is lost with a reduced number of response categories, it is advisable to present fewer options in a telephone survey (Dillman, 1978).

The ninth and tenth questions asked respondents what they felt about the fees at Lake McMurry and how improvements at the lake should be financed. The eleventh question asked respondents to rate in terms of importance what future development they would like to see at Lake McMurry. Possible responses were “very important (1),” “important (2),” “very unimportant (3),” and “no opinion (NO).”

For those who had not visited Lake McMurry within the last year, they were asked if they were familiar with Lake McMurry. If the answer was “yes,” then they were asked

how they first obtained information. If they answered “no,” then they were asked the next question (#2) which asked if they knew where Lake McMurry was located.

The third question asked respondents if they visit other lakes in the area. If they answered “yes,” they were then asked which lakes they visit and why. If respondents answered “no,” then they were asked questions #4 and #5, which asked what prevented them from visiting Lake McMurry, and when participating in outdoor recreational activities, did they prefer to be alone, with friends, or with family. The sixth question asked respondents what activities they would like to participate in if they visited Lake McMurry.

Over half of the questions in both questionnaires had an “other” response with a blank (____ other _____). If respondents did not select any of the responses listed, they could choose “other” and then elaborate. This was done to elicit a precise piece of information and alleviate any difficulty in answering a question due to a very large number of possible responses (Dillman, 1978). A complete list of responses verbatim are located in Appendix G.

At the end of both questionnaire form “A” and “B,” demographic questions were asked. Questions pertained to respondents’ sex, age, and annual household income. Respondents were then told that the survey was concluded and were then thanked for their participation in the study.

Data Collection

The survey was administered by telephone from the Stillwater Parks and Recreation Department main office. A letter of approval was obtained to use the facility (Appendix H). There were three individuals who administered the survey. The survey was conducted during seven evenings, March 7-9 and 13-16 from 6:00 to 9:00pm each evening. After three unsuccessful attempts to reach a potential respondent on three different evenings, that individual was taken off the list. All individuals who were taken off the list were replaced with the next Stillwater or Perry resident below until 377 usable surveys were attained or the 500 respondent limit was reached.

Data Analysis

This study was a descriptive study in nature. Its purpose was to describe the characteristics of Lake McMurtry users and nonusers.

The sample information from the survey was recorded as frequencies and percentages and is listed in tables and figures. It was later found that frequencies and percentages alone were not enough to satisfy the statistical component of this study. It was then decided that an examination between the sex of Lake McMurtry users and nonusers and selected survey questions using Pearson's Goodness of Fit, Chi-square Statistical Test would satisfy the statistical component (Rayner & Best, 1989). SPSS 9.0 was used to analyze the data (1998).

CHAPTER IV

FINDINGS

Introduction

The purpose of this study was to determine whether the services at Lake McMurry were meeting the recreational needs of the citizens of Stillwater and Perry. This study was aimed at identifying user frequency of visitation to Lake McMurry, users' overall level of satisfaction with the facilities and services, the activities in which users participate while at Lake McMurry, and, what new services would increase visitation and participation. This study also focused on why nonusers do not utilize Lake McMurry, what other recreational lakes they visit, their constraints to recreational participation, and, what new services would attract them to Lake McMurry. Lastly, this study sought to identify Lake McMurry user and nonuser demographics.

Out of 500 attempts, a total of 282 usable questionnaires were attained for this study which is a response rate of 56.4%. A total of 246 individuals from Stillwater and 36 individuals from Perry made up the study sample. Between users and nonusers of Lake McMurry, 91 individuals were lake users and 191 individuals were lake nonusers.

The data are reported in tables and figures as frequencies and percentages. Scrutiny of the data using Pearson's Goodness of Fit, Chi-square Statistic will indicate if

there is a relationship between respondents' gender and selected survey questions (Rayner & Best, 1989).

Lake McMurtry Users

The following data were obtained through questionnaire Form A that was administered to Lake McMurtry users.

The first question asked respondents how often they visited Lake McMurtry. All 91 individuals responded to this question. Figure 1 shows the five possible responses and the number and percentage of individuals who selected each response. The data show that over half (52 individuals or 57.1%) of Lake McMurtry users visit the lake 1 to 4 times a year. The second most reported response was once a month by 15 individuals or 16.5% of the population sampled.

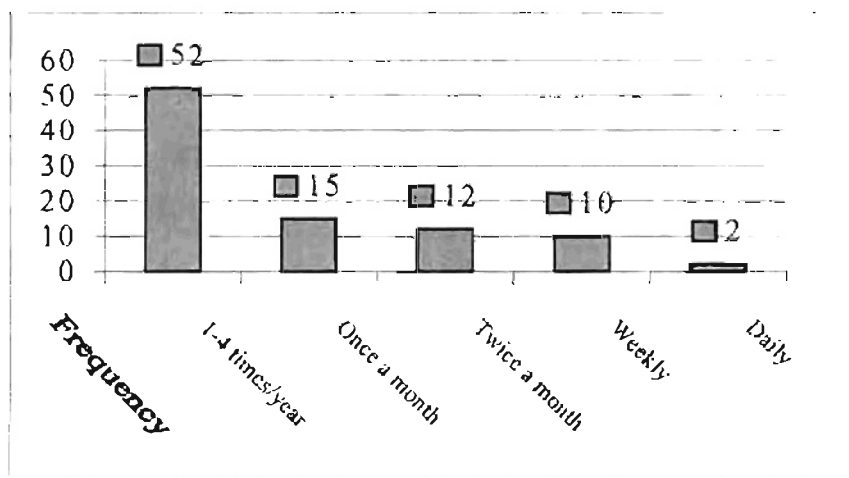


Figure 1. How Often Visitors Use Lake McMurtry

The second question asked respondents when they used Lake McMurtry most. Respondents were allowed to select more than one response as it pertained to them

individually. Figure 2 shows the six possible responses and the number and percentage of individuals who selected each response. Between weekends and weekdays, weekends were selected by 73 individuals or 80.2% of the population while 32 individuals or 35.2% visited Lake McMurry on the weekdays. Between mornings, afternoons and evenings, afternoons were selected by 62 individuals or 68.1% of the population followed by evenings at 42.9% and mornings at 11.0%. Only 23 individuals or 25.3% of the population visits Lake McMurry during the holidays.

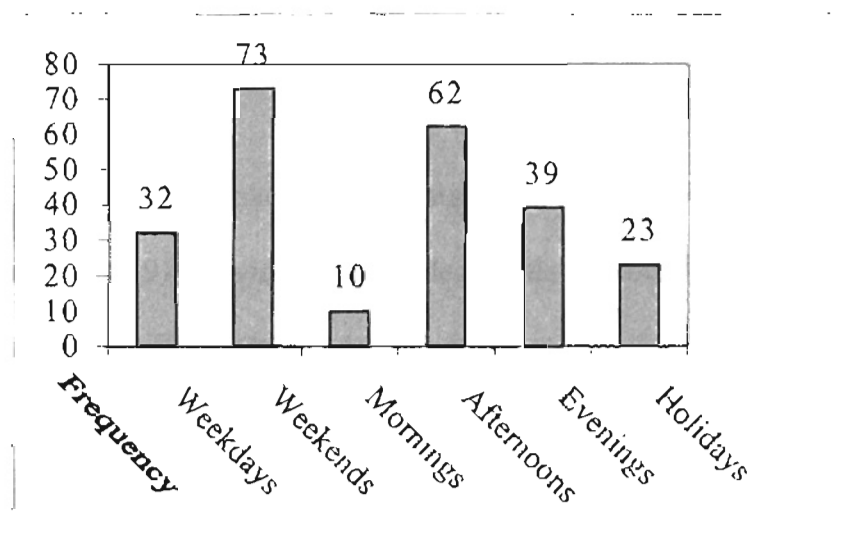


Figure 2. When Users Visit Lake McMurry Most

The third question asked respondents who, if anyone, they preferred being with when participating in outdoor recreational activities. Respondents were allowed to select more than one response as it pertained to them individually. Figure 3 shows the number and percentage of individuals who responded with what answer. Participating “with a group of friends” was the response by 37 individuals or 40.7% followed by “with family” by 34 individuals or 37.4%.

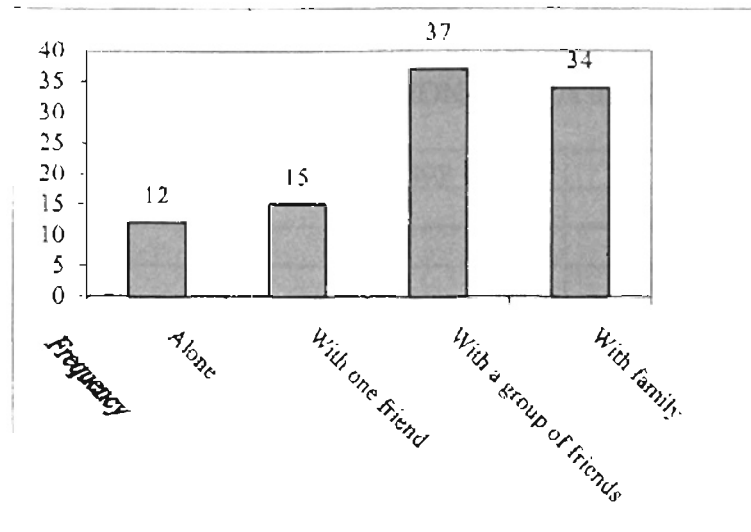


Figure 3. Who, if Anyone, Users Participate in Recreation with

The fourth question asked respondents how they first obtained information about Lake McMurtry. All 91 individuals responded to this question. TABLE I shows the number of individuals who responded with what answer and the percentage. Just over half (50.5%) of the respondents stated that they first learned about Lake McMurtry by “word of mouth.” The second most frequent response was “have always known about it” which was reported by 29.7% of the population followed by “do not remember” at 12.1%.

TABLE I
HOW USERS OBTAIN INFORMATION ABOUT LAKE MCMURTRY

	Frequency	Percent
Always known about it	27	29.7
Road signs	2	2.2
Word of mouth	46	50.5
Advertising by Stillwater	2	2.2
Advertising by Newspaper/Magazine	0	0.0
Don't remember	11	12.1
Employed with city	1	1.1
Found it on my own	1	1.1
Cooper's Bicycle	1	1.1
TOTAL	91	100

The fifth question asked respondents what prevented them from visiting Lake McMurtry more often. TABLE II shows the number of individuals who responded with what answer and the percentage. Approximately half (51.6%) of the respondents stated that "lack of time" was what prevented them from visiting Lake McMurtry more often followed by "not interested" at 17.6%.

TABLE II
USER CONSTRAINTS TO VISITING LAKE MCMURTRY

	Frequency	Percent
Lack of time	47	51.6
Lack of transportation	2	2.2
Too far away	6	6.6
Too costly	4	4.4
Poor facility access	2	2.2
Not interested	16	17.6
No swimming	2	2.2
Weather	2	2.2
Lack of advertising	2	2.2
No boating	2	2.2
Only visit with grandchildren	1	1.1
New baby	1	1.1
Muddy water	1	1.1
Variety	1	1.1
Already visited enough	1	1.1
Sooner lake	1	1.1
TOTAL	91	100

The sixth question asked respondents what activities they participated in while at Lake McMurtry. TABLE III shows the number of individuals who responded with what answer and the percentage. Of all the activities a person can participate in at Lake McMurtry, “picnicking” received the highest response rate at 52.7%. “Fishing from the bank and/or docks” received the next highest response rate at 47.3% followed by “nature viewing” at 46.2%, “walking” at 40.7% and “hiking” at 36.3%.

TABLE III
ACTIVITIES USERS PARTICIPATE IN AT LAKE MCMURTRY

	Frequency	Percentage
Tent camping	14	15.4
RV camping	7	7.7
Fishing from banks/docks	43	47.3
Fishing by boat	28	30.8
Sailboating	1	1.1
Canoeing/kayaking	6	6.6
Motorboating	18	19.8
Swimming	20	22.0
Picnicking	48	52.7
Sunbathing	13	14.3
Walking	37	40.7
Hiking	33	36.3
Mountain biking	16	17.6
Nature viewing	42	46.2
Target shooting/gun range	3	3.3
Hunting waterfowl	3	3.3
Dating/parking	3	3.3
Pleasure driving/sight seeing	29	31.9
Rest/relax	5	5.5
Mushroom hunting	1	1.1
Star gazing	1	1.1
Frisbee	1	1.1

The seventh question asked respondents to rate their overall satisfaction with the various facilities provided at Lake McMurtry. The possible choices were either “very satisfied,” “satisfied,” “very dissatisfied” or “not familiar with that particular facility.” TABLE IV lists each facility, the number of individuals who selected each of the four possible responses, and the percentage. The most satisfactory facility at Lake McMurtry was its “parking areas” with 75 respondents stating they were either “very satisfied” or “satisfied.” Respondents were most “dissatisfied” with the “restrooms” at 16.5%. The most unfamiliar facility at Lake McMurtry was the “gun range” at 91.2%.

TABLE IV

USER LEVEL OF SATISFACTION WITH FACILITIES AT LAKE MCMURTRY

	Very Satisfied		Satisfied		Very Dissatisfied		Not Familiar	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Picnic areas	18	19.8	48	52.7	7	7.7	18	19.8
Shelters	8	8.8	47	51.6	6	6.6	30	33.0
Parking areas	8	8.8	67	73.6	8	8.8	8	8.8
Tent sites	3	3.3	23	25.3	7	7.7	58	63.7
RV sites	2	2.2	18	19.8	2	2.2	69	75.8
Restrooms	5	5.5	39	42.9	15	16.5	32	35.2
Bait/concession shops	2	2.2	21	23.1	0	0.0	68	74.7
Hiking trails	19	20.9	24	26.4	2	2.2	46	50.5
Mt. Biking trails	11	12.1	13	14.3	2	2.2	65	71.4
Swimming areas	4	4.4	25	27.5	4	4.4	58	63.7
Fishing docks	18	19.8	41	45.1	0	0.0	32	35.2
Enclosed fishing house	13	14.3	9	9.9	3	3.3	66	72.5
Boat ramps	10	11.1	33	36.3	0	0.0	48	52.7
Gun range	0	0.0	5	5.5	3	3.3	83	91.2

The eighth question asked respondents to rate their level of satisfaction with the various services provided at Lake McMurtry. Their choices were either "very satisfied," "satisfied," "very dissatisfied" or "not familiar with that particular service." TABLE V lists each service, the number of individuals who selected each of the four possible responses, and the percentage. The most satisfactory service at Lake McMurtry was the "overall appearance" with 84 respondents stating they were either "very satisfied" or "satisfied." Respondents were most "dissatisfied" with the "information on lake road signs" at 18.7%. The most unfamiliar service at Lake McMurtry was the "selection at the bait/concession shops" at 78.0%.

TABLE V

USER LEVEL OF SATISFACTION WITH SERVICES AT LAKE MCMURTRY

	Very Satisfied		Satisfied		Very Dissatisfied		Not Familiar	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Bait/concession shop hours of operation	4	4.4	16	17.6	9	9.9	62	68.1
Bait/concession shop selection	5	5.5	13	14.3	2	2.2	71	78.0
Friendliness of lake employees	17	18.7	33	36.3	4	4.4	37	40.7
Security patrol by lake rangers	15	16.5	41	45.1	4	4.4	31	34.1
Security lighting	8	8.8	33	36.3	12	13.2	38	41.8
Information on lake road signs	6	6.6	58	63.7	17	18.7	10	11.0
Information on trail signs	2	2.2	29	31.9	15	16.5	45	49.5
Information on bulletin boards	4	4.4	47	51.6	8	8.8	32	35.2
Restroom cleanliness	3	3.3	49	53.8	13	14.3	26	28.6
Litter/trash removal	15	16.5	67	73.6	1	1.1	8	8.8
Mowing frequency	10	11.0	40	44.0	7	7.7	34	37.4
Overall appearance	23	25.3	61	67.0	5	5.5	2	2.2

The ninth question asked respondents if they thought the fees at Lake McMurtry were “too high,” “too low” or “about right.” Figure 4 shows the number of individuals who selected each response and the percentage. Most of the respondents (74 individuals or 81.3%) felt that the fees at Lake McMurtry were “about right.” For a listing of current user fee rates, see Appendix I.

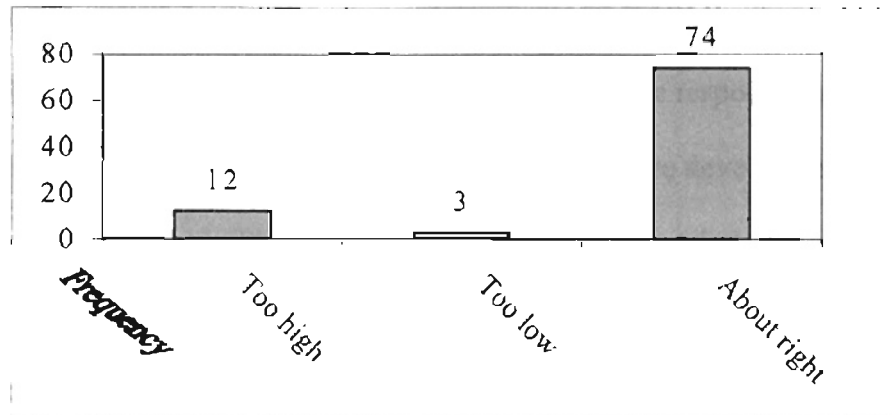


Figure 4. User Opinions about User Fees at Lake McMurry

The tenth question asked respondents how they thought improvements at Lake McMurry should be financed. Respondents were allowed to select more than one response as it pertained to them individually. TABLE VI shows the number of individuals who responded with what answer and the percentage. The majority of respondents (73.6%) thought that “user fees” was the best way to finance improvements at Lake McMurry.

TABLE VI

HOW USERS THINK IMPROVEMENTS SHOULD BE FINANCED
AT LAKE MCMURTRY

	Frequency	Percent
Tax revenue	17	18.7
User fees	67	73.6
Utility revenue	20	22.0
Donations	1	1.1
No opinion	8	8.8

The eleventh question asked respondents to rate in terms of importance which features they would like to see Stillwater Parks and Recreation consider for future development at Lake McMurry. The possible choices were either “very important.”

“important,” “very unimportant” or “no opinion.” TABLE VII lists each feature, the number of individuals who selected each of the four possible responses, and the percentage. The most important feature considered for future development at Lake McMurry was “security lighting” with 72 respondents stating that security lighting was either “very important” or “important.” “Paved parking lots” was the most “unimportant” feature at 40.7%. Fifty-two point seven percent of respondents had “no opinion” concerning “entrance gates.”

TABLE VII

USER LEVEL OF IMPORTANCE TOWARDS FUTURE DEVELOPMENT
AT LAKE MCMURTRY

	Very Important		Important		Very Unimportant		No Opinion	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Additional tent camping sites	13	14.3	30	33.0	10	11.0	38	41.8
Additional RV camping sites	15	16.5	23	25.3	8	8.8	45	49.5
New bait/concession stand on West side	7	7.7	31	34.1	15	15.4	39	42.9
Playgrounds	33	36.3	37	40.7	1	1.1	20	22.0
Paved parking lots	10	11.0	26	28.6	37	40.7	18	19.8
Improved restrooms	21	23.1	43	47.3	13	14.3	14	15.4
Showers	15	16.5	32	35.2	12	13.2	32	35.2
Security lighting	15	16.5	57	62.6	9	9.9	10	11.0
24-hour patrol	26	28.6	33	36.3	18	19.8	14	15.4
Entrance gates	4	4.4	10	11.0	29	31.9	48	52.7

Demographics of lake users

The following table shows the demographics of Lake McMurry users who participated in this study. TABLE VIII shows the number of individuals who responded

with what answer and the percentage as it pertains to users' sex, age, and annual household income.

TABLE VIII
LAKE MCMURTRY USER DEMOGRAPHICS

SEX	Frequency	Percent
Male	54	59.3
Female	37	40.7
AGE	Frequency	Percent
16-25	29	31.9
26-35	27	29.7
36-45	14	15.4
46-55	5	5.5
56-65	13	14.3
66 & over	3	3.3
INCOME	Frequency	Percent
0-19,999	30	33.0
20,000-39,999	17	18.7
40,000-59,000	9	9.9
60,000 & over	29	31.9

Lake McMurtry Nonusers

The following data were obtained through questionnaire Form B, which was administered to Lake McMurtry nonusers.

The first question asked respondents if they were familiar with Lake McMurtry. Figure 5 shows the number of individuals who responded with what answer and the percentage. The data show that 62.8% of Lake McMurtry nonusers are not familiar with Lake McMurtry whereas 37.2% are familiar with the lake.

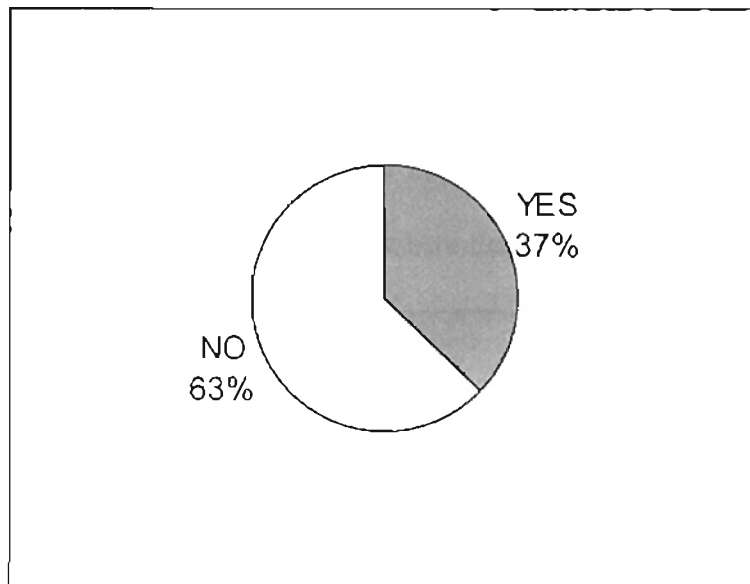


Figure 5. Are Nonusers Familiar with Lake McMurry

The next question asked respondents how they first obtained information about Lake McMurry. This question was to be answered only by those 71 individuals who answered “yes” to the first question. TABLE IX lists the responses and the number of individuals who selected each response and the percentage. The data show that 38.0% of the respondents stated that “word of mouth” was how they first obtained information about Lake McMurry followed by “have always known about it” at 30.9%.

TABLE IX

HOW NONUSERS OBTAINED INFORMATION ABOUT LAKE MCMURTRY

	Frequency	Percent
Always known about it	22	30.9
Road signs	4	5.6
Advertising by Stillwater	4	5.6
Word of mouth	27	38
Advertising by newspaper/magazine	2	1.4
Do not remember	11	14.0
Worked for city	1	0.7

The second question asked respondents if they knew where Lake McMurtry was located. Figure 6 shows the number of individuals who responded with what answer and the percentage. The data show that 76.4% of Lake McMurtry nonusers know where the lake is located whereas 23.6% do not know where the lake is located.

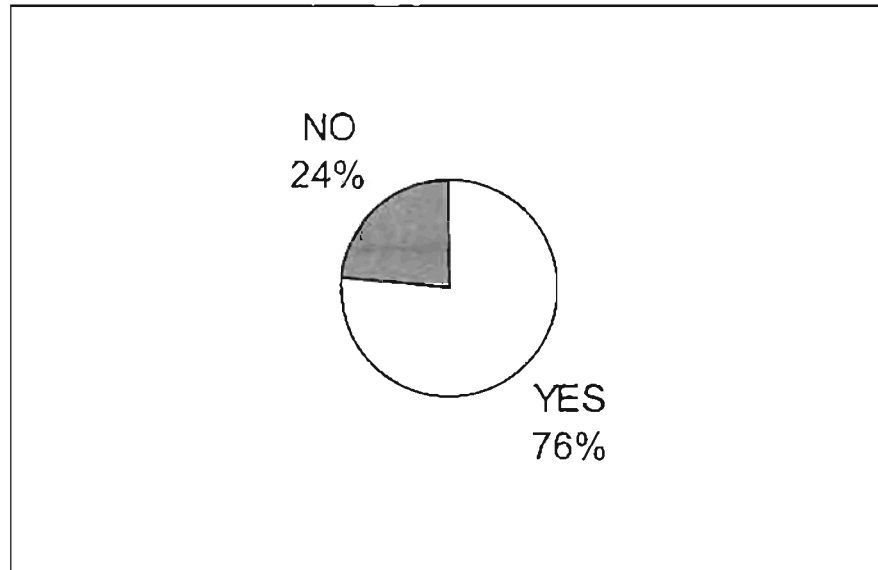


Figure 6. Do Nonusers Know Where Lake McMurtry is Located?

The third question asked respondents if they visit other lakes in the area. Figure 7 shows the number of individuals who responded with what answer and the percentage. The data show that 61.3% of Lake McMurtry nonusers visit other lakes in the area whereas 38.7% do not visit other lakes in the area.

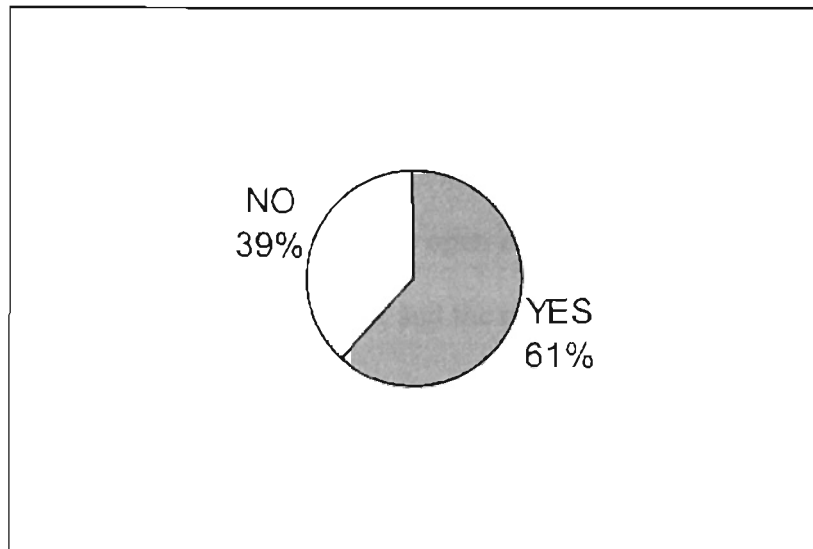


Figure 7. Do Nonusers Visit Other Lakes in the Area?

The next question asked respondents which lakes they visit. This question was to be answered only by those 117 individuals who answered “yes” to the third question.

TABLE X lists the responses and the number of individuals who selected each response and the percentage. The data show that 56.4% of respondents visit “Lake Carl Blackwell” followed by “Boomer Lake” at 35.8%.

TABLE X

OTHER AREA LAKES VISITED BY NONUSERS

	Frequency	Percent
Lake Carl Blackwell	66	56.4
Keystone Lake	12	10.2
Sooner Lake	15	12.8
Lake Arcadia	0	0.0
Boomer Lake	42	35.8
Perry Lake	6	5.1
Grand Lake	4	3.4
Pawnee Lake	3	2.5
Kaw Lake	1	0.8
Oologah Lake	1	0.8

The next question asked respondents why they visit these lakes instead of Lake McMurry. Again, only those 117 individuals who responded “yes” to the third question answered this item. This was the only question on the survey that did not provide respondents with possible responses and was open-ended. TABLE XI lists the responses of the individuals surveyed, the frequency, and the percentage. The data show that “closer location” was the most frequent response (23.0%) by nonusers who visit lakes other than Lake McMurry. A complete list of responses is found in Appendix D.

TABLE XI
WHY NONUSERS VISIT OTHER LAKES

	Frequency	Percent
Closer Location	27	23.0
Paved walking trail at Boomer Lake	15	12.8
Fireworks at Boomer Lake	12	10.2
Water-skiing permitted	11	9.4
No information about Lake McMurry	10	8.5

The fourth question asked respondents what prevented them from visiting Lake McMurry. TABLE XII lists the responses, the number of individuals who selected each response, and the percentage. The data show that the most frequent response by Lake McMurry nonusers was “no interest” at 28.2% followed by “no information about Lake McMurry” at 21.9%. A complete list of responses is found in Appendix D.

TABLE XII
NONUSER CONSTRAINTS TO VISITING LAKE MCMURTRY

	Frequency	Percent
Lack of time	39	20.4
Lack of transportation	8	4.1
Too costly	7	3.6
No interest	54	28.2
No information about Lake McMurtry	42	21.9
Lake McMurtry activity restrictions	12	6.2
Go to other areas for recreation	9	4.7

The fifth question asked respondents who, if anyone, they preferred being with when participating in outdoor recreational activities. Respondents were allowed to select more than one response as it pertained to them individually. TABLE XIII shows the four possible responses, the number of individuals who selected each response, and the percentage. The data show that 60.7% of Lake McMurtry nonusers prefer participating in outdoor recreational activities with "family" followed by "a group of friends" at 40.3%.

TABLE XIII
WHO NONUSERS PREFER BEING WITH, IF ANYONE, WHEN PARTICIPATING IN OUTDOOR RECREATION

	Frequency	Percent
Alone	17	8.9
With one friend	22	11.5
With a group of friends	77	40.3
With family	116	60.7

The sixth question asked respondents what activities they would most enjoy participating in at Lake McMurtry. TABLE XIV lists each activity, the number of individuals who stated they would like to participate in each, and the percentage. The

data show that “picnicking” is the activity nonusers would most enjoy participating in at Lake McMurtry at 79.1% followed by “family gatherings” at 74.3%, “hiking” at 64.4%, “fishing outdoors” at 62.3% and “nature viewing” at 61.8%.

TABLE XIV
ACTIVITIES NONUSERS WOULD MOST ENJOY PARTICIPATING
IN AT LAKE MCMURTRY

	Frequency	Percent
Motor boating	103	53.9
Sail boating	36	18.8
Canoeing/kayaking	43	21.5
Mountain biking	57	29.8
Bicycling	80	41.9
Nature viewing	118	61.8
Dating/parking	4	2.1
Fishing indoors	83	43.5
Fishing outdoors	119	62.3
Tent camping	94	49.2
RV camping	63	33.0
Target shooting at the gun range	51	26.7
Hiking	123	64.4
Backpacking	60	31.4
Hunting waterfowl	16	8.4
Picnicking	151	79.1
Swimming	103	53.9
Pleasure driving	96	50.3
Sunbathing	66	34.6
Community events	107	56.0
Family gatherings	142	74.3

Demographics of lake nonusers

The following table shows the demographics of Lake McMurtry nonusers who participated in this study. TABLE XV shows the number of individuals that responded

with what answer and the percentage as it pertains to nonusers' sex, age, and annual household income.

TABLE XV
LAKE MCMURTRY NONUSER DEMOGRAPHICS

SEX	Frequency	Percent
Male	81	42.4
Female	110	57.6
AGE	Frequency	Percent
16-25	43	22.5
26-35	27	14.1
36-45	45	23.5
46-55	27	14.1
56-65	25	13.0
66 & over	24	12.5
INCOME	Frequency	Percent
0-19,999	47	24.6
20,000-39,999	38	19.9
40,000-59,000	27	14.2
60,000 & over	47	24.6

Pearson's Goodness of Fit Test

The investigator used Pearson's Chi-square Goodness of Fit Test to determine if a difference existed between the sex of respondents and selected survey questions. The following results were obtained:

TABLE XVI shows a crosstabulation count between the sex of Lake McMurtry users and how often they visit the lake. The two variables were tested at the .05 level of significance. The table shows the asymptotic significance level to be at .336 which is greater than .05; therefore, a significant difference does not exist between the two variables.

TABLE XVI
USER FREQUENCY OF VISITATION

	1-4 times a year	Once a month	Twice a month	Weekly	Daily	Total
Male	28	10	6	8	2	54
Female	24	5	6	2	0	37
Total	52	15	12	10	2	91

Chi-square = 4.558, Degrees of Freedom = 4, Probability = 0.336

TABLE XVII shows a crosstabulation count between the sex of Lake McMurry users and what prevents them from visiting the lake more often. The two variables were tested at the .05 level of significance. The table shows the asymptotic significance level to be at .121 which is greater than .05; therefore, a significant difference does not exist between the two variables.

TABLE XVII
USER CONSTRAINTS TO VISITATION

	Lack of Time	Lack of Transportation	Too Far Away	Too Costly	Poor Facility Access	Other	Total
Male	28	0	4	4	0	18	54
Female	19	2	2	0	2	12	37
Total	47	2	6	4	2	30	91

Chi-square = 8.719, Degrees of Freedom = 5, Probability = 0.121

TABLE XVIII shows a crosstabulation count between the sex of Lake McMurry users and their opinions on current user fee rates at the lake. The two variables were tested at the .05 level of significance. The table shows the asymptotic significance level to be at .155 which is greater than .05; therefore, a significant difference does not exist between the two variables.

TABLE XVIII
USER OPINIONS ABOUT FEES

	Too High	Too Low	About Right	Total
Male	10	2	40	52
Female	2	1	34	37
Total	12	3	74	89

Chi-square = 3.731, Degrees of Freedom = 2, Probability = 0.155

TABLE XIX shows a crosstabulation count between the sex of Lake McMurtry nonusers and their familiarity with the lake. The two variables were tested at the .05 level of significance. The table shows the asymptotic significance level to be at .346 which is greater than .05; therefore, a significant difference does not exist between the two variables.

TABLE XIX
NONUSER FAMILIARITY OF LAKE MCMURTRY

	Familiar	Not Familiar	Total
Male	27	54	81
Female	44	66	110
Total	71	120	191

Chi-square = 0.888, Degrees of Freedom = 1, Probability = 0.346

TABLE XX shows a crosstabulation count between the sex of Lake McMurtry nonusers and whether or not they visit other lakes in the area. The two variables were tested at the .05 level of significance. The table shows the asymptotic significance level to be at .165 which is greater than .05; therefore, a significant difference does not exist between the two variables.

TABLE XX

NONUSER VISITATION TO OTHER LAKES

	Do Visit Other Lakes	Do Not Visit Other Lakes	Total
Male	45	36	81
Female	72	38	110
Total	117	74	191

Chi-square = 1.926, Degrees of Freedom = 1, Probability = 0.165

TABLE XXI shows a crosstabulation count between the sex of Lake McMurtry nonusers and what prevents them from visiting the lake. The two variables were tested at the .05 level of significance. The table shows the asymptotic significance level to be at .011 which is less than .05; therefore, a significant difference does exist between the two variables.

TABLE XXI

NONUSER CONSTRAINTS TO VISITATION

	Lack of Time	Lack of Transportation	Too Costly	Not Interested	Other	Total
Male	21	0	0	26	34	81
Female	18	5	4	22	61	110
Total	39	5	4	48	95	191

Chi-square = 13.138, Degrees of Freedom = 4, Probability = .011

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Introduction

The following paragraphs summarize the findings of the study and the conclusions based upon those findings have been drawn. Recommendations concerning future management decisions as well as recommendations for further research are also given.

Conclusions

Pertaining to the demographics of the Lake McMurry users sampled, 59.3% were males and 40.7% were females. The majority (77.0%) of Lake McMurry users were between the ages of 16 and 45. Thirty-three percent of Lake McMurry users had an annual household income between zero and \$19,999 with \$60,000 and over being the next most frequent reported response at 31.9%. Together, these two income ranges made up 64.9% of the users sampled.

Pertaining to the demographics of Lake McMurry nonusers, 57.6% were females and 42.4% were males. The majority (60.1%) of Lake McMurry nonusers were between

the ages of 16 and 45. Pertaining to annual household income, most of the nonusers fell into either the zero to \$19,999 range at 24.6% or the \$60,000 and over range also at 24.6%. Combined, these two income ranges made up 49.2% of the nonusers sampled.

There were many similarities between Lake McMurry users and nonusers. Relating to sex, a higher percentage of males were users whereas a higher percentage of females were nonusers. Likewise, a lower percentage of females were users whereas a lower percentage of males were nonusers. Research has shown that more outdoor activities are participated in by males than by females (Cordell et al., 1999). It is important to note that the researcher had no control whether the interviewee was a male or a female. During the survey, whoever answered the telephone was the person to be interviewed assuming it was an adult, therefore, an even amount of males and females surveyed was not obtained.

The majority of respondents concerning age range were also similar among users and nonusers. Seventy-seven percent of Lake McMurry users were between the ages of 16 and 45. Similarly, 60.1% of Lake McMurry nonusers were between the ages of 16 and 45. This shows that no one particular age range is more nor less likely to utilize Lake McMurry. The high number of 16-45 year old respondents may be due to the high proportion of college-aged students.

The majority of both Lake McMurry users and nonusers either had an annual household income between zero and \$19,999 or \$60,000 and over. This shows that there was a bimodal distribution. The fact that annual household income by the majority of Lake McMurry users and nonusers were at the lower end of the spectrum (0 to \$19,999) was not surprising. Out of 14,175 households in the City of Stillwater in 1989, 6,069 fell

between 0 and \$14,999 (Bureau of the Census, 1990). Out of 2,129 households in the City of Perry in 1989, 773 fell between 0 and \$14,999 (Bureau of the Census, 1990). The fact that annual household income by the majority of Lake McMurry users and nonusers was at the higher end of the spectrum as well, did surprise the researcher. Only 2,095 Stillwater households and 196 Perry households had an annual income of \$50,000 or more (Bureau of the Census, 1990).

This lack of representation of the middle class in Stillwater and Perry coincides with national trends. The middle class has been declining in proportion over the past two decades (Kraus, 2000). This stemmed from the recessions during the 1980s and early 1990s causing middle-income workers to lose jobs which resulted in wages steadily rising at the upper and lower ends of the wage scale (Kraus, 2000).

It was found that the majority of users visit Lake McMurry 1 to 4 times a year, on the weekends and during the afternoons. This is not surprising. Weekends are when most people are off work and have the free time to recreate (Robinson & Godbey, 1997). Most people visit a park in the afternoon, as well. This is due to an individual's working and sleeping hours, sense of safety during daylight hours, and ideal weather conditions as they pertain to temperature and lighting (Robinson & Godbey, 1997).

When asked how they obtained information about Lake McMurry, the most frequent response by both users and nonusers were "word of mouth" followed by "always known about it." In the previous Lake McMurry study, 44% of those surveyed also found out about the lake through word of mouth (Duston & Caneday, 1991). What surprised the researcher was the lack of responses for "road signs," "advertising by Stillwater," and "advertising by newspaper/magazine." Among both users and nonusers,

only six respondents chose “road signs” as how they first obtained information about the lake. Only six respondents chose “advertising by Stillwater” and two chose “advertising by newspaper/magazine” as avenues for learning about Lake McMurry. Individuals are more likely to participate in programs and services when they are subjected to several types of media that advertise the program or service (Rossman, 1995).

There is a definite lack of promotion concerning Lake McMurry and what it has to offer. Highway and road signs, which advertise and provide the potential park visitor with directions, are virtually nonexistent. There are no highway signs advertising Lake McMurry on Interstate 35 or the Cimarron Turnpike. Both highways are heavily traveled thoroughfares, which run within 15 minutes to the west and to the north of Lake McMurry. The initial contact signs play a pivotal role in providing visitors with a positive first impression of the park (Hultsman et al., 1998). The first Lake McMurry road signs a park visitor might see are on Highways 51 and 177 (see Appendix A) and even these road signs are small and can be easily overlooked. If a park visitor did happen to notice the road sign on Highway 51 and turned north on Redlands Road, the visitor would not come across anymore signs until Airport Road where the intersection comes to a T and a sign says “Lake McMurry” with two arrows, one pointing west and one pointing east.

While trying to construct adequate maps for the appendix section of this study, the researcher made several telephone calls for information concerning road and street names. While speaking with an employee at Stillwater’s Chamber of Commerce about Lake McMurry, the only activities that she knew with certainty, were offered at Lake McMurry were fishing, boating, and camping. While asking for directions to Lake

McMurtry from within the city limits of Stillwater, the Chamber of Commerce stated that Lake McMurtry was not within Stillwater's city limits; therefore, they did not know the names of the roads needed to get to Lake McMurtry (Stillwater Chamber of Commerce, personal communication, February 27, 2001). Perry's Chamber of Commerce stated that no recreation was offered at Lake McMurtry (Perry Chamber of Commerce, personal communication, February 27, 2001).

The investigator then contacted the Stillwater Parks and Recreation Department. They were very informative about the activities and services provided at Lake McMurtry however, directions to Lake McMurtry were another matter. When given directions to the West Side of Lake McMurtry from Stillwater, the investigator was told to take 51 Highway west out of Stillwater, turn north on Redlands Road and follow the signs (Stillwater Parks and Recreation Department, personal communication, February 27, 2001). The only sign between Highway 51 and the West Side entrance to Lake McMurtry is where Redlands Road T's at Airport Road and that sign can be very confusing as to which direction to turn. If someone were to turn east, that person would end up back in Stillwater because there are no other Lake McMurtry road signs that direction. If someone were to turn west on Airport Road, there is a good possibility they would pass the entrance the first time because the entrance sign sits back a ways from Airport Road. Hultsman et al. (1998) state that areas where confusion in terms of circulation may occur, it is important that signs are erected to assist the visitor. It is important that park management see what park visitors expect to see (Hultsman et al., 1998).

The researcher then spoke with the manager at Lake McMurry. Finally, adequate information and directions (including road names) were obtained (R. Bastion, personal communication, February 27, 2001).

There is also a lack of promotion through advertisement media such as the city's newspaper, magazines, brochures, exhibits, etc. Only eight of the total 282 respondents selected these forms of media as how they first found out or obtained information about Lake McMurry. When nonusers were asked what prevented them from visiting Lake McMurry, 21.9% stated that "lack of information" about the lake was the reason. This was the second most reported response by Lake McMurry nonusers. When asked why they visit lakes other than Lake McMurry, 8.5% stated it was because of "lack of information." Jackson & Burton (1999) state that failure to implement marketing principles may impair leisure agency's ability to serve their communities. The community needs to be aware of what is out there for them.

Lake McMurry activities that had the highest level of participation by users included picnicking, fishing from banks/docks, nature viewing, walking, and hiking. In the previous study on Lake McMurry, the reported top five activities were outdoor fishing, camping, picnicking, swimming, and family gatherings (Duston & Caneday, 1991). As can be seen, fishing, picnicking, and family gatherings have maintained a high level of participation by users from 1991 to 2000. Among nonusers, outdoor activities that had the highest level of interest also included picnicking, fishing from banks/docks, nature viewing, and hiking as well as family gatherings. Current national participation estimates validates these research findings. Nationally, walking, picnicking and family gatherings outdoors are three of the most popular single outdoor activities (Cordell et al.,

1999). Nature viewing is a rapidly growing type of land-based activity (Cordell et al., 1999).

This study evaluated user level of satisfaction of both the facilities and services at Lake McMurtry. Among the facilities, picnic areas, parking areas, fishing docks, and shelters were found to be the most satisfactory among users. Users did not express a great amount of dissatisfaction for nearly any of the facilities except the 16.5% who chose the restrooms. In the previous study on Lake McMurtry, 21.3% considered the restroom facilities as a detractor (Duston & Caneday, 1991). A new restroom was recently constructed on the West Side, which not only looks new, but is also ADA accessible. The East Side restroom is old and deteriorating due to time and vandals. Each side of the park has only one restroom. The fact that there is only one restroom on each side of the lake may also be a source of dissatisfaction among users. Among all activity-specific visitors that come to a park, campers have expressed the highest levels of dissatisfaction toward restroom facilities concerning location and amount (Hultsman et al., 1998). Hultsman et al. (1998) also state that restrooms should not be placed in the middle of a camping area but located within walking distance.

The facilities with which users were most unfamiliar included tent sites, RV sites, bait/concession shops, mountain bike trails, and the gun range. The unfamiliarity with the primitive and improved camping sites could be due to the fact that most of the people who camp at Lake McMurtry do not reside within the area sampled, Stillwater and Perry. Approximately 65 to 70 percent of RV campers and approximately 50% of tent campers live in cities other than Stillwater and Perry (R. Bastion, personal communication, February 27, 2001). Bastion (2001) stated that campers who do not reside in Stillwater or

Perry have the tendency to camp longer than the locals who usually only camp for a single evening. Bastion (2001) also stated that RV campers have a tendency to stay longer because a one-night stay is not feasible with the time it takes to prepare and set-up an RV.

The unfamiliarity with the bait/concession shops could be due to the limited amount of time that the shops are open throughout the year. The two shops are usually open March through October; the shops are only open on the weekends in the early and late spring and fall months. The availability of the bait/concession shops to park patrons is highly dependent on seasonal and weather conditions as well as the amount of money budgeted to Lake McMurtry to pay for staffing.

Unfamiliarity with mountain biking could be due to the specialized aspects of this activity. Mountain biking is also a relatively new activity, however, it is increasingly becoming more popular (Cordell et al., 1999).

Usage of the gun range requires a membership to the Stillwater Gun Club. This facility is not highly advertised within the park and is located away from most of the park's facilities and services. This may explain the high lack of awareness towards this facility by Lake McMurtry users.

Among the services provided at Lake McMurtry, restroom cleanliness, litter/trash removal, mowing frequency, information on lake road signs, and overall appearance were found to be the most satisfactory among users. As a former employee at Lake McMurtry, this does not surprise the investigator. Cleaning restrooms, the removal of trash from trashcans, and litter pick-up were a weekly, if not daily routine, depending on lake

visitation rates. The general maintenance and upkeep of the park was always a priority, which explains the high satisfaction levels concerning the overall appearance.

There were not any services towards which respondents expressed great dissatisfaction. The highest dissatisfaction levels from users were about the information on lake road and trail signs. Criticism has been expressed by park patrons concerning directional road signs within the park, especially on the West Side. Park visitors have also in the past expressed confusion towards what lake activities require fees and the amount of those fees. Recently, new road signs were erected displaying a breakdown of fee rates to alleviate this confusion.

Users were most unfamiliar with the bait/concession shop hours of operation and merchandise selection. Again, this is probably due to the minimal amount of days these shops are open throughout the year.

The majority (81.3%) of Lake McMurry users thought the current user fee rates were about right. Seventy-three point six percent thought that user fees were the best way to finance improvements at the park. In general, most recreation goers support the concept of charging fees if they know their money goes back into the park (Harris & Driver, 1987). Both users and nonusers were given the opportunity to select "too costly" as a constraint to visitation at Lake McMurry. Out of 282 respondents, only 11 selected this response.

For those nonusers who do visit other lakes, most of them visit either Lake Carl Blackwell, Boomer Lake or both. The main reason for this is location. Boomer Lake is located in the middle of the City of Stillwater. Lake Carl Blackwell is located approximately five miles west of Stillwater right off of Highway 51 whereas Lake

McMurtry is located another five miles off of 51 Highway (see Appendix A). Boomer Lake also has a paved trail that circles the lake where people can walk, jog, roller blade, etc. The City of Stillwater also provides a 4th of July fireworks display at Boomer Lake. Lake Carl Blackwell also allows jet skiing, water skiing, and tubing whereas Lake McMurtry does not.

With regard to future development at Lake McMurtry, users placed the greatest importance on playgrounds, improved restrooms, security lighting, and 24-hour patrol. The previous study on Lake McMurtry found that 24-hour patrol and entrance gates to the RV camping area were of great importance to lake users. Very little importance was given to security lighting (Duston & Caneday, 1991). Paved parking lots, entrance gates, and showers were found to be of little importance to Lake McMurtry users. Most of the users had no opinion concerning additional tent and RV camping sites, a new bait/concession shop on the West Side, and entrance gates. Again, this lack of interest in additional camping areas could be due to the fact that most Lake McMurtry campers are not from Stillwater or Perry. Little interest was also shown towards entrance gates and showers, which are services specifically provided for campers.

Recommendations

Need assessments are useless if managerial action is not taken once the needs of the agency's clientele are assessed. The following recommendations are given to provide management personnel with possible plans of action concerning future decisions at Lake McMurtry.

Programs and services need to be provided that involve the whole family. Family gatherings were among the top activities at Lake McMurry. The majority of both users and nonusers were between the ages of 16 and 45, the age when most people have young children. Provide programs that encourage family involvement. In the past, the Stillwater Parks and Recreation Department has offered programs at Lake McMurry that involved both youth and adults. These programs included fishing derbies, camp outs, and orienteering classes. This needs to continue. These programs allow youth the opportunity to start a new hobby, become educated about outdoor skills and the fragile environment, and become aware of the park, which gives the agency the opportunity to obtain a lifetime park user. These programs give adults the opportunity to participate in recreational activities with their children and gives them an awareness of what the lake has to offer. These programs also serve as an excellent "word of mouth" network for the agency.

Promotional signs should be erected along Interstate 35 and the Cimarron Turnpike to draw tourists traveling through the area. In order to gain the attention of passing motorists, these signs need to be both big in size and colorful. They need to provide the viewer with an adequate account of the services provided as well as detailed directions to the lake. Road signs also need to be placed on Redlands Road and at the T at Airport Road. These particular signs need to inform the visitor of remaining mileage as well as direction to Lake McMurry. If the sign at the T directs the visitor toward the East Side of the lake, then additional directional signs need to be placed at the intersection of Airport and Cottonwood Roads and at the intersection of Cottonwood and Burris Roads.

The Stillwater and Perry Chambers of Commerce and Stillwater Park and Recreation employees need to be made aware of the recreational opportunities offered at Lake McMurtry. They also need to be able to provide the potential lake visitor with directions to the lake. Lake McMurtry has the potential to be a major tourist draw. If tourists cannot obtain adequate information about Lake McMurtry, they will go other places.

There also needs to be more advertising about Lake McMurtry. This can be done by increasing advertisements in both city and college newspapers and outdoor-related magazines. Stillwater Parks and Recreation currently has a web site on the Internet and an exhibit booth at the Oklahoma Tackle Show held each year. These are excellent ways to promote the lake.

Activities that had the highest participation levels by users and highest interest levels by nonusers should be the focus of future management decisions. By focusing on these activities, Lake McMurtry retains its current clientele while providing new services to attract new clientele. Services that complement these activities should be implemented. Lake McMurtry has an abundance of picnicking areas. Some picnic tables are made from concrete and are not moveable. Due to poor planning, two of these tables sit in water when lake levels are above normal. Many of them have deteriorated over time. The picnic grills are also beginning to deteriorate and rust, and some can no longer hold the charcoal needed to cook food. For the most part, users expressed a general satisfaction of the picnic areas. Improvements should be targeted at providing new picnic tables and grills in existing picnic areas as well as newly established areas where needed.

Improvements have already been made to services related to fishing. The boardwalk to the enclosed fishing house was recently treated to promote the appearance and deter wood rot. New walking planks and flotation systems have recently been installed to both fishing docks as well. Both fishing docks and picnic areas received high satisfaction levels among lake users.

The highest level of dissatisfaction concerning facilities was with the restrooms. The East Side restroom should be renovated equal to the standards of the new West Side restroom. If new facilities such as camping areas are constructed, new restrooms need to be built. Several park patrons, especially campers have criticized both sides of the lake having only one restroom and the walk involved from restroom to campsite.

The bait/concession shops should continue to be open for business as much as financially possible, especially during the weekends and peak season months. Keeping the bait/concession shops open offers park visitors not only the opportunity to purchase needed supplies but also offers the visitor someone to answer their questions gather information from. Bait and tackle and cooking out supplies should continue to be sold to complement the popular activities of picnicking, fishing, and family gatherings.

Further Research

There are currently hundreds of acres of land that are not used for recreational purposes at Lake McMurtry. Many areas of waterfront land are currently leased out to cattle farmers. One area is located between the lake and Gun Range Road. Not only do cattle graze on this section of land, but one of the mountain bike trails runs through it as

well. This would be an ideal area to establish both improved and primitive camping sites. The original management plan on Lake McMurry had planned to build cabins in this area (Guernsey & Watkins, 1970). This area is large enough to easily support a dozen RV spots with twice as many primitive sites scattered throughout. This area is across a cove from where nearly all of the West Side facilities are currently located. Camping in this area would prevent overcrowding in the current camping areas, which would ultimately lead to user conflict and environmental degradation of park resources. Research analysis should first be conducted to identify whether camping fees would offset the leased land revenue.

Before any management decisions concerning camping are made, it is important that current Lake McMurry RV and tent campers be surveyed about future developments. As mentioned earlier, most individuals who camp at Lake McMurry are not from Stillwater or Perry, which could explain this study's finding of the low level of importance toward camping among users. By surveying this population, responses would be obtained from individuals most likely to use this service. During the peak camping months, oftentimes waiting lists are used because both primitive and improved camping sites are filled. Ultimately, Lake McMurry turns away revenue because it is not equipped to provide ample camping spots. As a former employee at Lake McMurry, the researcher has witnessed several weekends and holidays where potential lake campers had to be referred to Lake Carl Blackwell for an available camping spot.

These recommendations have been proposed with the intent to increase visitation and participation levels at Lake McMurry, while in turn, satisfying the recreational needs

of the community. The increase in visitation creates both an opportunity and a challenge.

Manning et al. (1998) state:

The opportunity is to manage parks so they reach their full potential value to society; the challenge is to protect park resources and the quality of the visitor experience. Too many visitors can trample fragile vegetation, erode soil, pollute water, and disturb wildlife. Likewise, too many visitors can cause crowding and conflict, degrading the quality of the recreation experience. (p. 88)

This concept is what is known as “carrying capacity.” Caneday and Neal (1998) stated that “carrying capacity is generally defined as ‘the amount or type of use an area can sustain without unacceptable change’” (p. 6). It is up to park managers to define acceptable and unacceptable change, establish policies of intervention when unacceptable change occurs, and define goals that are to be sustained (Caneday & Neal, 1998). The objectives of this study were to identify the recreational needs of both Lake McMurry users and nonusers, not the carrying capacity aspects of the lake. However, before management decisions can be made concerning what services need to be developed, an evaluation of Lake McMurry’s carrying capacity must be undertaken. Some of the very reasons some users visit this lake are because it is not overcrowded and noisy. The land/water/wildlife resources are still relatively present and natural at Lake McMurry compared to an urban park. If this characteristic is lost due to increased levels of visitation, participation by some users will also be lost. If management is not careful, they may take away the very reason some people come to a park in the first place.

This study attempted to provide some insight about the current and future needs of the citizens of Stillwater and Perry as they pertain to recreational activities and services at Lake McMurry. With this insight, management decisions can be

implemented to continue to provide quality recreational services. Reviere et al. (1996)

state:

Too often, needs assessment findings are treated as ends in themselves, not as essential means to an end... Even the most well-designed study is often published without implications for services or suggestions for decision makers. Clearly, however, a needs assessment does not end with a simple enumeration of needs or problems; evaluation of data and integration of information should result in informed decision making on recommendations, policy, and program. (p. 11)

Action must be taken from the research findings. By identifying the problems and needs but not acting on them, the time, money, and effort spent on the development and implementation of a needs assessment is wasted.

Hints for the Next Study

This study considered all the activities Lake McMurtry offers. This study presented a general idea of current public satisfaction of all the various facilities and services and participation rates in all the various outdoor activities at Lake McMurtry. Examining just one of these facilities or activities may provide a more in-depth, detailed account of that activity or facility. It also may shed some light on what needs improvement, who participates in and/or uses it, their level of satisfaction, etc.

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APPENDIX A
LAKE MCMURTRY SURROUNDING AREA

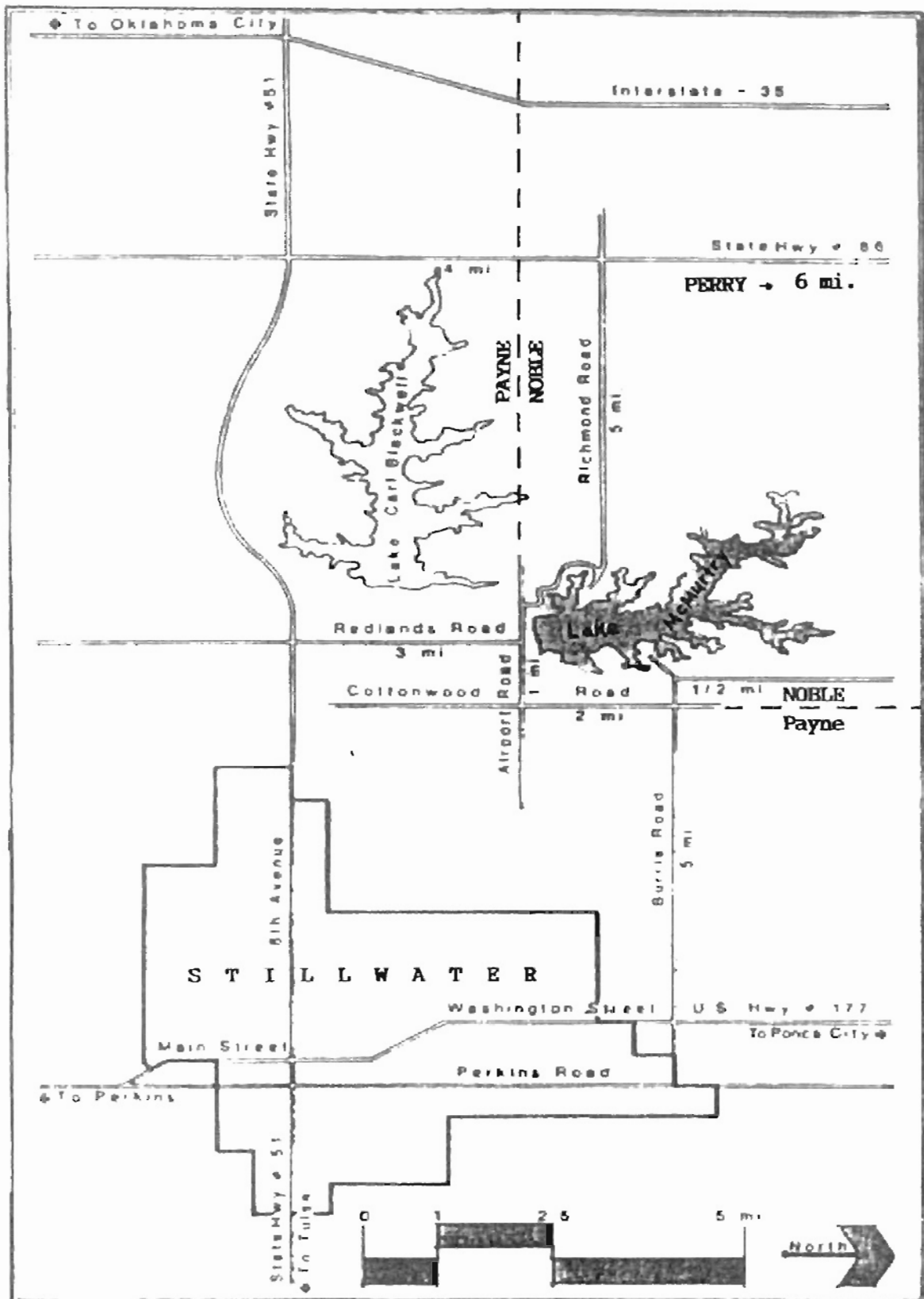


Illustration I. Lake McMurtry Surrounding Area
Source: Stillwater Parks, Events and Recreation

APPENDIX B
LAKE MCMURTRY

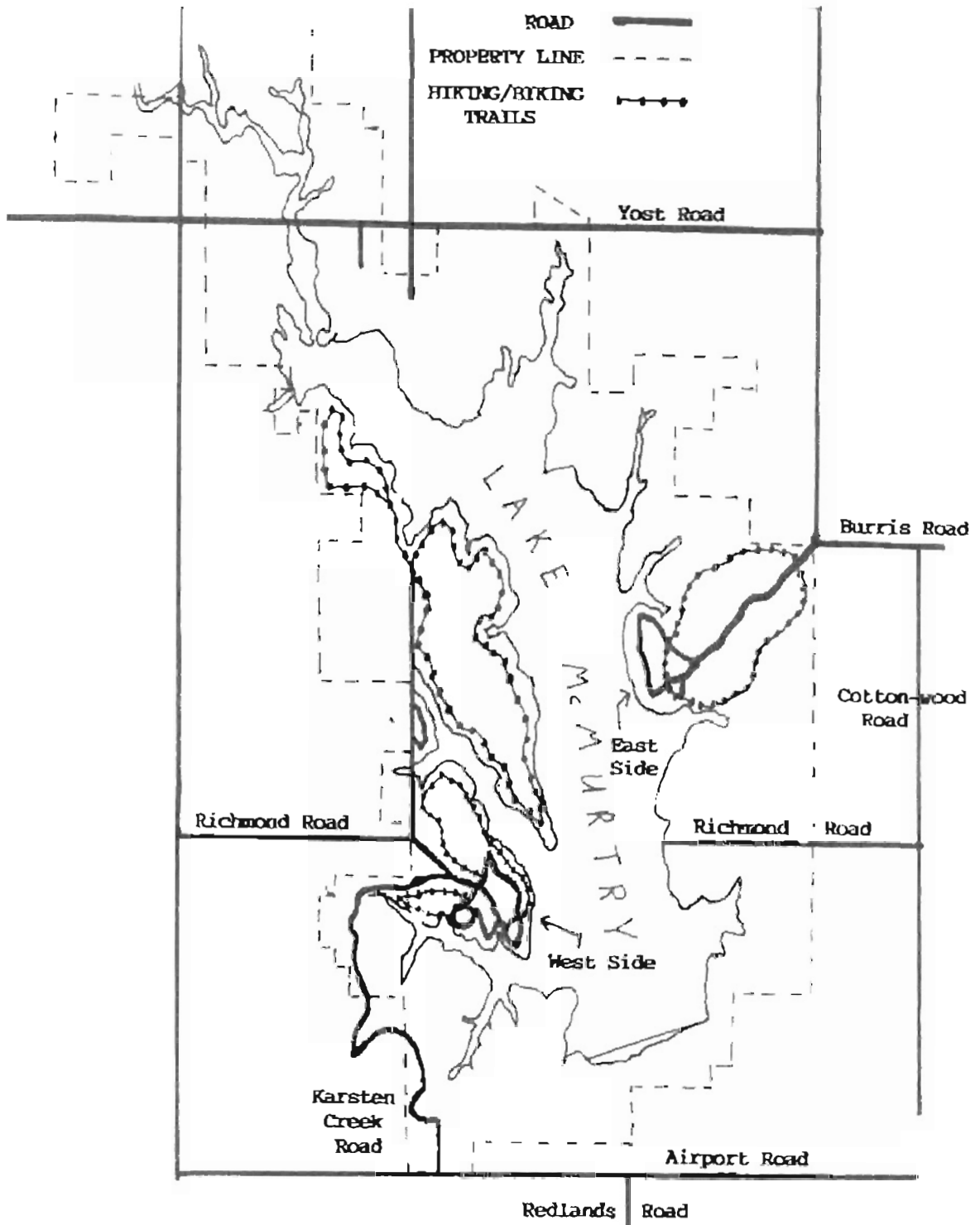


Illustration II. Lake Murtry
Source: Stillwater Parks, Events and Recreation

APPENDIX C
QUESTIONNAIRE INTRODUCTORY STATEMENT

Lake McMurtry Telephone Survey

Please Check:

 Accepted Rejected Call Back

Date: _____ Time: _____

Phone Number: _____

“Hello. Is this Mr./Mrs. _____? (use name if possible). My name is “surveyor’s first name” and I am currently a student at Oklahoma State University. I am conducting a survey in cooperation with the Stillwater Parks and Recreation Department about Lake McMurtry. Your household has been selected for this study. Your responses are very important and will assist the City in future planning considerations. Your responses will remain strictly confidential and anonymous. Would you be willing to take five minutes or less to help out?”

NO - - - - - “Thank you for your time and have a good evening.”

YES - - - - - “Great! My first question will determine whether this survey will last two minutes or five minutes.”

“The first question is, have you visited Lake McMurtry anytime within the last year?”

YES

“In that case, this survey will take about five minutes.”
(use questionnaire form A)
The first question is.....

NO

“In that case, this survey will take about two minutes.”
(use questionnaire form B)
The first question is.....

APPENDIX D
QUESTIONNAIRE FORM A

FORM A

(yes responses)

1. How often do you visit Lake McMurry? (check one)

- 1 to 4 times a year
 once a month
 twice a month
 weekly
 daily

2. Do you use Lake McMurry during the..... (check all that apply)

- weekdays mornings holidays
 weekends afternoons
 evenings

3. When you participate in outdoor recreational activities, are you (check all that apply)

- alone
 with one friend
 with a group of friends
 with family

4. How did you first obtain information about Lake McMurry? (check one)

- have always known about it
 road signs
 word of mouth
 advertising by Stillwater Parks and Recreation
 advertising in newspaper or magazine
 Do you remember which one? _____
 other _____

5. What prevents you from visiting Lake McMurry more often? (check all that apply)

- lack of time
 lack of transportation
 too far away
 costs too much
 lack of security
 poor maintenance
 poor access to facilities
 other _____

6. What activities do you participate in while at Lake McMurry? (check all that apply)

- | | |
|---|---|
| <input type="checkbox"/> primitive camping (tent) | <input type="checkbox"/> walking |
| <input type="checkbox"/> improved camping (RV) | <input type="checkbox"/> hiking |
| <input type="checkbox"/> fishing from the bank and/or docks | <input type="checkbox"/> mountain biking |
| <input type="checkbox"/> fishing by boat | <input type="checkbox"/> nature viewing |
| <input type="checkbox"/> sailboating | <input type="checkbox"/> target shooting/gun range |
| <input type="checkbox"/> canoeing/kayaking | <input type="checkbox"/> hunting waterfowl |
| <input type="checkbox"/> motorboating | <input type="checkbox"/> dating/parking |
| <input type="checkbox"/> swimming | <input type="checkbox"/> pleasure driving/sightseeing |
| <input type="checkbox"/> picnicking | <input type="checkbox"/> other _____ |
| <input type="checkbox"/> sunbathing | |

7. Now I would like you to please rate your overall satisfaction with the following facilities provided at Lake McMurry by stating that you are either very satisfied, satisfied, very dissatisfied or not familiar with that particular facility. (circle one response for each)

1 = Very Satisfied 2 = Satisfied 3 = Very Dissatisfied NF = Not Familiar with that facility

picnic areas (including tables, grills, etc.)	1	2	3	NF
shelters	1	2	3	NF
parking areas	1	2	3	NF
primitive camping sites (tent)	1	2	3	NF
improved camping sites (RV)	1	2	3	NF
restrooms	1	2	3	NF
bait/concession shops	1	2	3	NF
hiking trails	1	2	3	NF
mountain biking trails	1	2	3	NF
swimming areas	1	2	3	NF
fishing docks	1	2	3	NF
enclosed fishing house	1	2	3	NF
boat ramps	1	2	3	NF
gun range	1	2	3	NF

8. Now I would like you to please rate your level of satisfaction with each of the following services at Lake McMurtry by stating that you are either very satisfied, satisfied, very dissatisfied or not familiar with that particular service. (circle one response for each)

1 = Very Satisfied 2 = Satisfied 3 = Very Dissatisfied NF = Not Familiar with that service

bait/concession shops hours of operation	1	2	3	NF
bait/concession shops selection	1	2	3	NF
friendliness of lake employees	1	2	3	NF
security patrol by lake rangers	1	2	3	NF
security lighting	1	2	3	NF
information on lake road signs	1	2	3	NF
information on trail signs	1	2	3	NF
information on bulletin boards	1	2	3	NF
restroom cleanliness	1	2	3	NF
litter, trash removal	1	2	3	NF
mowing frequency	1	2	3	NF
overall appearance	1	2	3	NF

9. Do you think the fees at Lake McMurtry are (check one)

_____ too high
 _____ too low
 _____ about right

10. How do you think improvements at Lake McMurtry should be financed?
 (check all that apply)

_____ tax revenue
 _____ user fees
 _____ utility revenue
 _____ other _____

11. Please rate in terms of importance which features you would like to see Stillwater Parks and Recreation consider for future development at Lake McMurtry. After each of the following features, please respond with either very important, important, very unimportant or no opinion.

1 = Very Important 2 = Important 3 = Very Unimportant NO = No
Opinion

additional primitive campsites (tent)	1	2	3	NO
additional improved campsites (RV)	1	2	3	NO
new bait/concession shop on West Side	1	2	3	NO
playgrounds	1	2	3	NO
paved parking lots	1	2	3	NO
improved restrooms	1	2	3	NO
showers	1	2	3	NO
security lighting	1	2	3	NO
24-hour patrol	1	2	3	NO
entrance gates	1	2	3	NO
other – please specify _____				

Now I would like to ask you just a few demographic questions.

_____ Male _____ Female

1. What is your age?

_____ 16- 20	_____ 46-50
_____ 21-25	_____ 51-55
_____ 26-30	_____ 56-60
_____ 31-35	_____ 61-65
_____ 36-40	_____ 66-70
_____ 41-45	_____ over 70

2. What is your annual household income – from all sources?

_____ below \$10,000	_____ \$40,000 to \$49,999
_____ \$10,000 to \$19,999	_____ \$50,000 to \$59,999
_____ \$20,000 to \$29,999	_____ \$60,000 to \$69,999
_____ \$30,000 to \$39,999	_____ \$70,000 and over

This concludes the survey. On behalf of myself and Stillwater Parks and Recreation, we thank you for your participation and have a nice evening.

APPENDIX E
QUESTIONNAIRE FORM B

FORM B

(no responses)

1. Are you familiar with Lake McMurtry?

- No – go on to question #2.
 Yes – please answer question a.

a. How did you first obtain information about Lake McMurtry? (check one)

- have always known about it
 road signs
 advertising by Stillwater Parks and Recreation
 word of mouth
 advertising in a newspaper or magazine
 which one? _____
 other _____

2. Do you know where Lake McMurtry is located?

- yes
 no

3. Do you visit other lakes in the area?

- No – go on to question #4.
 Yes – please answer a. and b.

a. Which lakes do you visit? (check all that apply)

- Lake Carl Blackwell
 Keystone Lake
 Sooner Lake
 Lake Arcadia
 Other: _____

b. Why do you visit these lakes instead of Lake McMurtry?

4. What prevents you from visiting Lake McMurry? (check all that apply)

lack of time too expensive other: _____
 lack of transportation not interested

5. When you participate in outdoor recreational activities, do you prefer to be
(check all that apply)

alone
 with one friend
 with a group of friends
 with family

6. If you were to visit Lake McMurry, which activities do you think you would most enjoy participating in? (check all that apply)

<input type="checkbox"/> motor boating	<input type="checkbox"/> target shooting at gun range
<input type="checkbox"/> sail boating	<input type="checkbox"/> hiking
<input type="checkbox"/> canoeing/kayaking	<input type="checkbox"/> backpacking
<input type="checkbox"/> mountain biking	<input type="checkbox"/> hunting waterfowl
<input type="checkbox"/> bicycling	<input type="checkbox"/> picnicking
<input type="checkbox"/> nature viewing	<input type="checkbox"/> swimming
<input type="checkbox"/> dating/parking	<input type="checkbox"/> pleasure driving
<input type="checkbox"/> fishing indoors	<input type="checkbox"/> sunbathing
<input type="checkbox"/> fishing outdoors	<input type="checkbox"/> community events
<input type="checkbox"/> tent camping	<input type="checkbox"/> family gatherings
<input type="checkbox"/> RV camping	<input type="checkbox"/> other: _____

Now I would like to ask you just a few demographic questions.

_____ Male _____ Female

1. What is your age?

_____ 16-20	_____ 46-50
_____ 20-25	_____ 51-55
_____ 26-30	_____ 56-60
_____ 31-35	_____ 61-65
_____ 36-40	_____ 66-70
_____ 41-45	_____ over 70

2. What is your annual household income – from all sources?

_____ below \$10,000	_____ \$40,000 to \$49,999
_____ \$10,000 to \$19,999	_____ \$50,000 to \$59,999
_____ \$20,000 to \$29,999	_____ \$60,000 to \$69,999
_____ \$30,000 to \$39,999	_____ \$70,000 and over

This concludes the survey. On behalf of myself and Stillwater Parks and Recreation, we thank you for your participation and have a nice evening.

APPENDIX F
INSTITUTIONAL REVIEW BOARD APPROVAL

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD

Date: March 1, 2000 IRB #: ED-00-218

Proposal Title: "A NEEDS ASSESSMENT OF LAKE MCMURTRY"

Principal Investigator(s): Christine Cashel
Shannon Davies

Reviewed and
Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

Signature:



Carol Olson, Director of University Research Compliance

March 1, 2000
Date

Approvals are valid for one calendar year, after which time a request for continuation must be submitted. Any modification to the research project approved by the IRB must be submitted for approval with the advisor's signature. The IRB office MUST be notified in writing when a project is complete. Approved projects are subject to monitoring by the IRB. Expedited and exempt projects may be reviewed by the full Institutional Review Board.

APPENDIX G
VERBATIM RESPONSES

Verbatim Responses

Question #4 (Form A)

How users first obtain information about Lake McMurtry.

- don't remember
- don't remember
- don't remember
- Cooper's Bicycle
- don't recall
- don't remember
- don't remember
- don't remember
- employed with the city
- on my own I found a place to fish
- don't remember
- don't remember
- don't remember
- don't remember

Question #5 (Form A)

What prevents Lake McMurtry users from visiting the lake more often.

- not interested
- nothing
- only visit when grandchildren come down
- no need
- no boating
- no swimming
- not interested
- no boat
- new baby
- not interested
- not interested
- no swimming
- water is muddier than Lake Carl Blackwell
- not interested
- not much advertising about what is available
- variety
- already visit enough
- not interested
- don't want to
- lack of advertising
- not interested
- not interested

- no interest
- weather
- Sooner Lake
- not interested
- not enough
- no reason
- not interested
- weather

Question #6 (Form A)

What activities users participate in while at Lake McMurry.

- mushroom hunting
- relax
- relax
- star-gazing
- rest and relax
- frisbee
- r and r
- relax

Question #10 (Form A)

How users thought improvements at Lake McMurry should be financed.

- no opinion
- don't know
- don't know
- don't know
- don't know
- don't know
- donations
- don't know
- don't know

Question #11 (Form A)

User suggestions toward future development at Lake McMurry.

- nature center
- more restrooms
- more trails
- more swimming areas
- make it darker for telescope usage
- volleyball recreation area
- availability of rangers
- move the dock
- relocate the fishing house, so the entrance would face south

- Boomer Lake
- Boomer Lake
- Boomer Lake
- Boomer Lake
- Boomer Lake
- Boomer Lake
- Perry Lake
- Perry Lake
- Boomer Lake
- Boomer Lake
- Boomer Lake
- Pawnee Lake
- Grand Lake
- Boomer Lake
- Boomer Lake
- Boomer Lake
- Boomer Lake
- Boomer Lake
- Pawnee Lake
- Perry Lake
- Boomer Lake
- Boomer Lake
- Boomer Lake
- Boomer Lake
- Boomer Lake
- Boomer Lake
- Boomer Lake
- Pawnee Lake
- Grand Lake
- Perry Lake
- Boomer Lake
- Boomer Lake

Question #3b (Form B)

Why nonusers visit these lakes instead of Lake McMurtry.

- fireworks
- closer to Sooner
- friends we meet at Lake Carl Blackwell
- picnicking
- closer to Perry Lake
- where kids can go ski
- closer to Boomer
- depends on situation
- walking path
- fishing
- Boomer is centrally located

- have always gone to Lake Carl Blackwell
- camping
- friends have a boat at Lake Carl Blackwell
- not many picnic areas at Lake McMurry
- beautiful scenery
- haven't heard of Lake McMurry
- location right off of Lake Carl Blackwell
- to hang out
- can ski
- convenience
- I live at Lake Carl Blackwell
- take pictures at Lake Carl Blackwell
- don't know what Lake McMurry has to offer
- fireworks show at Boomer
- live closer to Boomer
- closer to Boomer
- walking trail at Boomer Lake
- fireworks
- closer to Boomer
- full fledged recreation facility
- like camping at Kaw Lake
- walking path
- family gatherings at other lakes
- more familiar with Lake Carl Blackwell
- easy access
- RV spots not big enough at Lake McMurry
- permanent spot to rent so we can park RV
- closer to where we live in summer
- 4th of July
- clear water
- closer location
- bigger
- safer
- walking path at Boomer
- Lake McMurry does not allow horseback riding
- no jug or trot lines allowed at Lake McMurry
- fireworks show
- fireworks at Boomer Lake
- Boomer Lake has walking path
- asphalt trail
- go where husband goes
- closer to Boomer Lake
- live closer to Boomer Lake
- meet friends at Lake Carl Blackwell

- picnicking
- fishing
- exercise trail
- road from 86 to Lake McMurtry is too long
- campsites were full when we visited
- fireworks display
- closer to Boomer
- Boomer walking path
- where all my friends go
- go mountain biking
- for frisbee golf
- have not heard of Lake McMurtry
- walking trail at Boomer Lake
- don't know where Lake McMurtry is
- for boating
- can't ski at Lake McMurtry
- allow you to ski at Lake Carl Blackwell
- fireworks show at Boomer
- location right off 51 Highway
- more familiar with Lake Carl Blackwell
- Lake McMurtry RV are too small
- for playgrounds
- more things for kids to do
- can ski at Blackwell
- no horseback riding at Lake McMurtry
- family we meet at Grand Lake
- easy access
- closer to Boomer Lake
- Boomer Lake is right next door
- Sooner has Stripers
- no reason
- have a camper there
- fireworks
- fireworks show
- closer to Boomer
- walking path
- live closer to Boomer
- can ski
- for playgrounds
- closer to Boomer Lake
- no reason
- frisbee golf at Boomer
- live closer
- live closer

- fireworks show
- can water ski
- bigger
- RV spots too small at Lake McMurtry
- walking path
- where all my friends go
- fireworks
- can ski
- have not heard of Lake McMurtry
- closer to Boomer Lake
- live closer
- exercise trail at Boomer
- can ski at Lake Carl Blackwell
- can't jet ski
- walking path
- live closer to Boomer Lake
- live closer to Boomer Lake
- can ski
- walking trail
- Boomer Lake path loop

Question #4 (Form B)

What prevents nonusers from visiting Lake McMurtry.

- not familiar with it
- unfamiliar with offerings
- don't know where it is
- no swimming
- no reason
- not familiar
- disabled
- not familiar
- we have a pond on the farm
- have two very young kids
- unfamiliar with Lake McMurtry
- not familiar
- not familiar
- unsure about surroundings
- nobody I know goes out there
- not familiar with it
- not enough information about it
- do not know where it is
- don't have equipment to participate
- nobody to go with
- visit other lakes

- no reason
- not familiar
- unfamiliar with it
- no alcohol allowed
- haven't heard of it
- new to the area
- too old
- not familiar with Lake McMurtry
- don't know about Lake McMurtry
- go to Lake Carl Blackwell
- can't ski
- location
- not enough to offer
- availability
- do not know where it is
- we have a pond in the backyard
- do not have the equipment to participate
- access
- no reason
- no one to go with
- not familiar
- not familiar
- unfamiliar
- don't know where it is located
- like Boomer for walking path
- too far away
- no beer allowed
- nobody to go out there with
- no reason
- user fees
- not familiar with the lake
- have not heard of it
- too old
- cannot jet ski
- location
- none of my friends have a boat
- unfamiliar with Lake McMurtry
- no water activities
- no alcohol
- no reason
- don't know where it is
- kids are all grown up
- no jet or water skiing
- never heard of Lake McMurtry

- user fees
- did not look maintained
- not familiar
- unfamiliar with it
- too old
- location
- Boomer Lake path
- too far away
- not familiar
- not familiar with Lake McMurtry
- fees too high
- always go to Ponca Lake
- do not know where it is
- no reason
- no alcohol allowed there
- can't ski
- it's a hassle
- too far away
- too far away
- not familiar
- don't know where Lake McMurtry is located
- no reason
- unfamiliar
- unfamiliar
- too old
- do not know where the lake is at
- can't water ski
- like Boomer Lake for trails
- no jet skiing allowed
- don't know where it is
- exercising at Boomer Park
- not familiar
- don't know where it is
- unfamiliar
- not familiar

APPENDIX H
FACILITY LETTER OF APPROVAL

June 2, 2000

To Whom It May Concern:

Shannon Davies conducted a survey the following dates and times-

March 7, 8, 9, 13, 14, & 15 from 6:00pm - 9:00pm. The Stillwater Parks, Events and Recreation Department allowed Shannon the use of our facility and phones for the administration of this survey.

If you have any further questions, you may contact me at 405-747-8070 or at [recsupv\(d\)-stillwater.ora](mailto:recsupv(d)-stillwater.ora).

Sincerely,

Jim D. Scott
Recreation Supervisor
City of Stillwater Parks, Events and Recreation Department

APPENDIX I

LAKE MCMURTRY USER FEE RATES

PERMIT INFORMATION—PARK USER FEES

Effective January 1, 1997

Daily User/Fishing	\$3.00 per vehicle
• Includes bank fishing, hiking, picnicking and swimming	
Daily Boating/Fishing	\$5.00 per vehicle with boat
• Includes fishing, hiking, picnicking and swimming	
Daily Mountain Biking	\$5.00 per vehicle
• Includes bank fishing, hiking, picnicking and swimming	
Annual User/Fishing	\$20.00 per vehicle
• Includes bank fishing, hiking, picnicking and swimming	
Annual Boating/Fishing	\$35.00 per vehicle with boat
• Includes fishing, hiking, picnicking and swimming	
	➤ \$15.00 additional boat-same owner
	➤ \$5.00 each additional mountain bike 16 and over
	➤ \$5.00 additional vehicle sticker bought at the same time
Annual Mountain Bike	\$25.00 per vehicle with up to two mountain bikes
• Includes bank fishing, hiking, picnicking, and swimming and children 15 and under	
	➤ \$5.00 each additional mountain bike-16 and over
	➤ \$15.00 boat-same owner
	➤ \$5.00 additional vehicle sticker bought at the same time
Camping	\$6.00 per night- primitive site \$12.00 per night- improved site
• Includes bank fishing, hiking, picnicking and swimming	
Hunting	\$40.00 per person per season (4 people to a blind)
Shelter Rentals	\$30.00 < 4 hours \$40.00 > 4 hours \$20.00 to add the addition of fishing for the group

VITA *ø*

Shannon Davies

Candidate for the Degree of

Master of Science

Thesis: A NEEDS ASSESSMENT OF LAKE MCMURTRY

Major Field: Health, Physical Education and Leisure

Biographical:

Personal Data: Born in Kansas City, Missouri, on June 22, 1973, the son of Ronald Davies and Beverly Land.

Education: Graduated from Oak Grove High School, Oak Grove, Missouri in May 1992; received Bachelor of Science degree in General Recreation from Central Missouri State University, Warrensburg, Missouri in December 1997. Completed the requirements for the Master of Science degree with a major in Leisure Services Management at Oklahoma State University in May, 2001.

Professional Experience: Employed by the Johnson County Park and Recreation District, Johnson County, Kansas as a park ranger since May, 2000.

Professional Memberships: National Recreation and Park Association, Missouri Park and Recreation Association, Kansas Recreation and Park Association, Park Law Enforcement Association, Kansas Park Law Enforcement Association.

