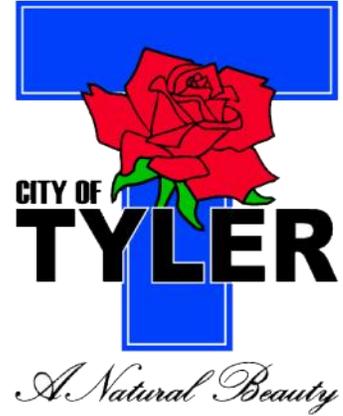


Lake Tyler Master Plan

ADOPTED: April 27, 2011



Freese and Nichols, Inc.
4055 International Plaza, Suite 200
Fort Worth, Texas 76109
(817) 735-7300
www.freese.com



Planning Concepts
3815 Old Bullard Road
Tyler, Texas 75701
(903) 561-4950
www.urban-planners.com

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Executive Summary

The Lake Tyler Master Plan was commissioned to study the areas surrounding Lake Tyler and Lake Tyler East and to develop a set of recommendations that the City of Tyler could use to guide future decisions regarding lake development and to establish policies for implementation of the recommendations. The study was divided into three categories to organize the opportunities and challenges at the lakes: Planning and Development, Recreation, and Water Quality.

Lake Tyler and Lake Tyler East are tremendous assets to the City of Tyler and are a major raw water supply source for the City of Tyler and its surrounding communities. The Tyler Water Utilities Department is primarily responsible for operation and maintenance activities at the lakes. The lands surrounding the lakes are unique. The majority of existing development immediately around the lakes is residential in nature, however there are also several nonresidential uses present. Residential leases on Lake Tyler occur through long-term leases with the City of Tyler, while residential development on Lake Tyler East is privately owned. The City has developed several existing recreation areas for the general public to access and enjoy the lakes. The balance of City-owned land that has not been leased, sold, or developed into recreation areas has mostly been left undeveloped. While much of the land is owned by the City of Tyler, none of it lies within its city limits and only a portion lies within its extraterritorial jurisdiction.

A fundamental objective in developing the Lake Tyler Master Plan was to review previous data related to the lakes and to seek input from City of Tyler citizens, lake residents, and various stakeholder groups. The guiding principles for development of this Master Plan were to:

1. Protect the water quality of Lake Tyler and Lake Tyler East.
2. Create a balance of lake benefits for the citizens of Tyler and Lake Tyler/Lake Tyler East residents and users.

3. Establish partnerships between the City of Tyler and Lake Tyler lease holders.
4. Create recreational opportunities for citizens of Tyler and Lake Tyler/Lake Tyler East residents and users.

Plan Recommendations

Recommendations were developed and are summarized below.

Water Quality Recommendations

- Continue to pursue aquatic vegetation management strategies.
- Preserve City-owned land at the headwaters of tributaries into lakes.
- Expand the existing water quality sampling and field monitoring program for the lakes and tributaries.
- Revise inspection and monitoring polices in the Rules and Regulations regarding near-shore On-Site Sewer Facilities (OSSF). Revise inspection and monitoring policies in the Rules and Regulations regarding erosion and sediment control practices around the lakes.
- Evaluate development standards and guidelines that can be implemented throughout the watershed in order to protect the lakes' water quality from stormwater runoff.
- Continue to inspect oil and gas wells for leaks on a regular basis and develop a policy for future well development.
- Evaluate the use of pesticide chemicals around the lakes, and include inspection of approved pesticides at the same time boathouse sewer systems are inspected.
- Develop a timber management program for un-leased City owned property around Lake Tyler to promote timber growth and minimize potential fire hazards.
- Evaluate alternatives to maintain constant lake elevations by procuring make-up water sources.

Planning and Development Recommendations

- Conduct an evaluation of the residential and nonresidential lease agreements to reflect current standards and practices.
- Place additional wayfinding signage in appropriate areas surrounding the lakes to guide visitors to amenities and public access areas.
- Identify mechanisms for managing development and restricting new nonresidential uses that do not contribute to the desirable character of the lakes.
- Ensure future development within and around Camp Tyler, Green Acres Baptist Church, and Petroleum Club is compatible and complementary to the lake area.
- Address issues with Fritz & Opal's Fishing Barge, Lake Tyler Marina and RV Park, barge lots, and potential new nonresidential leases (such as new marinas or restaurants) to promote the image, safety, and public accessibility of the lake community.
- Ensure access and thoroughfare planning for current and future lake amenities and public access are adequately addressed by the Master Street Plan for the City of Tyler and Tyler Metropolitan Planning Organization (MPO).

Recreation Recommendations

- Expand and improve the lakes' existing recreation facilities.
- Plan and develop new facilities and recreational amenities.
- Explore options for the programming and marketing of the lakes.

Implementation

Implementation of the recommendations in a master plan typically requires a phased approach. Funding and timing considerations will affect the priority of the various recommendations. Chapter 5 lists all of the plan recommendations and identifies the short-term implementation actions the City should consider.

Chapter 1.

Introduction



1. Introduction

The City of Tyler commissioned Freese and Nichols, Inc. and Planning Concepts to develop the Lake Tyler Master Plan. This report discusses the results of a study for the areas surrounding Lake Tyler and Lake Tyler East. It is intended to serve as a policy guide for the City of Tyler to develop and implement the report recommendations for protecting and preserving the water quality, environment, and quality of life within the watershed.

There were four main goals this project sought to achieve:

1. Protect the water quality of Lake Tyler and Lake Tyler East.
2. Create a balance of lake benefits for Lake Tyler/Lake Tyler East residents and citizens of Tyler.
3. Establish partnerships between the City and Lake Tyler lease holders.
4. Create recreational opportunities for Lake Tyler/Lake Tyler East residents and citizens of Tyler.

This report provides an inventory and assessment of the existing conditions, as well as analyses and recommendations to guide future development surrounding the lakes. Implementation strategies are provided to identify specific recommended actions and an associated general timeline for each.

The recommendations presented by this report can be instrumental in the development of an environmentally responsible and healthier quality of life for the people who live in this watershed and utilize the lakes for water supply.



Lake Tyler

1.1 Document Organization

This document structure is based on the following organization:

1. Introduction

The Introduction chapter provides an overview of the history of the lakes, purpose of the project, the process used throughout the development of the master plan, and the document structure.

2. Data Collection

The Data Collection chapter summarizes the relevant data sources, including a review of existing literature and the public input process.

3. Existing Conditions

The Existing Conditions chapter documents the current conditions and provides a needs analysis for land use and development, recreation, and water quality within the lake study area.

4. Recommendations

The Recommendations chapter provides recommended actions corresponding to the land use and development, water quality, and recreation existing conditions.

5. Implementation

The Implementation chapter provides strategies for implementing the plan recommendations and their associated timeline.

1.2 Process

The development of the plan incorporated an extensive amount of public participation, which is summarized in this report.

Following the review of existing literature and documentation of existing conditions, input was obtained through meetings with several focus groups and City staff. As a result, alternative scenarios regarding land use planning, development, water quality, and recreation were identified and reviewed with the public and staff. Recommendations were developed, along with corresponding action items providing guidance on implementing the plan’s strategies.

The draft recommendations were presented to the public for feedback, and the finalized plan was adopted in 2011.



Figure 1. Planning Process Overview

1.3 Background Data

Lake Tyler was constructed in 1949 and covers approximately 2,400 surface acres; Lake Tyler East was constructed in 1967, covers approximately 2,500 surface acres. A channel connects the two lakes. The combined storage of the two lakes is 83,600 acre-feet, with Lake Tyler and Lake Tyler East having 43,000 and 40,600 acre-feet of storage, respectively. The conservation pool elevation of the lakes is 375.68 feet-msl.

Lake Tyler is formed by Whitehouse Dam (TX00245) which is a 4,700-foot long earthen embankment with a crest elevation of 390 feet-msl and a maximum height of 50 feet. Discharges through Whitehouse Dam are made via a 200-foot wide uncontrolled concrete overflow spillway. Lake Tyler East is formed by Mud Creek Dam (TX00244) which is a 4,390-foot long earthen embankment a crest elevation ranging from 390 feet-msl to 391.5 feet-msl and a maximum height of 60 feet. Discharges through Mud Creek Dam are made via a 300-foot wide uncontrolled concrete overflow spillway. **Figure 2** shows an aerial view of the lakes.

The total drainage area to the lakes is 107 square miles. Lake Tyler's drainage area is 45 square miles and major tributaries include Prairie Creek, Gilley Creek, and Hill Creek. Lake Tyler East's drainage area is 62 square miles and its major tributaries include Mud Creek, Lowry Creek, and Everett Branch. At conservation pool elevation, Lake Tyler has a shoreline length of approximately 43 miles and Lake Tyler East has a length of 56 miles. (It should be noted that shoreline lengths were measured using current geographical information tools. These measurements resulted in longer lengths when compared to the original estimates from when the dams were constructed). Both lakes are owned by the City of Tyler and serve as a reservoir for water supply as well as a recreational destination. The lakes can supply up to 34 million gallons of water per day.

From Tyler, the lakes are accessed by S.H. 110/Troup Highway, S.H. 64 and F.M. 848/Bascom Road. F.M. 230 runs along the east side of Lake Tyler East, while

F.M. 3341/Eastside Road runs north to south between the two lakes. The primary east to west access to the south of the lakes is via Farm-to-Market 346 out of Whitehouse, while C.R. 285/Old Omen Road provides an east to west connection at the north end of the lakes. The drive time from downtown Tyler to the lakes is 20 to 30 minutes.

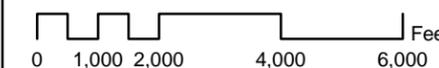
Lake Tyler and Lake Tyler East are located approximately 15 miles southeast of the City of Tyler, in southeastern Smith County. The lakes are neighbored by the municipalities of Whitehouse to the west, Arp to the east, and New Chapel Hill to the north. Portions of Lake Tyler are included within the extraterritorial jurisdiction (ETJ) of the Cities of Tyler and Whitehouse. Lake Tyler East is not included within these ETJs and lies completely in Smith County jurisdiction. **Figure 3** delineates the various jurisdictions with respect to the lakes and watershed boundaries.



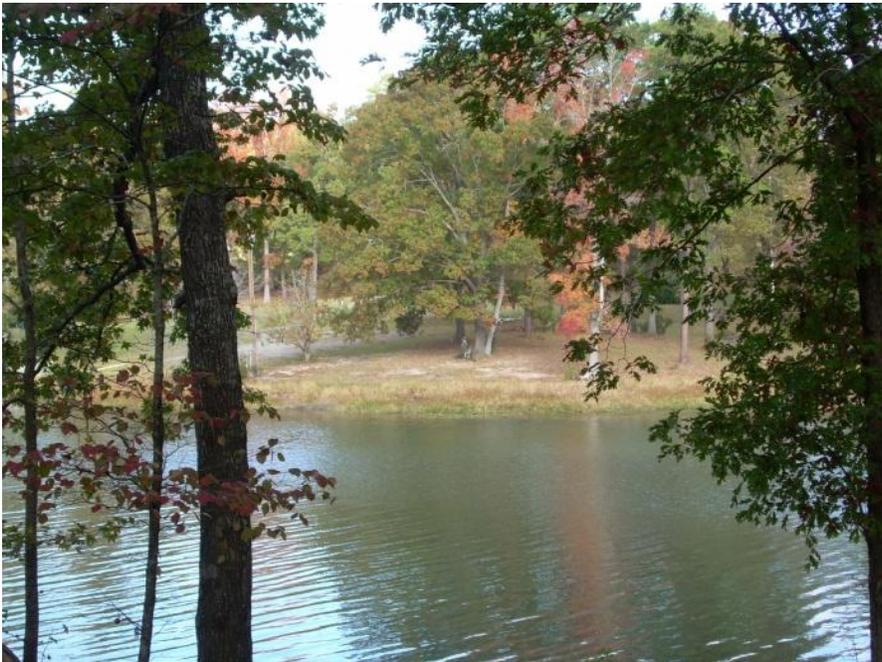
Views of Lake Tyler and Lake Tyler East



Figure 2
Aerial View
of Lakes



Data Collection



2. Data Collection

The master plan was developed based on review of existing planning documents and public input gathered from extensive community involvement. The following sections provide an overview of the relevant literature and input received from the community.

2.1 Literature Review

FNI performed a review of existing plans, studies, and other documents relating to the lakes. Pertinent information from the existing documents has been referenced and incorporated throughout this Lake Tyler Master Plan, including:

- Tyler 21 Comprehensive Plan
- Tyler Area Metropolitan Planning Organization Transportation Plan 2035
- Tyler Area Metropolitan Planning Organization Regional Trail Plan
- Texas Local Government Code
- City of Tyler Annexation Plan
- Lake Tyler and Lake Tyler East Rules and Regulations
- Lease agreements for residential and nonresidential leases
- Tyler Unified Development Code
- Smith County Subdivision Regulations
- City of Whitehouse Subdivision Regulations
- City of Whitehouse Vision 2020 Plan

Tyler 21 Comprehensive Plan

This document incorporates principles, goals, and other recommendations identified within the Tyler 21 Comprehensive Plan. The plan was adopted in 2007. The planning process included input from a community visioning retreat, six open house meetings, a survey of Tyler residents, and communication with City Staff.

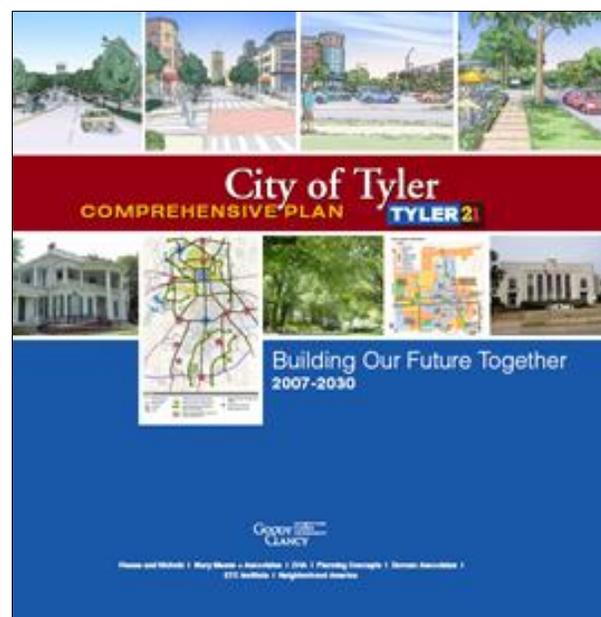
Key overall themes from the Tyler 21 plan include:

- Bringing new housing to revitalization areas
- Creating a “destination downtown”
- Protecting Tyler’s heritage
- Preserving a business-friendly environment
- Improving Tyler’s “public realm”
- Shaping future growth
- Achieving plan goals through partnerships
- Balancing access and mobility in future transportation improvements

More specifically, the following items were identified as important to Tyler’s vision for the future that directly relate to the Tyler 21 plan include the desire for the following:

- Growth outward from the existing City;
- Better management of outward growth;
- More sidewalks, paths, and trails;
- New or expanded convention space;
- More parks; and
- More bicycle paths and routes.

A common theme that emerged through the public input process was the desire for increased recreational opportunities, including swimming pools, multipurpose activity centers, and facilities at Lake Tyler and Lake Tyler East. One item in particular on which participants reached consensus



was the desire for public access and recreation opportunities at the lakes.

According to the Tyler 21 plan, “...in the city-wide survey, 89% of respondents said that parks, recreation and open space were very or somewhat important. Forty percent saw Tyler’s natural resources and scenery as important, but only 29% identified the parks and open space system as assets to build on for the future. Only half the people surveyed were satisfied with the quality and programs of parks and recreational facilities.” The participants reached consensus on a variety of issues relating to the City, including the desire for tree preservation, new parks/trails, public access to recreation opportunities, and public use of the lakes.

The Tyler 21 plan identified multiple principles to guide the future development within the City limits and the ETJ, such as designating transitional uses and/or adequate buffers between low- and high-intensity uses to reduce conflict. The plan also identified the need to preserve drainage corridors, which may be used for trails or a linear park system. Additionally, regional parks should be encouraged within the ETJ to serve developing neighborhoods.

The following is an overview of goals identified within the Tyler 21 Parks, Open Space, Recreation, & Lakes chapter which were considered fundamental to the development of this Lake Tyler Master Plan:

Goals from Tyler 21

- Goal 1: Preserve open space corridors in Tyler for wildlife habitat, nature-based recreation, an attractive public realm, and a healthy environment.
- Goal 2: Provide a balanced park and open space system that allows for easy access and enjoyment by all citizens of Tyler.
- Goal 3: Provide recreation programs and opportunities for children, youth, adults and senior citizens throughout the City.
- Goal 4: Protect and preserve Lake Tyler, Lake Tyler East, and Bellwood Lake.
- Goal 5: Be a good steward of parks and public spaces.

Goal 4 is the most applicable to this report; therefore, the corresponding recommendations are expanded below.



Lake Tyler

Goals from Tyler 21

Goal 4: Protect and preserve Lake Tyler, Lake Tyler East and Bellwood Lake.

Lake Tyler and Lake Tyler East Actions:

4a. Continue giving highest priority to water quality protection.

The lakes are the city’s drinking water supply and protection of water quality must be the highest priority.

4b. Continue to review compliance with the existing lease requirements for both residential and nonresidential leases and take enforcement action in the case of noncompliance.

The leaseholders must comply with the terms of their leases or face enforcement action by the City.

4c. Review and revise maximum parking limits for camping and RV facilities.

Ensure that the lease language contains aesthetic controls and requires best practices to control nonpoint source pollution and proper waste disposal. Pervious surfaces such as gravel and pervious concrete block such as “grass-pave” should be encouraged, rather than asphalt.

Goals from Tyler 21 (con't)

4d. Prohibit further subdivision of lease lots on City-owned property.

“Club lots” are the only type of lake lots that can be subdivided. The City should stop this practice by eliminating the designation of “Club Lot” so that all lots fall under the same development criteria.

4e. Designate properties which do not currently have leases as Greenbelt Properties.

Publicly-owned property around the lakes is a precious resource belonging to the citizens of Tyler and should be preserved for public purposes—protection of the water supply and public recreation. Designation of remaining City-owned properties as Greenbelt Properties would eliminate the potential for future private development while allowing for low-impact, nature-based recreation with the minimum of support facilities, such as boat ramps, fishing piers, parking lots and restrooms at trailheads.

4f. Develop a trail system around Lake Tyler.

Create a nature trail from the marina to Hill Creek Recreation Area on the City-owned greenbelt properties. Small parking areas should be provided at several locations along the trail.

4g. Continue to improve recreational facilities at existing sites.

Facilities can be improved so that they can serve users more effectively while minimizing impacts on the land and the water. Lake facility standards and expectations should be the same as other City of Tyler recreation sites. “Improved” facilities, therefore, do not necessarily mean more impervious surfaces or expanded structures, though in some cases they may be necessary. New and upgraded recreational facilities at the Lakes offer the City the opportunity to showcase and raise public awareness about best environmental practices that conserve energy and avoid pollution. Facility upgrades should also include signage improvements so users can locate existing recreation sites.

4h. Evaluate the location, performance, and appearance of the existing R.V. facility and the need for such a facility.

The current R.V. facility appears to have many permanent installations, reportedly because seasonal visits by travelers were insufficient for economic survival of the business.

The entire operation should be evaluated for its contributions to the recreational objectives at the lakes. As part of that evaluation, the housing needs of the people who live there now should be taken into account. If the evaluation produces a conclusion that the public interest and the private interest of the residents and owner of the R.V. facility are in conflict, a solution that is fair to all involved should be pursued.

4i. Explore all options for obtaining resources and for developing partnerships with the Lake Tyler leaseholders and others to improve amenities and public access areas at Lake Tyler.

4j. Consider annexing a corridor to the lakes and all of the property around the lakes.

Perform a cost-benefit study for annexing all City-owned property around Lake Tyler into the corporate limits of Tyler. If the benefits outweigh the costs, the City should explore annexation proceedings to include all City-owned property in the City of Tyler.

4k. Continue to purchase undeveloped land around Lake Tyler East as it becomes available.

City control of land around Lake Tyler East is beneficial because it helps control impacts on drinking water quality. Maximum impervious cover standards to ensure water quality should be established around the lake and lake access granted only to properties which comply with the standards.

Metropolitan Transportation Plan 2035

The Tyler Area Metropolitan Planning Organization Policy Committee adopted the Transportation Plan 2035 document in 2009 (revised in 2010) to meet the transportation demands of the Tyler metropolitan area through 2035.

The report includes demographic projections and an overview of issues and recommendations related to environmental concerns, the roadway system, public transportation, the bicycle and pedestrian system, intermodal facilities, management and operations, as well as recommended implementation strategies.

Roadway Functional Classification

In short, the functional classification of streets provides for the circulation of traffic in a hierarchy of movement from one classification to the next. Functional classes can be subdivided further into major and minor designations to further detail their role in the region. For each classification, there is typically a recommended set of operational and design criteria. The classification system for this plan consists of freeways/expressways, arterial streets (major and minor), collector streets, and local streets.

Seven roadways provide access to the lakes (see Figure 5):

- S.H. 110
- S.H. 64
- F.M. 848/Bascom Road
- F.M. 346/East Main Street
- C.R. 285/Old Omen Road
- F.M. 3341/Eastside Road
- C.R. 230/Swinney Road

S.H. 110 is a six-lane roadway, and S.H. 64 is a two-/four-lane roadway. Both highways are identified as principal arterials:

“Arterials primarily provide for traffic movement, with a minor function of providing direct access to abutting property. Major arterials typically serve as connections between major traffic generators and land use concentrations, and

facilitate large volumes of through traffic traveling across a community.”

F.M. 848/Bascom Road and F.M. 346/East Main Street are two-lane roadways identified as minor arterials. The plan classifies a minor arterial as follows:

“Minor arterials typically serve as connections between local and connector streets and the major arterials, and facilitate the movement of medium level traffic volumes over shorter distances within the community.”

C.R. 285/Old Omen Road is a two-lane roadway classified as a collector roadway:

“Traffic movement is often internal to local areas and connects residential neighborhoods, parks, churches, etc., with the arterial street system.”

F.M. 3341/Eastside Road and C.R. 230/Swinney Road are classified as local roads, which are not discussed in further detail within this plan:

“Local streets function to provide access to abutting property and to collect and distribute traffic between parcels of land and collector or arterial streets.”

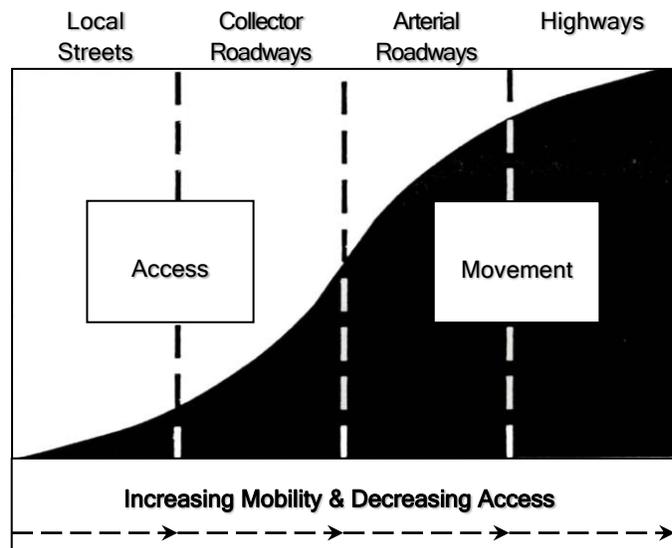
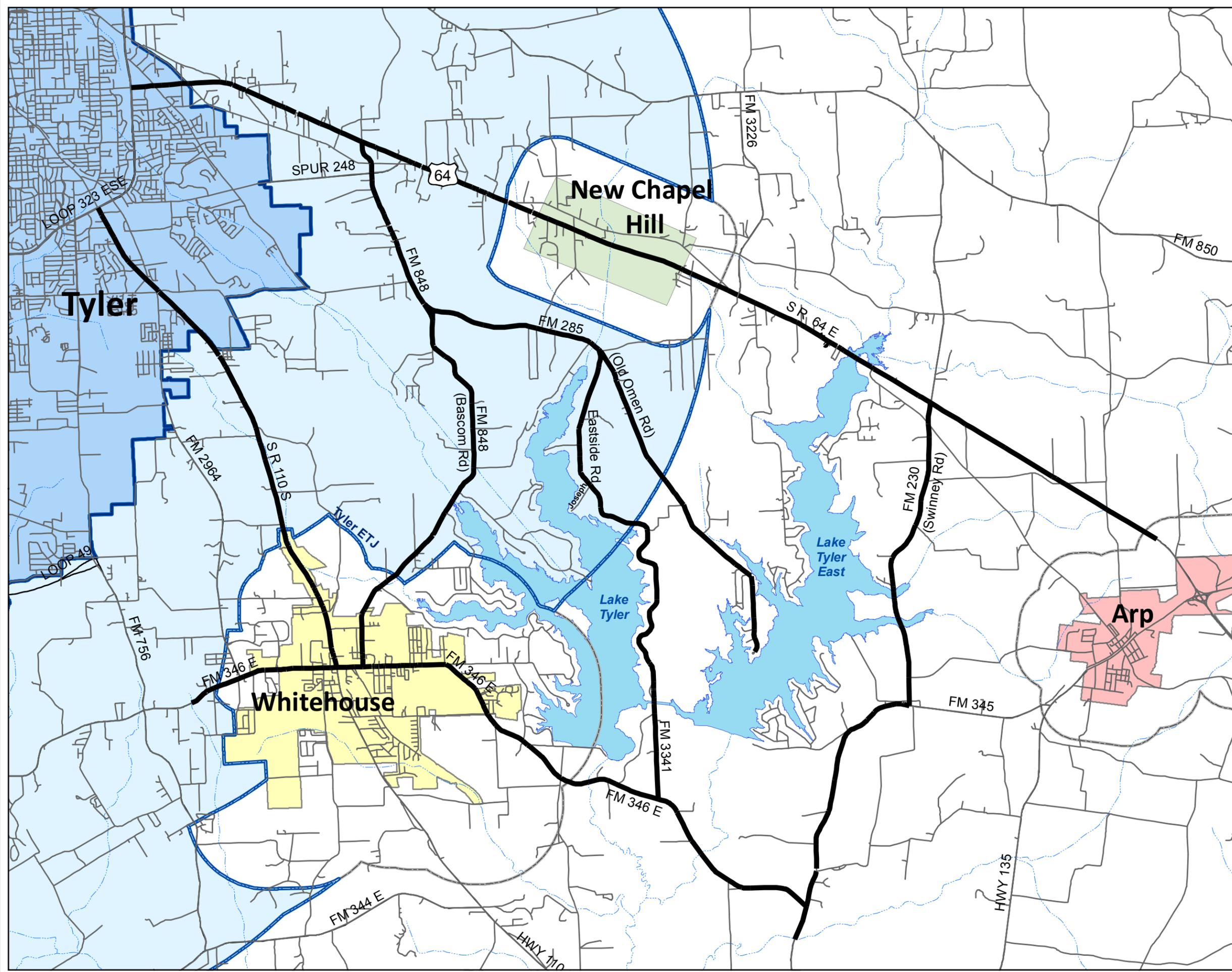


Figure 4. Relationship between Access and Movement



Figure 5 Regional Roadway System

- Legend**
- Major Roadways
 - Tyler
 - Whitehouse
 - New Chapel Hill
 - Arp
 - Tyler ETJ
 - ETJ (others) or County
 - Lakes



2005 City of Tyler Master Street Plan

While the Metropolitan Transportation Plan (MTP) addresses priority projects for the next 25 years, it was important to also look at the 2005 City of Tyler Master Street Plan (MSP). The MTP primarily addresses construction projects while the 2005 MSP addresses planning projects. The 2005 MSP includes a number of proposed collector and arterial streets around Lake Tyler and Lake Tyler East. While most of the collectors follow existing streets, there are two notable streets which impact the lakes. First, East Side Drive is proposed to be reconfigured north of the channel to connect East Side with old Omen Road. This will provide improved traffic circulation and access to the west side of Lake Tyler East, greatly improving access to the City owned tract adjacent to the Old Omen Road West Boat Ramp. Secondly, the 2005 MSP includes a proposed arterial (extension of Grande Boulevard) which cuts through the northern portion of Lake Tyler. This will have a negative impact on the lake. The City of Tyler has plans to update the Master Street Plan in the next year or two. It will be important that projects outlined in this plan are reviewed in conjunction with the update to ensure the integrity of the lake is protected.

Level of Service

Level of Service (LOS) refers to an operational condition based on roadway volume to capacity. Capacity can be affected by various geometric factors including roadway cross-section (e.g. divided or undivided), number of lanes, lane widths, and grades. LOS "C" is typically considered to be the minimum acceptable level of service for design and evaluation purposes. However, due to the uncertainty of long-term changes in growth conditions, LOS "D" is often considered acceptable for long-term planning.

In 2007, the LOS for major roadways throughout the Tyler MPO was identified in the Metropolitan Transportation Plan 2035. As shown in **Figure 6**, S.H. 64 and S.H. 110 are identified as LOS "D" and "F" near the lake area, indicating very slow traffic flow. The portion of F.M. 848 near S.H. 64 and Old Omen Road are considered LOS "E", which indicates limited delays, speeds significantly below the speed limit, and a low level of driver comfort. The portion of F.M. 848 closer to the lakes is considered LOS "D", indicating severely restricted maneuverability and longer delays. F.M. 346/East Main Street and F.M. 3341/Eastside Road are considered LOS "A-C", indicating good traffic flow.

Several projects around the Tyler area have received funding commitments and are anticipated to be constructed by 2012, as well as several others that have been identified for long-range construction but have not yet received funding. It should be noted that although these projects will provide for an increased level of service throughout the Tyler region, no committed/anticipated projects have been identified in the area surrounding the lakes.

Lake Tyler Master Plan

An analysis incorporating projected growth and roadway demands has produced the anticipated levels of service throughout the region which includes committed projects through 2012 and reflects the roadway demands of 2035.

As shown in **Figure 7**, S.H. 64 and S.H. 110 will continue to be at LOS "F". The LOS of F.M. 848 from S.H. 64 and Old Omen Road will have reached "F", which indicates extremely unstable maneuverability and unacceptable delays. F.M. 848 near the lakes will reach LOS "E". It is important to note, however, this analysis does not incorporate any additional roadway projects which may be constructed following 2012.

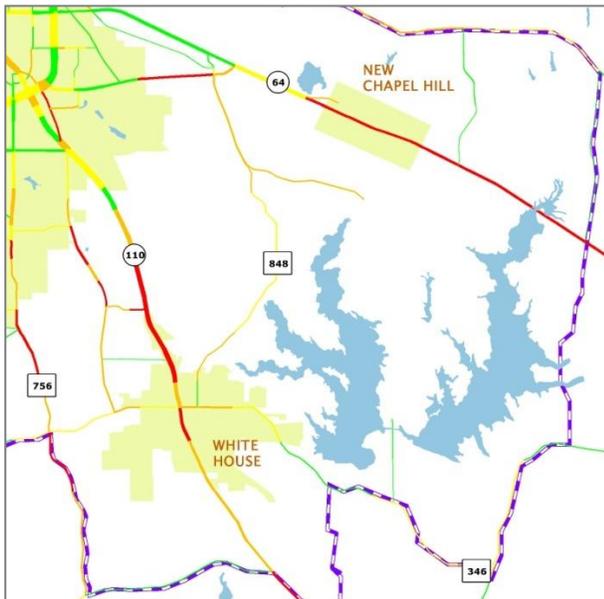


Figure 6. 2007 Level of Service

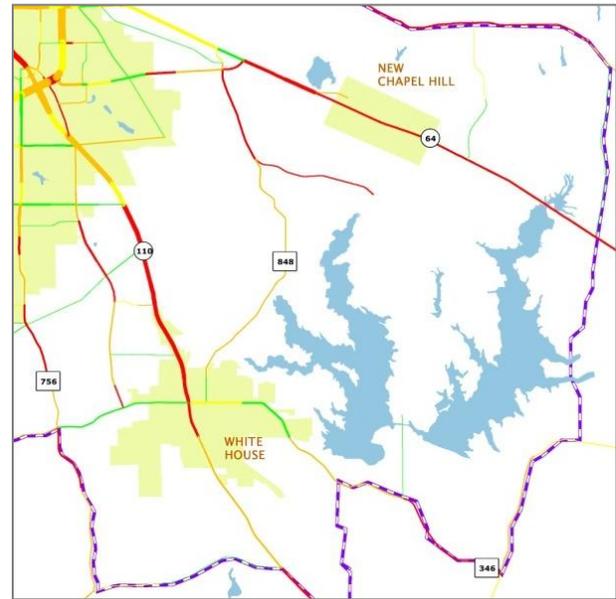


Figure 7. 2035 Projected Level of Service, Incorporating 2012 Committed Projects

LOS	Traffic Flow Description
A	Free-flow conditions, extremely favorable signal progression
B	Reasonable free-flow, good signal progression
C	Influence of traffic density is noticeable, fair signal progression
D	Influence of traffic density is severe, unfavorable signal progression
E	Unstable flow, poor signal progression and frequent cycle failures
F	Forced or breakdown, stop-and-go condition

Source: Tyler Area MPO Metropolitan Transportation Plan 2035

LOS	Traffic Flow Description
A	Free-flow conditions, extremely favorable signal progression
B	Reasonable free-flow, good signal progression
C	Influence of traffic density is noticeable, fair signal progression
D	Influence of traffic density is severe, unfavorable signal progression
E	Unstable flow, poor signal progression and frequent cycle failures
F	Forced or breakdown, stop-and-go condition

Source: Tyler Area MPO Metropolitan Transportation Plan 2035

Regional Trail Plan

The Regional Trail Plan, adopted in 2009, was developed to establish a trail network within the Tyler MPO boundary.

The planning process included input from several entities and organizations. An advisory committee was formed to represent Tyler residents and City staff, as well as staff members from Nooday, Whitehouse, and Lindale. Public meetings and workshops were conducted to solicit input and determine the community’s top recreational priorities. Stakeholder meetings included presentations of the draft trail plan to several organizations, including the Regional Mobility Authority Subcommittee, Tyler Bicycle Club, and Tyler Area Chamber of Commerce. Additionally, multiple meetings were held with the City Councils from Tyler, Lindale, Nooday, and Whitehouse, as

well as the Tyler Area MPO Policy Committee.

The Regional Trail Plan includes design standards for trail construction, identification of specific trail segments, and a prioritized implementation schedule based on the public input. The highest priority identified in the Regional Trail Plan is the Lake Tyler Loop, a 29-mile trail circling Lake Tyler and providing connectivity to Lake Tyler East, the City of Tyler, New Chapel Hill, and Whitehouse (see **Figure 8**). The proposed trail includes points of interest such as Camp Tyler, Langley Island, the Texas Parks and Wildlife Facilities, Lake Tyler Marina, and the S.H. 64 boat ramp.

The plan describes the trail in a primarily natural state with wildlife viewing areas and possible mountain biking areas. Four possible trailhead sites are indicated – three around Lake Tyler and one at Lake Tyler East.

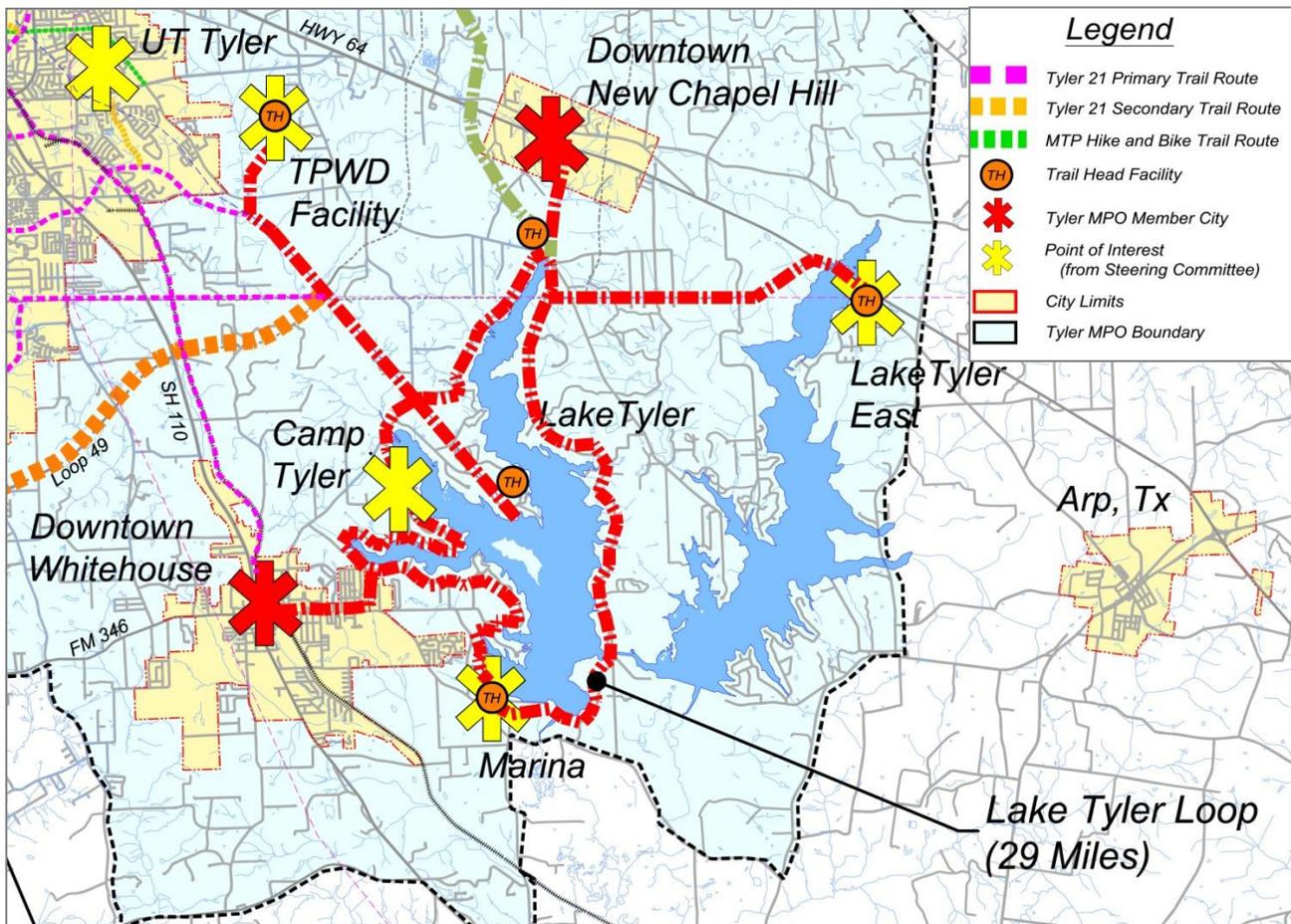


Figure 8. Regional Trail Plan Lake Tyler Loop

City of Tyler Annexation Policy

As noted in Tyler 21, annexation is a possibility the City may wish to consider in the future as the Tyler continues to develop. It is an important tool for properly managing growth since zoning and most other ordinances do not apply outside of City limits. At the time of development of this master plan, however, the City has determined that the costs of extending City-provided services that would be required by annexing lands around Lake Tyler and Lake Tyler East would outweigh the benefits. During the development of this master plan, there was not strong public support for annexing these areas. As such, the City has no plans to annex these lands but reserves the right to continue to evaluate the feasibility of annexation in the future. The City may also wish to consider voluntarily expanding its ETJ limits to enable further accomplishment of goals in this master plan.

Lake Rules and Regulations

Chapter 19, Article VI of the City of Tyler's Code of Ordinances, also referred to as the *Rules and Regulations Governing Lake Tyler and Lake Tyler East in Smith County, Texas*, was adopted in 1949 and recently updated in 1997 to establish a variety of regulations for development surrounding the lakes. The *Rules and Regulations* ordinance applies to the lakes and the adjacent lands owned or controlled by the City of Tyler. According to Section 10-143 of the City's Code of Ordinances, city-owned land that is contiguous to the lakes and located in the ETJ is designated as Zone 4 land, making it subject to the development standards contained in the *Rules and Regulations*. The zoning section of the City's Unified Development Code does not apply to the lakes due to the location outside of the City limits.

Division 1 of the *Rules and Regulations* ordinance addresses general uses of the lakes and city land, such as setting speed limits on public roads, restricting activities around the dams and raw water intake, setting time limits for camping, and authorizes the City to enter into concession agreements for commercial operations.

Divisions 2, 3, and 4 address recreational uses of the lake, including boating, floating barges, water skiing, swimming, fishing, and hunting. Included in Division 2 is discussion of 200 barge lots which are made available to the public on a first-come first-served annual rental basis.

Division 5 of the *Rules and Regulations* discusses City-owned land which has been subdivided and dedicated for residential and club lots uses. Regulations covered include:

- Lease fees, renewals, and transfers
- Construction and setback requirements
- Water and sewer requirements
- Subdivision and replatting

Division 6 consists of fee schedules for leases, inspections, and miscellaneous services.

Lease Agreements

The City has lease agreements with each of the existing 456 residential lots, and five nonresidential lots on Lake Tyler. Most of the lots along the shoreline of Lake Tyler East are privately owned.

As residential leases are renewed, any revisions to the *Rules and Regulations* ordinance are applied to the property:

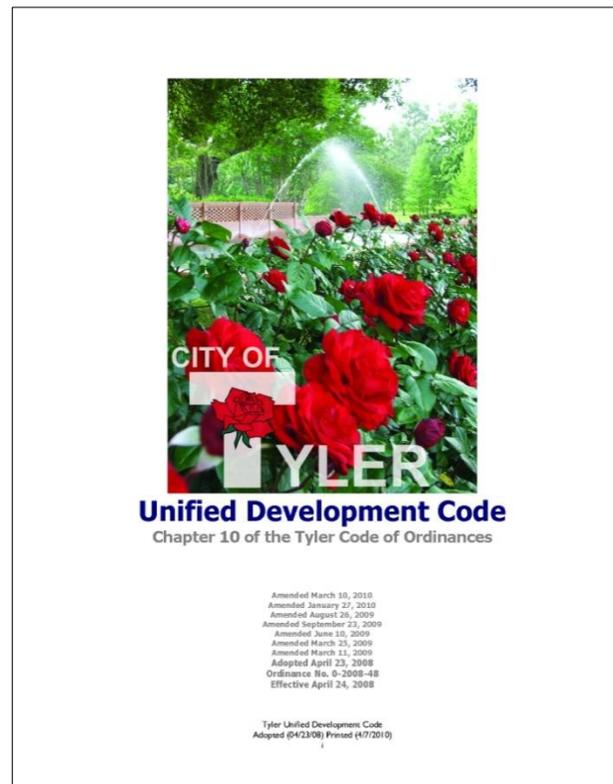
“The City of Tyler reserves unto itself the right to change, alter and amend the *Rules and Regulations Governing Lake Tyler...* By his acceptance of this contract of lease, Lessee binds and obligates himself to abide by said Rules and Regulations...”

Some residential leases date to the late 1940s, with current annual rental fees ranging from \$82 to \$744. Nonresidential leases are structured in a similar manner. The primary regulating tool available to the City is through the *Rules and Regulations*, as amended. Each lease references this document.

The other important aspect of the lease agreements is the recurring nature of the lease itself. Renewal is based on timely payment of the lease fee on an annual basis. If the lessee fails to pay the lease within 60 days, the City can terminate the lease. The City’s subdivision ordinance also applies to areas within the ETJ (see next section). The lessee is also liable for any and all taxes assessed or levied against improvements to property in addition to the lease amount.

Other Applicable Development Regulations

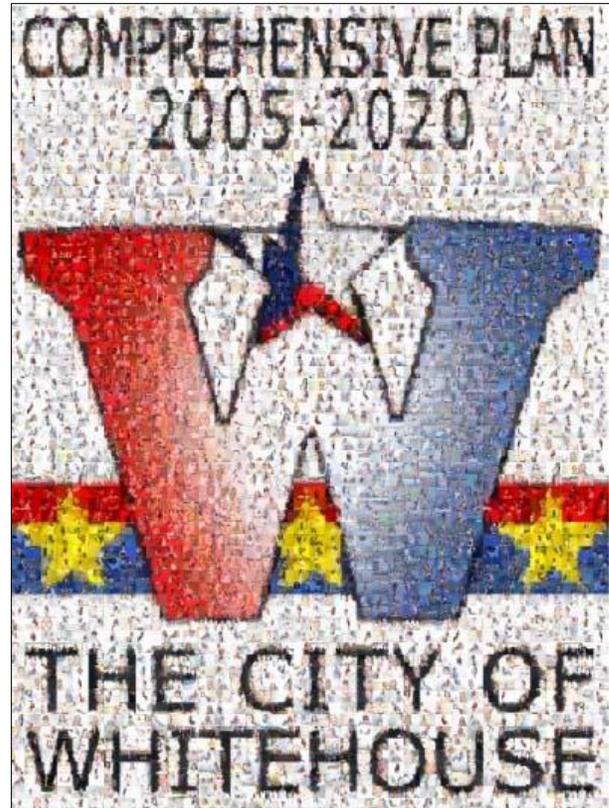
The Tyler Unified Development Code (UDC) regulates development within the City limits. Additionally, the subdivision portion of the UDC can regulate development within the City’s extraterritorial jurisdiction (ETJ) in areas not covered by Chapter 19 of the City’s ordinances. Only the northwestern portion of Lake Tyler is included within Tyler’s ETJ, and therefore is subject to the UDC’s subdivision regulations, in addition to the Rules and Regulations Governing Lake Tyler and Lake Tyler East in Smith County, Texas ordinance. The southwestern portion of Lake Tyler lies within the City of Whitehouse’s ETJ; therefore, Whitehouse’s subdivision regulations apply to this area. The remaining eastern side of Lake Tyler and all of Lake Tyler East and its adjoining lands lie within unincorporated areas of Smith County, which are subject to the County’s subdivision regulations.



Whitehouse Vision 2020

The City of Whitehouse adopted a comprehensive plan in 2006. Although the comprehensive plan does not regulate development, it does establish planning initiatives for future development.

Since the Whitehouse ETJ extends into the Lake Tyler area, it was included within the municipality's planning area. The portion of Lake Tyler included within the Whitehouse ETJ is shown as Estate and Low Density Residential, Parkland, and Master Planned Development. Master Planned Development is described as unique residential development, possibly incorporating residential mixed use and/or a golf course. The document notes the negative impacts on water quality resulting from golf course pesticides and other chemicals that could result at Lake Tyler.



2.2 Public Input

Focusing on public involvement early in the master plan development process helped to provide insight into the community’s concerns and priorities. Public input was gathered through meetings with stakeholder focus groups, roundtable meetings with lake residents, town hall meetings, and surveys. These groups, meetings, and surveys included a range of participant types to represent diverse viewpoints, including City staff, elected and appointed officials, members of the local development community, interest groups, Tyler citizens, and lake residents and business owners.

Stakeholder Meetings

As a part of the public involvement process, eight stakeholder meeting sessions were held to collect input from various interest groups within the community. The stakeholder groups were selected by the City of Tyler to represent a broad cross-section of residential lease holders, private land owners, commercial businesses, governmental entities, and general lake users. **Figure 9** summarizes the participants in each of the stakeholder meetings.

Roundtable Meetings

The Lake Tyler Roundtable was created in 2007 to represent interest of residents at Lake Tyler/Lake Tyler East during development of the Tyler 21 Comprehensive Plan. The Roundtable group represents basically all neighborhoods and neighborhood associations around the lakes, which include:

- Lake Tyler Association
- Big Oak Bay
- East Shore Estates
- East Lake Woods
- Pilot Point
- Rainbow Ridge

The Roundtable group continued to serve as a public input conduit throughout the development of this

Date	Purpose
December 2009	Stakeholder Meeting, Session 1: Camp Tyler Foundation
	Stakeholder Meeting, Session 2: Commercial Lease Holders – Lake Tyler Marina and RV Park and Fritz and Opal’s Fishing Pier
	Stakeholder Meeting, Session 3: Governmental Entities – Smith County, Angelina-Neches River Authority, Northwest Texas Public Health Department
	Stakeholder Meeting, Session 4: Fishing Community – Texas Parks and Wildlife, Local Fishermen, Bass Fishing Organization
January 2010	Stakeholder Meeting, Session 5: Lake Tyler Roundtable and Green Acres Baptist Church
	Stakeholder Meeting, Session 6: Lake Tyler Petroleum Club
	Stakeholder Meeting, Session 7: Tyler Bike Club, Tyler Audubon Society, Tyler Resident
	Stakeholder Meeting, Session 8: Boating Community – Yacht Club, Ski Club (no participants in attendance)

Figure 9. Public Input Process

master plan, with meetings held on quarterly basis throughout 2010.

Town Hall Meeting and Public Survey

A town hall meeting was held in March 2010 at the Tyler Rose Garden Center. The meeting began with a presentation discussing the goals of the Lake Tyler Master Plan, a summary of stakeholder meetings, and an overview of the data collection process. The primary focus of the meeting was a series of breakout groups to discuss citizen concerns and suggestions relating to recreation, water quality, and land use planning and development.

An important tool which was developed for the town hall meeting was the Lake Tyler Master Plan Questionnaire. The questionnaire was distributed at the town hall meeting as a means to solicit and organize public input in a consistent manner. Following the town hall meeting, the questionnaire was made available electronically via the City's website. Recognizing the value of the data received from distribution of the questionnaire, the City elected to make a larger distribution. Using a similar approach that had been used for a public survey related to the City of Tyler park master plan, the questionnaire was mailed to a randomly generated

list of 4,000 Tyler Water Utilities customers.

The questionnaire consisted of four parts: General Information, Lake Uses, Funding Preferences, and Biggest Challenges. The General Information portion of the survey was designed to test general awareness about how Lake Tyler and Lake Tyler East are operated. This section included 13 questions with yes/no answer choices. Sample questions included "Did you know that some of the City-owned land around the lakes is leased for residential and commercial uses?" and "Did you know that the City of Tyler owns land around Lake Tyler and Lake Tyler East?" Overall, this section showed a general awareness of the City of Tyler's involvement with the lake. However, this awareness began to decline when more specific questions were asked about the availability of facilities such as the barge lot leases and Fritz & Opal's Fishing Barge. A general conclusion from these survey questions was that the availability of certain recreation opportunities was not widely advertised. The survey did confirm the overall high awareness of the Camp Tyler facilities being located at the lakes. Summary charts for each component of the questionnaire are provided in Appendix A.

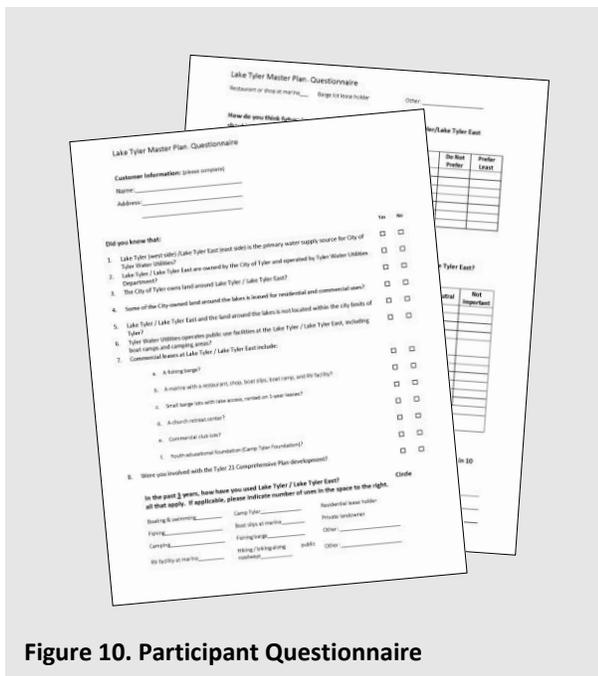
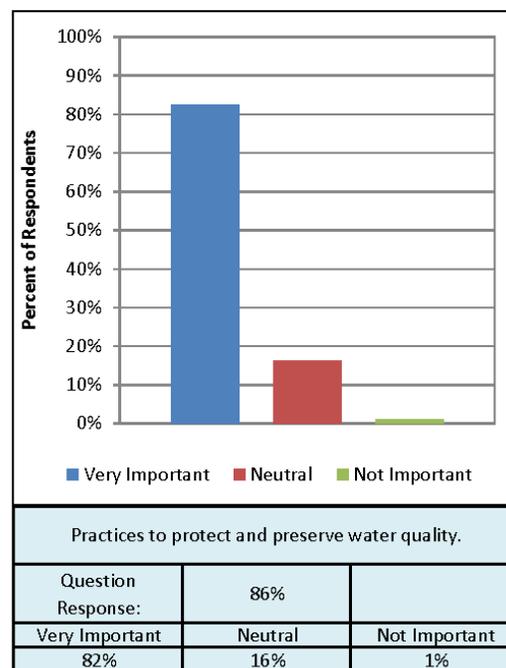


Figure 10. Participant Questionnaire



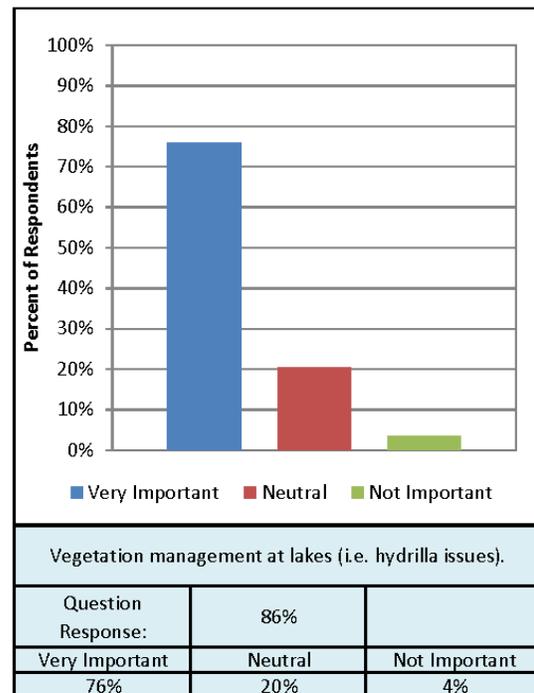
The Lake Uses section of the survey was a multiple choice of 13 common uses of the lakes, including asking the respondent if they were a barge lot leaseholder, residential leaseholder, or private landowner. The respondent was asked to indicate all uses that had occurred in the last three years. The list of uses included boating and swimming, fishing, camping, use of the RV facility at the marina, use of the restaurant or shop at the marina, use of Camp Tyler, use of boat slips at the marina, use of the fishing barge, and hiking and biking. Overall, this section indicated an underutilization of the lakes. Boating, fishing, and swimming were the most common activities. The responses showed relatively low use of camping areas, the marina, and hiking and biking.

The Funding Preferences section was designed to inquire what funding methods would be preferred for future improvements and maintenance at the lakes. Six funding methods were posed and the respondent was asked to rate each method from “prefer most”, “prefer”, “do not prefer”, and “prefer least”. The six funding methods included sale of city-owned land, increasing user fees at recreational facilities, increasing residential and commercial lease rates, increasing Tyler Water Utilities fees or rates, issuance of bonds, and increasing city taxes. Preferences for the sale of city-owned land and issuance of bonds was mixed, with no strong preferences either way. Slight preferences “for” were shown for increasing user fees and residential and commercial lease rates. Strong preferences “against” were shown for increasing Tyler Water Utilities fees or increasing city taxes.

The Biggest Challenges section of questionnaire was designed to assess what are the most important issues or challenges associated with Lake Tyler and Lake Tyler East. Thirteen issues were presented and the respondent was asked to rate each issue as “very important”, “neutral”, or “not important”. The nature of the presented issues was broad, ranging from water quality protection to enhancement to recreational opportunities to the quality of existing facilities at the lakes. Several issues were presented about water quality protection and each time the

issue rated strongly as “very important”. Having adequate funding streams for capital improvements and continued operation and maintenance activities were also rated “very important”. Vegetation management at the lakes was also rated “very important”. The responses were more “neutral” for issues relating to providing additional recreational opportunities, providing additional retail facilities, and access getting to and around the lakes. The only issue that rated as “not important” was whether it was important that the lakes were not located within Tyler’s city limits.

The final section of the survey asked the respondent to envision what the Lake Tyler/Lake Tyler East area would be like in the next 10 to 20 years. These responses were provided in essay form and therefore they could not be analyzed from a statistical standpoint. However, the responses proved to be very informative by providing anecdotal answers about how the lakes could be improved, why certain uses may have declined, and public perceptions about the lake and surrounding facilities.



Chapter 3.

Existing Conditions



3. Existing Conditions

The documentation of the current conditions of the lakes and the surrounding areas serves as a needs analysis and foundation for the development of recommendations in the following section.

3.1 Planning & Development

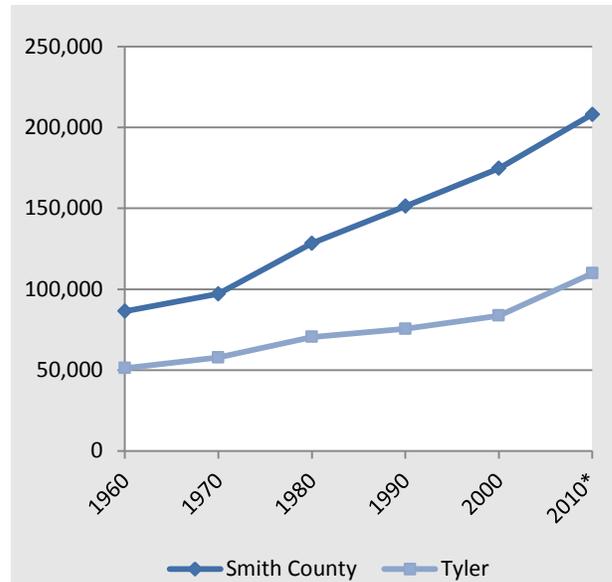
This section provides an overview of existing conditions such as population trends, existing land uses, and current City services in the area.

Population Trends

As shown in **Figure 11**, the populations of Tyler and Smith County have steadily increased, with the population of Tyler nearly doubling and the county more than doubling in the last 50 years.

It is anticipated that the population will continue to increase in the future, resulting in higher density development, increased demand on the recreational system, and increased demand on the municipal water supply.

It is important to note that the percent of Smith County’s population residing in Tyler has gradually decreased – 59% in 1960 and 53% in 2010 – indicating a shift in population toward more rural areas, such as Lake Tyler.



Year	Percent Tyler Composes of Smith County
1960	59.3%
1970	59.5%
1980	54.9%
1990	49.9%
2000	47.9%
2010*	52.8%

Tyler			
Year	Population	Population Change	Percent Population Change
1960	51,230	---	---
1970	57,770	6,540	12.8%
1980	70,508	12,738	22.0%
1990	75,450	4,942	7.0%
2000	83,650	8,200	10.9%
2010**	109,819	26,169	31.3%

Smith County			
Year	Population	Population Change	Percent Population Change
1960	86,350	---	---
1970	97,096	10,746	12.4%
1980	128,366	31,270	32.2%
1990	151,309	22,943	17.9%
2000	174,706	23,397	15.5%
2010*	207,994	33,288	19.1%

* 2010 Smith County population projected using the 2000-2009 growth rate
 ** 2010 Tyler population provided by City

Source: U.S. Census

Figure 11. Population Trends

Existing Land Use

The City owns all of the land immediately surrounding Lake Tyler (see **Figure 12**), which includes approximately 1,600 acres of open space areas, parks, and nonresidential leases surrounding the lake. The City owns an additional 900 acres, which are divided into 456 residential lease lots. The City also owns approximately 1,100 acres surrounding Lake Tyler East, which includes open space areas and parks, but no residential or nonresidential leases. Much of the remaining lake-front land is privately owned residential property. The City does not hold any residential leases on Lake Tyler East.

The shorelines of both lakes are developed with little vacancy, with the remaining large parcels of vacant land primarily owned by the City (see **Figure 13**). The surrounding areas are generally low density and rural in nature, with the exception of the City of Whitehouse to the southwest.

Residential

Residential uses are the predominant land use type surrounding the lakes. As previously discussed, all of the residential parcels on Lake Tyler East are privately owned. Lake Tyler East consists of mainly primary residences and more traditional subdivision design. Lake Tyler's residential parcels are leased by the City to the homeowners and many are used for higher-quality vacation residences.



East Side Recreation Area

Recreation Areas and Open Space

Recreation areas and open space areas comprise approximately 935 acres surrounding the lakes. Many of these designated areas are considered open space, indicating they are preserved in a natural state rather than maintained as park land.

Oil and Natural Gas Wells

There are currently 12 oil/natural gas wells in place in the area surrounding Lake Tyler East. The wells are located generally on large vacant areas of land, some of which are owned by the City and others by private parties.

Current City Services

Although located outside of the City limits, the lakes are owned by the City and serve as the municipal water supply. Foremost among the services provided by the City of Tyler is the operation and maintenance of Whitehouse Dam, Mud Creek Dam, and the raw water pump station located near the Old #2/Chapman Recreation Area. According to the 2010 operating budget of the Tyler Water Utilities Department, staff allotted for Lake Tyler/Lake Tyler East operations consisted of 8.5 full-time employees at a total cost of \$460,000. A service shop/administrative office is maintained on the peninsula of the Old #2/Chapman Recreation Area, as well as two homes for lake patrol officers which reside at the lake.

Additional City responsibilities include maintenance of approximately 21 miles of City-owned public roadways, maintenance of five public boat ramps, and four public recreation areas. The City provides two lake patrol officers who also perform administrative duties for permit and reviews and inspections for building construction and on-site sewer facilities. In the 2010 operating budget, road maintenance costs were \$131,000 and equipment/vehicle fleet costs were \$85,000.

The City has been providing vegetation management services to treat hydrilla for several years. The number of treatments and treatment costs has continued to increase, with treatment expenditures for 2010 totaling \$307,000.

In total, the Tyler Water Utilities budget for operating and maintaining the two lakes runs approximately \$1.1 million dollars annually.

City of Tyler police respond to traffic accidents that occur on roadways maintained by the City. It should be noted that all other emergency response services, such as fire, police, and medical emergencies, are the responsibility of entities other than the City of Tyler.



Figure 12 City-Owned Land Map

- City Owned Properties
-  Residential Lease
 -  Non-Residential Lease
 -  Recreation Area
 -  Camp Tyler Lease
 -  Open Space/Vacant

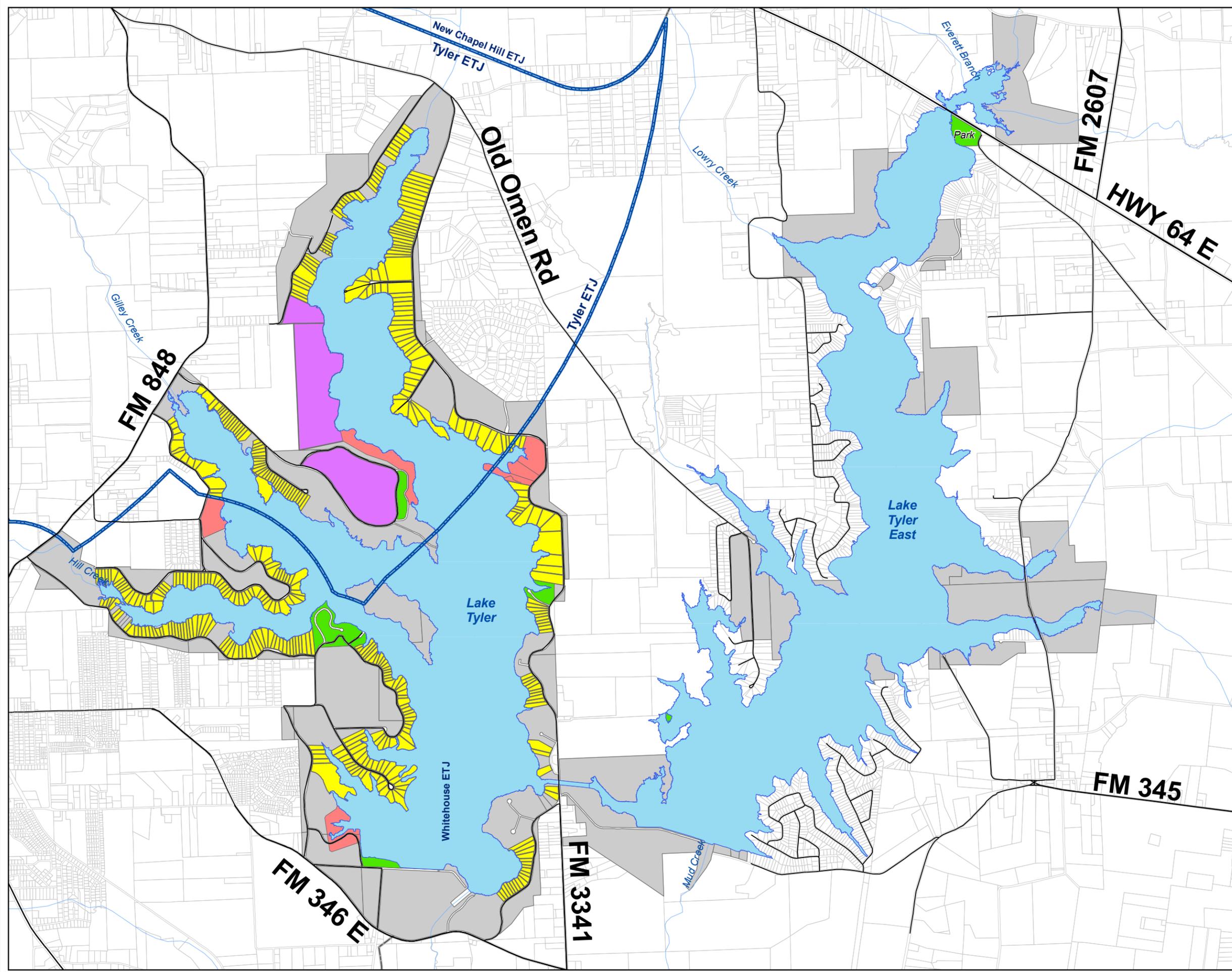
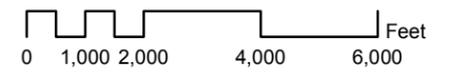
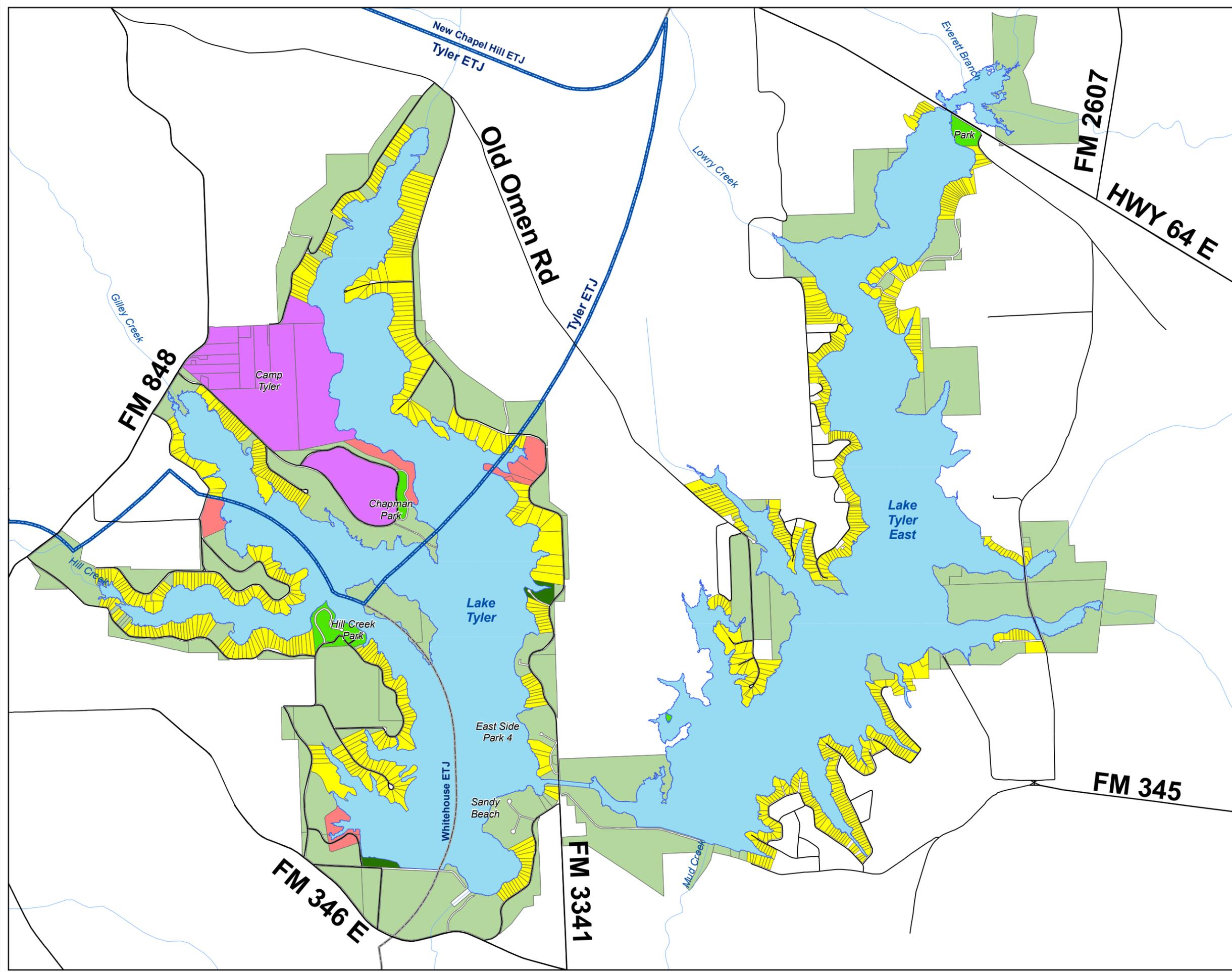
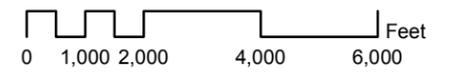




Figure 13 Existing Land Use

Legend

- Residential
- Camp Tyler
- Recreation Area
- Seasonal Recreation Area
- Open Space/Vacant
- Non-Residential



Lake Tyler Master Plan

Nonresidential

Five nonresidential uses are located around Lake Tyler (see **Figure 14**), including:

- Lake Tyler Marina and RV Park
- Lake Tyler Petroleum Club
- Barge lots and Fritz & Opal’s Fishing Barge
- Camp Tyler Foundation
- Green Acres Baptist Church

The following is an overview of each of the nonresidential uses and the associated characteristics and issues of each.



Lake Tyler Marina

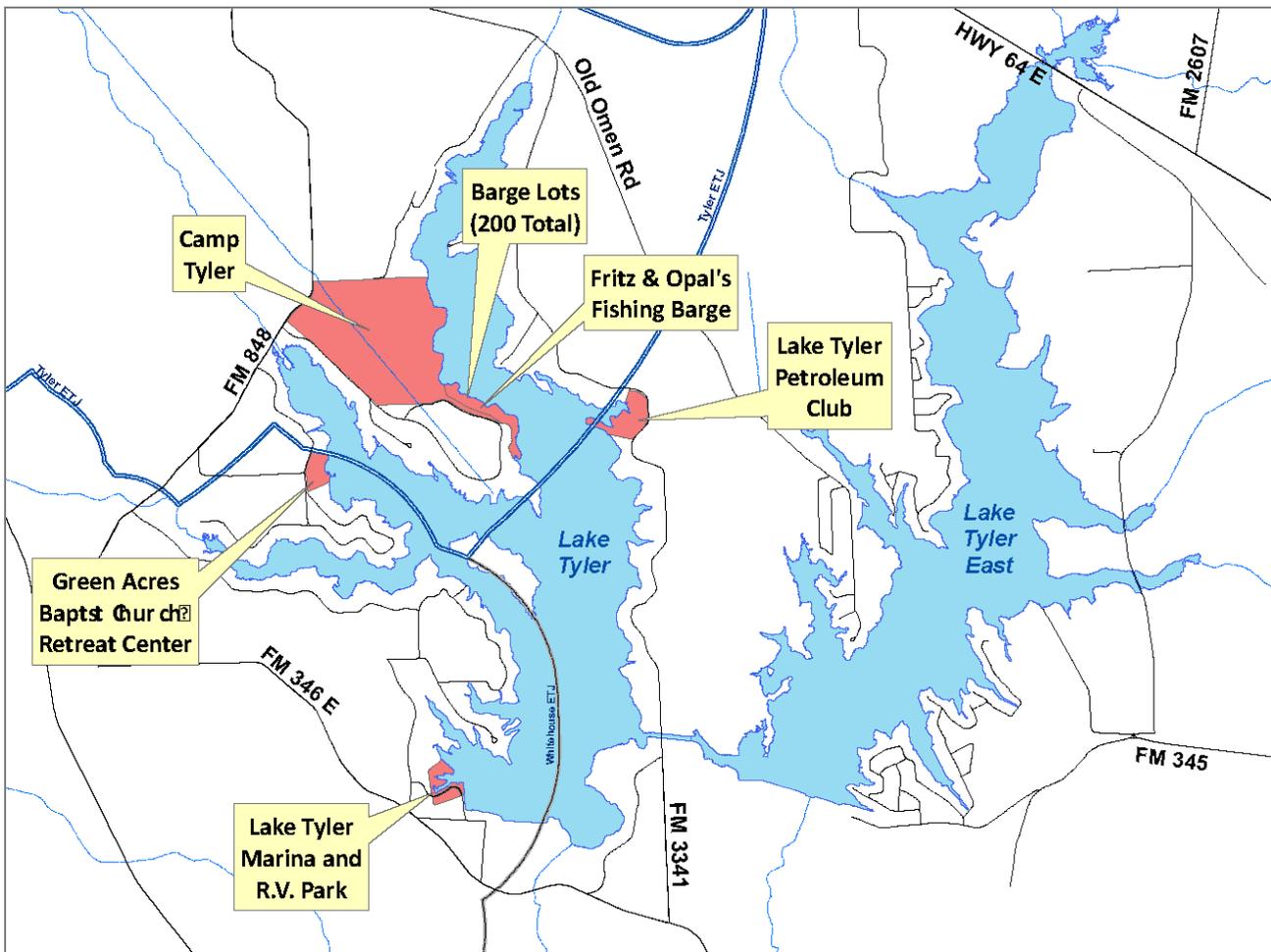


Figure 14. Nonresidential Uses

Lake Tyler Marina and RV Park

The Lake Tyler Marina and RV Park provides boat ramp access, boat storage, RV hook-up facilities, fishing supplies, a small grocery store, a restaurant, and camping facilities.

According to the lease, the Marina is responsible for maintaining its own roads, and maintaining appropriate insurance coverage.

The marina's lease also states, "Lessee shall maintain the leased premises at all times in a safe, neat and attractive condition suitable for all the uses intended..." Since 2010, the City has worked with the Marina to remove multiple sunken boats and barges, the storage of dilapidated boats, and other unsightly clutter.

The Lake Tyler Marina and RV Park is serviced by the City of Whitehouse's wastewater collection and treatment system. This makes the Marina and RV Park one of the few developments around the lakes that do not utilize on-site sewer facilities. The Marina and RV Park's lease contains a special provision that City health inspector may inspect for water contamination issues, which allows the City to inspect for substandard sewer connections.

According to the *Rules and Regulations* ordinance, "Locating or establishing recreational vehicles or campers on a lot as a permanent residence is prohibited." The Marina RV park contains RVs which have permanent decks, as well as manufactured homes serving as permanent residences. Since 2010, the City has worked with the Marina to resolve RV encroachments on City property outside the boundaries of the marina lease.



Lake Tyler Marina and RV Park

Lake Tyler Master Plan

Lake Tyler Petroleum Club

The Lake Tyler Petroleum Club is a gated private club consisting of 38 acres along the shoreline of Lake Tyler. Amenities offered at Lake Tyler Petroleum Club include a marina, boat launch, 28 covered boat slips, and jet ski rentals. Other features of the club include two buildings, the Lakeside Clubhouse and the Harbor Landing, which can be rented to host weddings, receptions, family reunions, meetings, and other events. The Petroleum Club also includes six furnished cabins that are available to members for rental, as well as a swimming pool and a designated swimming area in the lake which is bordered by piers on three sides. The Petroleum Club has expressed interest in expanding its amenities to include a restaurant, additional boat slips, and additional lodging.

When the Petroleum Club lot was subdivided in the past, the lot was categorized as a single family residential lot and the current lease contract reflects this designation. However, current uses of the lot do not agree with this designation. Single family residential lots abut either side of the Petroleum Club.



Lake Tyler Petroleum Club

Barge Lots

The barge lot area consists of approximately 28 acres located along the west shoreline of Lake Tyler, adjacent to the Old #2/Chapman Recreation Area. The City of Tyler owns the barge lot area and leases 200 individual lots for boat and/or barge docking. The typical barge lot lease costs \$100 per year and is renewed annually on a first come, first serve basis.

Electric service is provided to the barge lots, but no water or wastewater service is available. The City of Tyler maintains portable toilets during the summer months, as there are no public restroom or shower facilities near the barge lots.

The typical barge lot is relatively narrow, with widths ranging from 12 to 30 feet. Piers are allowed on each lot which can be used for docking floating barges. Open-air lean-tos are allowed on each lot, however enclosed structures are not allowed. Leaseholders are responsible for maintaining their docks in safe and aesthetically pleasing condition. Boats or barges docked in the barge lots are required to have a current State of Texas boat registration number.

Several issues have developed over time within the barge lots, including dilapidated and unsightly piers, sunken barges, dumping of trash and debris, and trespassing onto adjacent City property. RVs have been parked and exceeded the two-week extended camping limit. Finally, the lack of water or sewer facilities, including dump stations for RVs, poses a threat of runoff into the lake.



Barge Lots

Fritz & Opal's Fishing Barge

Fritz & Opal's Fishing Barge is located on a 1.7 acre lot within the barge lot area. The fishing barge operates as a concession from the City of Tyler, with lease payments based on a percentage of gross income. The fishing barge is open to the public.

The permanent barge is 26 feet wide by 60 feet long and substantial repairs and improvements were made to the structure following storm damage several years ago. An on-site portable toilet is maintained by the operator and is made available to barge customers. Fishing access is available for a fee of approximately \$5 and the barge is open year-round, 24 hours a day. A bait and tackle shop is also located on the premises.

The operator lives in a mobile home located on the site, which is allowed by the lease with permission from the City. No swimming is allowed from the fishing barge and camping nor alcohol are allowed on the premises. The lease contract requires that the fishing barge be maintained in safe and seaworthy condition. No significant issues or concerns were reported from the operation of the fishing barge.



Fritz & Opal's Fishing Barge

Camp Tyler

Camp Tyler is a 350-acre outdoor learning facility located on the west side of Lake Tyler. Camp Tyler has been in operation since 1949 with a mission statement of “providing physical, education, and social resources for the children of East Texas”. According to the Camp Tyler website, it is reported as the oldest continuously operating, not-for-profit children’s camp in the U. S. Multiple organizations have been involved with Camp Tyler since its formation, including Tyler-area civic clubs, Tyler public schools, the City of Tyler, and Smith County.

Facilities at Camp Tyler include a large dining hall, library, and dorms for residence campers. A separate complex contains administrative offices, a nursing station, and a large classroom. In 2008, Camp Tyler reported that it served approximately 20,000 camper days.

Outdoor educational programs are built around several experiences, including a small farm, an equestrian arena, forest and prairie areas, activity areas for zip lining and ropes courses, and hiking trails throughout the property. Lake activities include swimming, fishing, canoeing, and sail boats.

Camp Tyler leases, through a long-term, multi-year agreement, approximately 105 acres of property from the City of Tyler along the Lake Tyler shoreline. The remainder of the inland property of Camp Tyler is owned by the Foundation or leased from private landowners. Since 2008, Camp Tyler has leased an additional 100 acres of land from the City which is located in the center of the Old #2/Chapman Recreation Area. This lease has been renewed on an annual basis from the City.

Camp Tyler is maintained well and no issues or concerns were voiced by neighboring residents. In fact, Camp Tyler is strongly supported by residents around the lakes and is viewed as a major asset to the City of Tyler, Smith County, and the entire region.

Representatives of Camp Tyler expressed their desire to maintain a long-term lease for the City of

Tyler land, in order to expand the camp’s programs and outreach. Camp Tyler representatives did express concern over existing and possible future uses of adjacent City-owned land. Camp Tyler wants the surrounding lands to be respectful and conducive to the camp’s nature-based initiatives.



Camp Tyler

Lake Tyler Master Plan

Green Acres Baptist Church Retreat Center

The Green Acres Baptist Church Paul W. Powell Retreat Center consists of 19 acres leased from the City of Tyler on the west side of Lake Tyler. The retreat center includes a lodge and conference center, pavilion, four cabins, a small motel (16 rooms), and a dorm (40 person capacity). The center also includes amenities such as a boat ramp, swimming and fishing areas, picnic areas, and playgrounds. The retreat center and lodging accommodations are only available through members of the Green Acres Baptist Church. No issues or concerns were expressed from neighboring residents about the retreat center. Representatives from the church expressed in interest in possibly connecting a trail system to adjacent undeveloped City land.



Green Acres Baptist Church retreat center facilities

3.2 Recreation

The City of Tyler Water Utilities operates five boat ramps and five lakeside public recreation areas on the shores of Lake Tyler and Lake Tyler East. However, one of these recreation areas, Sandy Beach, has been closed indefinitely. As mentioned previously, two private concessions operate on the lakes: Concession #1/Lake Tyler Marina and Fritz & Opal’s Barge. The Lake Tyler Marina, located on Lake Tyler West in Concession Area #1, charges a small fee to launch boats. Fritz & Opal’s Barge, on the water near Old #2, offers fishing access for a fee, and bank access is available at several locations. There are two public boat ramps on Lake Tyler and three public ramps on Lake Tyler East. All public boat ramps are free. Primitive camping is allowed in all city recreation areas on a first-come, first-serve basis. Not all of these facilities are open year round.

Concession #1 / Lake Tyler Marina and RV Park

The Lake Tyler Marina and RV Park is the primary commercial establishment on the two lakes. It is currently the only location on the lakes providing fuel for watercraft. The privately run concession includes South Lake Grill (a full service restaurant and bar), a convenience store providing live bait, fuel and restaurant (serving only breakfast and lunch), boat ramps and an R.V. campground. The marina charges a launch fee for use of the four ramps and provides parking for approximately 50 vehicles. The marina is open year round with hours of operation adjusted for seasonal use.

In addition to the privately run concession, a public access recreation area is also available south of the Lake Tyler Marina, at the west end of Whitehouse Dam. Improvements include picnic areas, a large grassed area, extensive parking and a beach swimming area. The swimming area is located in a no wake portion of the lake which makes this location a favorite for families with small children. Lake Tyler Marina is home to the annual 4th of July Fireworks Display which is a privately funded event.

The camping and public use areas are also heavily used for Memorial Day and Labor Day weekends.



Lake Tyler Marina

Access to the Lake Tyler Marina is good by way of FM 346, less than three miles from downtown Whitehouse. Circulation within the Marina property is good, however, the location of the main drive south of the Marina eliminates more than 500 feet of useable shoreline that would be better served for recreational uses. Additionally, a secondary access road is located below the dam and only serves as a shortcut to FM 346. This access road is not needed and may be better utilized as a trail corridor.

Recently, the Marina area has become host to the annual Rose City Triathlon held in September each year. The event, hosted by the East Texas Triathletes and benefiting Hospice of East Texas, has grown to over 300 contestants in 2010. The event includes a fast point-to-point swim, a challenging scenic and shady bike course, and a flat, closed run. The Rose City Triathlon utilizes the area of Lake Tyler near the dam for the swimming portion, East Side Drive for the cycling portion and the internal roads around the marina for the run.

Hill Creek Recreation Area

Hill Creek Recreation Area is located on the west side of Lake Tyler and contains picnic areas, primitive camping, two boat ramps with piers, parking for 25 vehicles and a swimming area. Hill Creek Recreation Area, along with Chapman Recreation Area, is one of

Lake Tyler Master Plan

the most accessible recreation areas to residents of Tyler. There are no fees required to use the facilities at Hill Creek. The boat ramp is open year round while the camping, picnic and swimming areas are open seasonally.



Hill Creek Recreation Area

The boat ramps at Hill Creek are located in the heavily wooded south end of the site. These ramps are typically the most utilized ramps on Lake Tyler. A defined swimming area is located along the northern point of the site, far from the boat launch area. This has led to safety concerns due to children playing and swimming directly in the boat ramp area due to the lack of a defined swimming area/lake access proximate to the ramps. Additionally, users have expressed concern regarding the security of parked vehicles at the boat ramp due to limited visibility from low lighting levels and natural vegetation screening.

The recreation area of Hill Creek is heavily used during warm weather months. It is the preferred destination for tent camping and day visits. Hill Creek is located on a busy boat lane, thus swimming areas on the east side of the site are impacted by waves, personal watercraft and boats. The northwestern portion of the site is located along a cove which is designated as a “no ski” zone and

Lake Tyler and Lake Tyler East Facilities All facilities maintained and operated by the City of Tyler Water Utilities Department except as noted.	Restrooms	Cleaning Stations	Live Bait	Handicap Access	Parking	Courtesy Docks	Boat Ramp	Weigh Stations	Boat Fuel	Picnic Areas	Camping
Concession #1 / Lake Tyler Marina (private concession)	●	●	●		●	●	●	●	●	●	●
Hill Creek Recreation Area					●	●	●			●	●
Old #2 / Chapman Recreation Area	●				●	●	●			●	●
Fritz & Opal’s Barge (private concession)	●		●	●							
East Side Recreation Area					●					●	●
Sandy Beach (closed indefinitely)					●						●
Langley Island Nature Preserve (Tyler Audubon Society)											
Old Omen Road Ramp, West	●				●	●	●			●	●
Old Omen Road Ramp, East					●		●				
Highway 64 Recreation Area					●	●	●			●	●

Source: City of Tyler

Figure 15. Existing Lake Tyler and Lake Tyler East Facilities

therefore experiences much less boat traffic. Swimming areas west of the point should be delineated to encourage use of swimming areas located along the cove side of the site. Hill Creek does not have permanent restrooms. The City of Tyler does provide portable restrooms during anticipated high use times such as the summer holiday weekends. Campsites are not clearly defined and therefore, space is not efficiently utilized during peak use. As a result, Hill Creek Recreation Area is currently used primarily as a day-use facility.

Old #2 / Chapman Recreation Area

Old #2 / Chapman Recreation Area is a large public access site that is also home to the City of Tyler Lake Patrol, the Tyler Water Utilities raw water intake facilities and Fritz & Opal's Barge. Chapman Recreation Area also contains annual lease lots known locally as the Barge Lots. Chapman Recreation Area is located on the west side of Lake Tyler, just north of Langley Island and contains picnic areas, primitive camping, one boat ramp with a pier, parking for 45 vehicles and a swimming area. Along with Hill Creek Recreation Area, Chapman is one of the most accessible recreation areas to residents of Tyler. There are no fees required to use the day use facilities (other than the private concession of Fritz & Opal's Barge) at Chapman. The boat ramp is open year round while the camping, picnic and swimming areas are open seasonally.

The Barge Lots have nearly a mile of shoreline, while the public access portion of Chapman is only about 350 feet long. The beach swimming area is defined by swimming area buoys (no boats); however, it is adjacent to one of the widest portions of the lake that experiences some of the heaviest boat traffic. As a result, the swimming area at Chapman is very rough during peak use periods. Chapman also has a large undeveloped portion in the center of the site totaling more than 100 acres that has been leased to Camp Tyler since 2008. Camp sites are not clearly defined resulting in inefficient use of space.



Old #2 / Chapman Recreation Area

The Barge Lot Area is a collection of boat docks and R.V./camper sites. Lease holders pay an annual fee to reserve their spot and construct improvements such as decks and boat docks. The result is a collection of ill-matching improvements in various states of disrepair. The majority of leaseholders have pontoon boats which they tend to keep at the site year round, either at a dock or tied to the bank. While use of these lots is permitted year round, the majority are only used seasonally during the warm months.

Fritz & Opal's Barge

Fritz and Opal's Barge is a privately operated fishing facility located in the Chapman Recreation Area. It consists of a small concession, parking and a covered floating fishing platform. The fishing barge is lighted allowing for night fishing. Owners charge a daily fee for use and have limited fishing supplies and bait available for purchase. The fishing barge is open year round and hours of operation are adjusted for use. Fritz & Opal's Barge is ideal for anglers who do not have access to a boat or are occasional users.



Fritz & Opal's Barge

East Side Recreation Area

East Side Recreation Area is located on the east side of Lake Tyler along East Side Road. The site is primarily a day use facility with opportunities for swimming and picnicking. While tent camping is permitted at East Side, no defined camping areas exist. There are no boat launch facilities at the site. East Side has a swimming area, however, fairly steep banks and proximity to high boat traffic makes this site more suitable for experienced swimmers. Views of the lake from East Side are very nice due to its elevated location on a point, as such East Side serves as a great picnic destination. Access to East Side is from SH 64, thus primarily serving the eastern portion of Tyler and residents of Chapel Hill.



East Side Recreation Area

Sandy Beach

Sandy Beach is located on the east side of Lake Tyler, just south of East Side Recreation Area. It is situated on a fairly high bluff with very steep bank access to the water. The site provides incredible views of Lake Tyler and opportunities for camping. Its proximity to the wide portion of Lake Tyler and heavy boat traffic has caused extensive erosion of the banks, and along with other safety concerns, the City of Tyler closed Sandy Beach indefinitely several years ago.

Langley Island Nature Preserve

Langley Island is a 72-acre nature preserve geared mainly toward birding habitat. The Tyler Audubon Society is responsible for maintenance of the island. In the 1960s and 1970s, the Audubon Society planted thousands of plants on the island and maintained the vegetation. The island has since become overgrown with pines and hardwoods. Access points and landings are not clearly defined. The island is accessible only by boat and only during daylight hours. There is no nighttime visitation permitted on the island, which primarily is used for observing nature and birding activities. Camping, picnicking and hunting are not allowed.



Langley Island Nature Preserve

Old Omen Road Ramp - West

The Old Omen Road Ramp - West is located on the west side of Lake Tyler East. It contains four ramps, two piers and parking for approximately 20 vehicles. The boat ramp is open year round and there is no fee for use. There are approximately 1.5 acres of open space adjacent to the parking lot and ramps which could be utilized for picnic or general play.



Old Omen Road Ramp - West

Old Omen Road Ramp - East

The Old Omen Road Ramp - East is located on the east side of Lake Tyler East. It contains one ramp and limited parking. This facility primarily serves residents of Troup and Arp. It is located in a heavily wooded area and provides limited access to the lake. Similar to the boat ramp at Hill Creek, users have expressed safety concerns with children playing on and around the boat ramp due to the lack of adjacent open access to the water. Users also expressed concern with the lack of signage and visibility, resulting in a very low perception of safety at the site. The boat ramp is open year round and there is no fee for use.



Old Omen Road Ramp - East

Highway 64 Recreation Area

The Highway 64 Recreation Area is located at the north end of Lake Tyler East along State Highway 64. It is primarily used by fishermen, though there are picnic areas and tent camping is permitted. The site contains two ramps, a pier and parking for approximately 60 vehicles. This site is easily accessible as it is located on a major highway. However, due to its location on the far north end of the lake, boat access is extremely diminished during negative periods. The entire site is easily seen from Highway 64, thus the perception of security at this boat ramp is much better than the Old Omen Road Ramp, East. The boat ramp is open year round and there is no fee for use.



Highway 64 Recreation Area

General Conditions

Lake Tyler and Lake Tyler East are two of the premier recreational lakes in East Texas. A number of fishing tournaments, triathlons, cycling events and other recreational events are held here each year. A recurring comment from lake users and Tyler residents is a lack of quality lodging. The nearest hotel is more than 10 miles from the two lakes. Except for the substandard R.V. facilities at Lake Tyler Marina and the various tent camping opportunities, there are no opportunities for visitors to come to Lake Tyler for the weekend and stay at

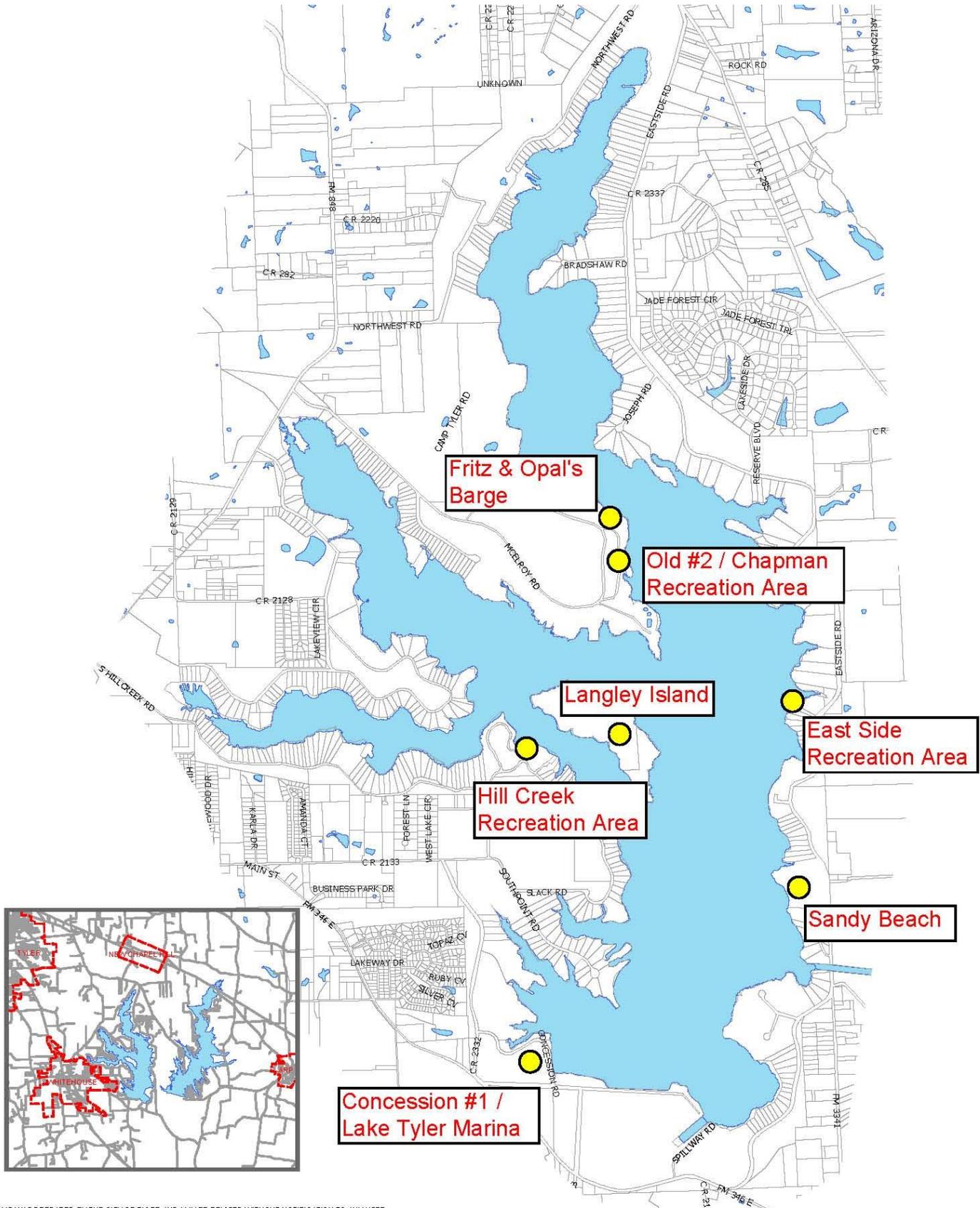
the lake either in a high-quality R.V. facility or in cabins.

Additionally, many residents expressed interest in developing a corporate retreat style complex. Tyler is a preferred destination for residents of the Dallas/Ft. Worth Metroplex and the Houston area. A corporate style retreat complex would draw in visitors from around the State and would provide the needed population to sustain mixed-use developments including restaurants and other retail opportunities. There is need to provide adequate, quality lodging opportunities to create a true destination based recreational experience.

The City of Tyler provides a variety of picnic, tent camping and swimming opportunities around the lake. However, the majority of the recreation sites include many of the same elements, such as picnic areas, tent camping, swimming, etc. There is a need to better define the strengths of the individual sites and develop them accordingly. Each area should have its own unique identity so that users can determine which area they want to utilize based on the unique opportunities provided at each site. Development should focus on unique opportunities such as non-motorized boating (canoes and kayaks), birding and nature based opportunities, cabin and tent camping, quality R.V. facilities, outdoor entertainment venues, etc.

The City of Tyler owns and maintains the public access and recreation areas of the two lakes. While they continue maintenance activities, the department is not set up to be recreational programmers. As a result, many of the recreational areas are not being utilized to their full extent. There is a need to partner with recreational programming experts, like the Tyler Parks and Recreation Department, to better utilize the recreation sites. In this way, residents would be better informed as to special events and opportunities that would benefit the residents of Tyler. This would also allow the Parks Department to extend its holiday weekend programming (Memorial Day, 4th of July, and Labor Day in particular) to a venue better suited for those events.

Figure 16 Lake Tyler Recreation Areas and Boat Ramps

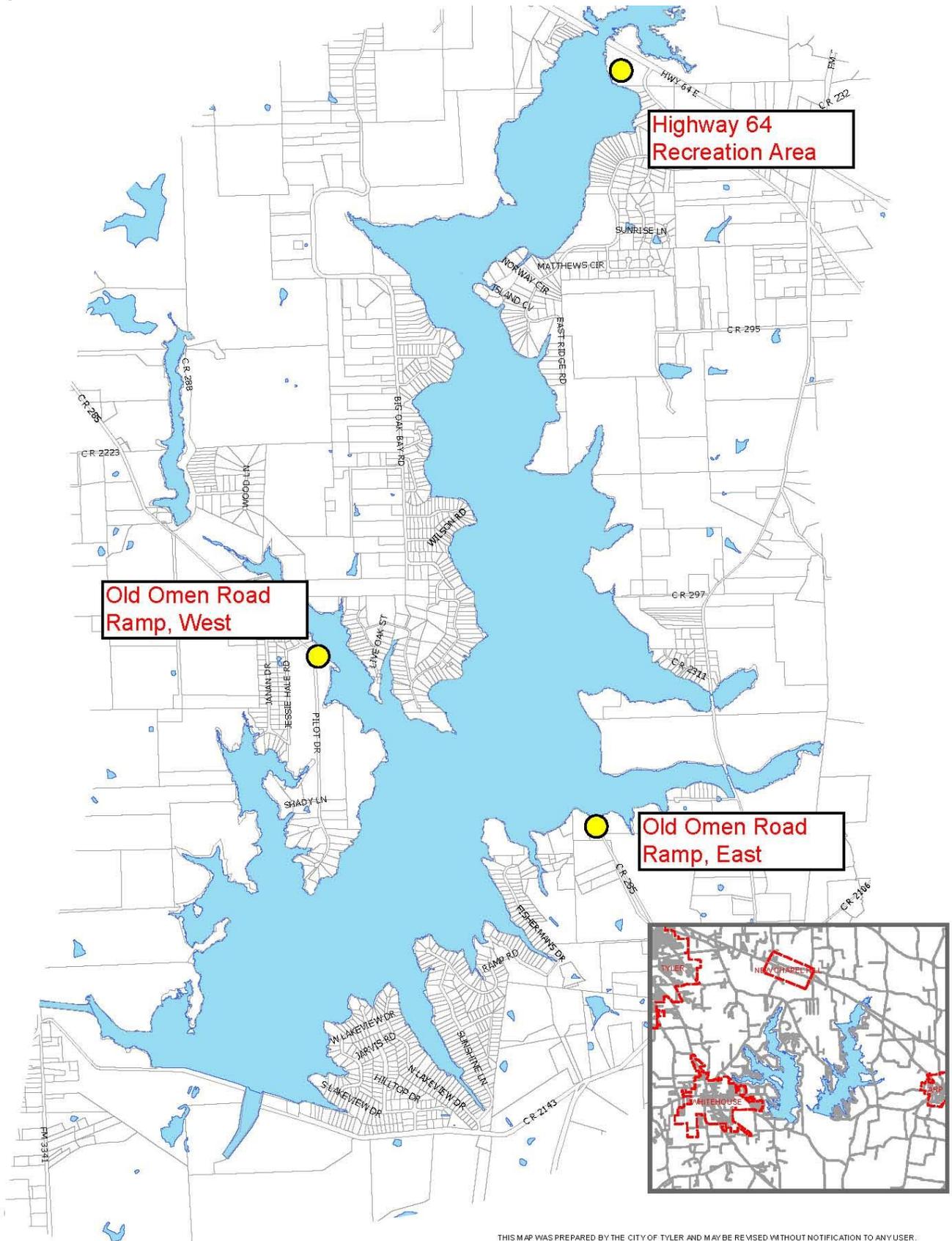


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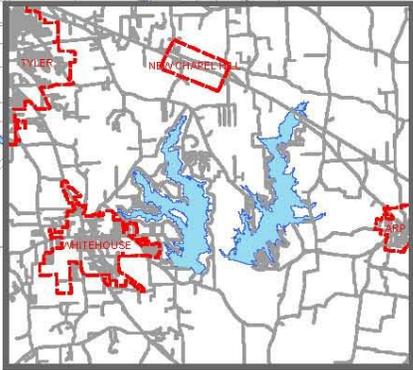
Figure 17 Lake Tyler East Recreation Areas and Boat Ramps



Old Omen Road Ramp, West

Highway 64 Recreation Area

Old Omen Road Ramp, East



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3.3 Water Quality

Lake Tyler Watershed

The contributing watershed to Lake Tyler is 45 square miles (42% of the combined watershed of both lakes) and extends north from the lake to just beyond Highway 64 and west beyond Highway 110 into the southeastern corner of the City of Tyler. The major tributaries into the lake include Hill Creek, Gilley Creek, and Prairie Creek. **Figure 18** shows a topographic relief map of both the Lake Tyler and Lake Tyler East watersheds.

Land use within the watershed consists largely of native forested areas along the bottomlands of the major and minor creek tributaries. In some upland areas, the land has been converted into pasture grazing and crop cultivation uses. The watershed remains predominantly in agricultural and/or undeveloped conditions, although there are several pockets of more intense land development for residential and nonresidential uses. These pockets include the southeastern limits of the City of Tyler, the northern third of the City of Whitehouse, and frontage development along Highway 110 and Highway 64. **Figure 19** shows a land use map of the Lake Tyler and Lake Tyler East watersheds according to the 2001 National Land Cover Data.

Of the 43 miles of shoreline, approximately 29 miles is characterized by residential or nonresidential development uses. Per the *Rules and Regulations*, no permanent buildings are allowed within the 100-foot setback from the 378 ft-msl contour (Note: the 378 ft-msl contour represents the service spillway elevations plus approximately two feet, which effectively represents a flood easement for the lake). Most near-shore development occurs within a 100 to 300 foot band outside of the building setback. There are approximately 390 piers and/or boathouses on Lake Tyler. The remaining 14 miles of shoreline is characterized by various recreation areas or undeveloped land owned by the City of Tyler.



Lake Tyler East Watershed

The contributing watershed to Lake Tyler East is 62 square miles (58% of the total watershed) and extends north from the lake to Highway 31 and east to beyond Arp and near the Smith/Rusk County line. The major tributaries into the lake include Lowry Creek, Everett Branch, Mud Creek, and Caney Creek.

Land use within the watershed consists more of pasture and cultivation land, but also includes significant portions of forested bottomlands along the creek tributaries. The watershed remains predominantly in agricultural and/or undeveloped conditions and less developed than the Lake Tyler watershed. The only areas of significant land development occur at New Chapel Hill and along Highway 64. Of the 56 miles of shoreline, approximately 34 miles is characterized by residential development uses. Most near-shore development occurs within a 100 to 300 foot band outside of the building setback. There are approximately 340 piers and/or boathouses on Lake Tyler East. The remaining 22 miles is characterized by more recreation areas or undeveloped land that is largely, but not entirely, owned by the City of Tyler.

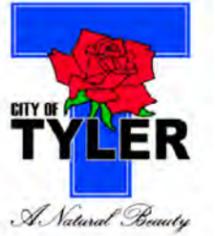
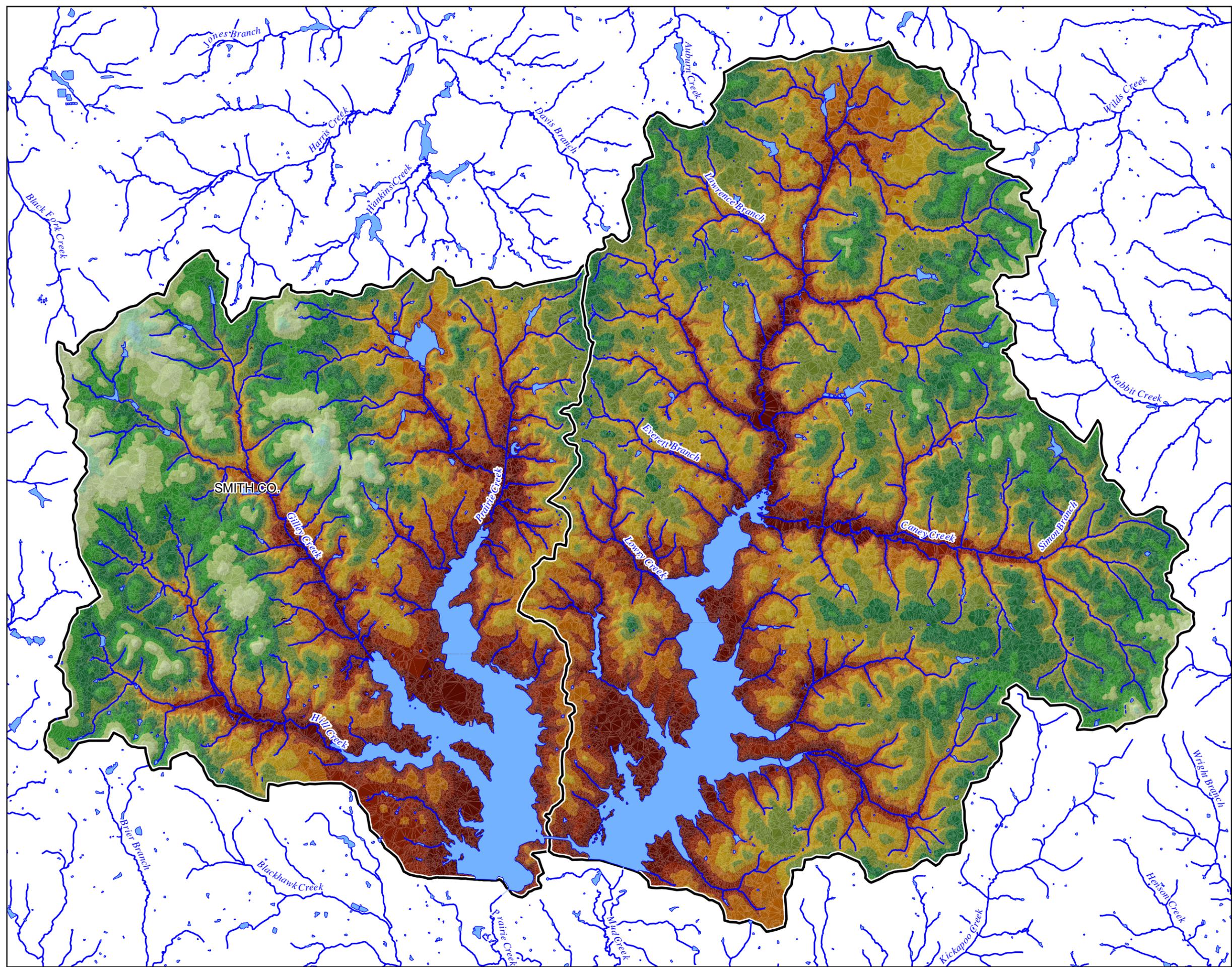


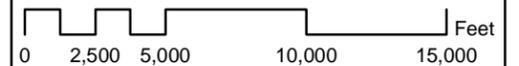
Figure 18 Topography Map

Legend

- County
- Reservoir
- Watershed
- Connector
- Canal Ditch
- Stream River
- Artificial Path

Elevation

- 201 - 225
- 225 - 250
- 250 - 275
- 275 - 300
- 300 - 325
- 325 - 350
- 350 - 375
- 375 - 400
- 400 - 425
- 425 - 450
- 450 - 475
- 475 - 500
- 500 - 525
- 525 - 550
- 550 - 575
- 575 - 600
- 600 - 625
- 625 - 650



Lake Characteristics

The combined surface area of Lake Tyler/Lake Tyler East is approximately 4,700 acres at the conservation pool elevation of 375.68 ft-msl according to a 1997 volumetric survey performed by the Texas Water Development Board (TWDB). The same survey calculated a total conservation pool storage of 80,200 acre-feet. **Figure 20** is an excerpt from the 1997 TWDB report which shows the depth ranges in both lakes.

A common comment provided throughout the public input process was the sensitivity of various lake adjacent uses to fluctuations in lake levels. **Figure 21** shows a time plot of lake elevations since 1999, as recorded by United States Geological Survey gage

#0803400. Most people familiar with the lake recall the recent drought conditions in 2005-2006 in which the lake reached its lowest point of eight feet below conservation pool. Large areas along the shoreline and especially at the headwaters where creeks enter the lake became too shallow for safe use of the lake. Lake users have reported that some lake areas become impacted when lake levels are only two to three feet low. One area in particular that was noted was the area in front of the marina, where several small islands exist. Several comments from the public input process suggested evaluating alternatives for maintaining constant lake elevations and/or evaluating the feasibility of dredging parts of the lake to create greater water depth.

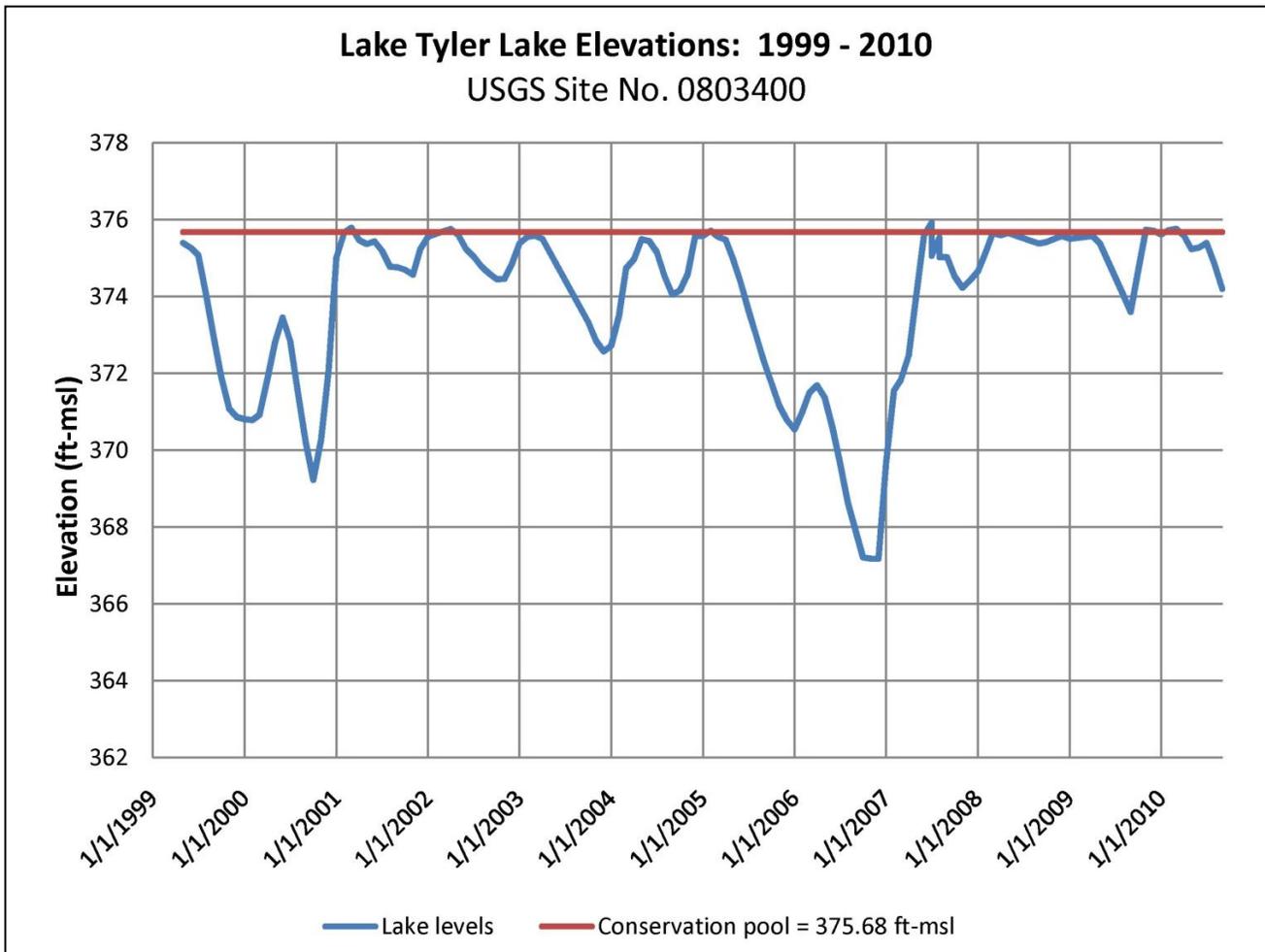


Figure 21. Lake Tyler Lake Elevation

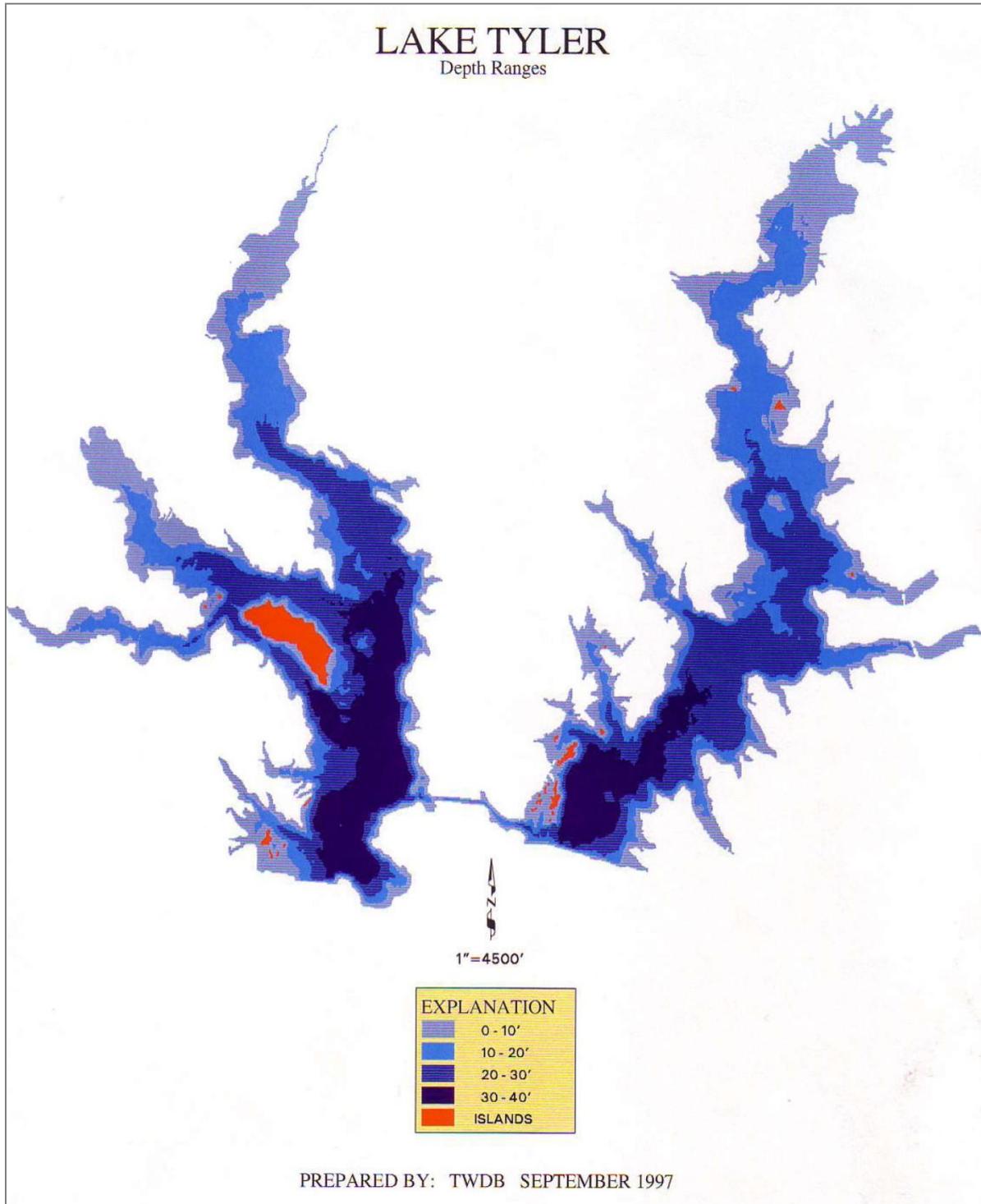


Figure 20. Lake Tyler Depth Ranges

Vegetation Management

In 2006, the Texas Parks and Wildlife Department (TPWD) developed a plan titled *Hydrilla Management Plan Proposal, Lake Tyler East, 2006-2009*. The plan provided a brief summary of past surveys and treatments of emergent aquatic vegetation dating back to the early 1990's. Up to 2004, detection of hydrilla had been limited to very small areas of 50 acres or less. In June 2005, TPWD performed a comprehensive hydrilla survey and recorded a total of 590 acres. Low lake levels in 2005 were cited as the biggest contributor the explosion of hydrilla growth, as the lower lake levels enabled the plants to colonize in deeper parts of the lake.

The *Hydrilla Management Plan* established three objectives: 1) reduce hydrilla infestations in Lake Tyler East to 10% or 250 acres or less by August 2009, while minimizing damage to stands of native vegetation, 2) maintain a healthy lake ecosystem and fishery while providing access for recreation activities, and 3) integrate actions by the City with private subdivisions and land owners in a comprehensive plan that facilitates partnerships and is both cost effective and environmentally responsible. The plan did not specify financial responsibilities for performing various treatments.

The *Hydrilla Management Plan* was subsequently developed on the principles of Integrated Pest Management and outlined the pros and cons of several treatment options, including mechanical harvesters, mechanical shredders, lake level manipulation, bottom barriers, weed rollers, removal by hand, biological control through grass carp, and chemical control through various herbicides.

The final component of the *Hydrilla Management Plan* established a proposed timeline of activities and responsibilities over the 2006-2009 time period. These activities included periodic surveys for hydrilla and lake-wide vegetation, gathering input for the feasibility of introducing grass carp into the lake, assisting private subdivisions and land owners in developing their own treatment plans. In general,

hydrilla surveys have since been performed in April each year. Treatments were to occur during the summer months and lake-wide vegetation surveys were to be performed in late summer/early fall. **Figure 22** is an example of a vegetation survey performed in July 2010 and the corresponding proposed treatment areas.



Hydrilla

During the course of developing this master plan, the topic of hydrilla management was a focal point. Opinions varied widely based on the lake user. In general, lot owners found the hydrilla most problematic because it became a visual nuisance, restricted swimming and other open-water activities, and restricted access between piers/boathouses to open water. On the other hand, the fishing community supported some allowance of hydrilla because it served as excellent fishery habitat. A major issue in the hydrilla management program was the escalation of treatment costs being borne by the City of Tyler.

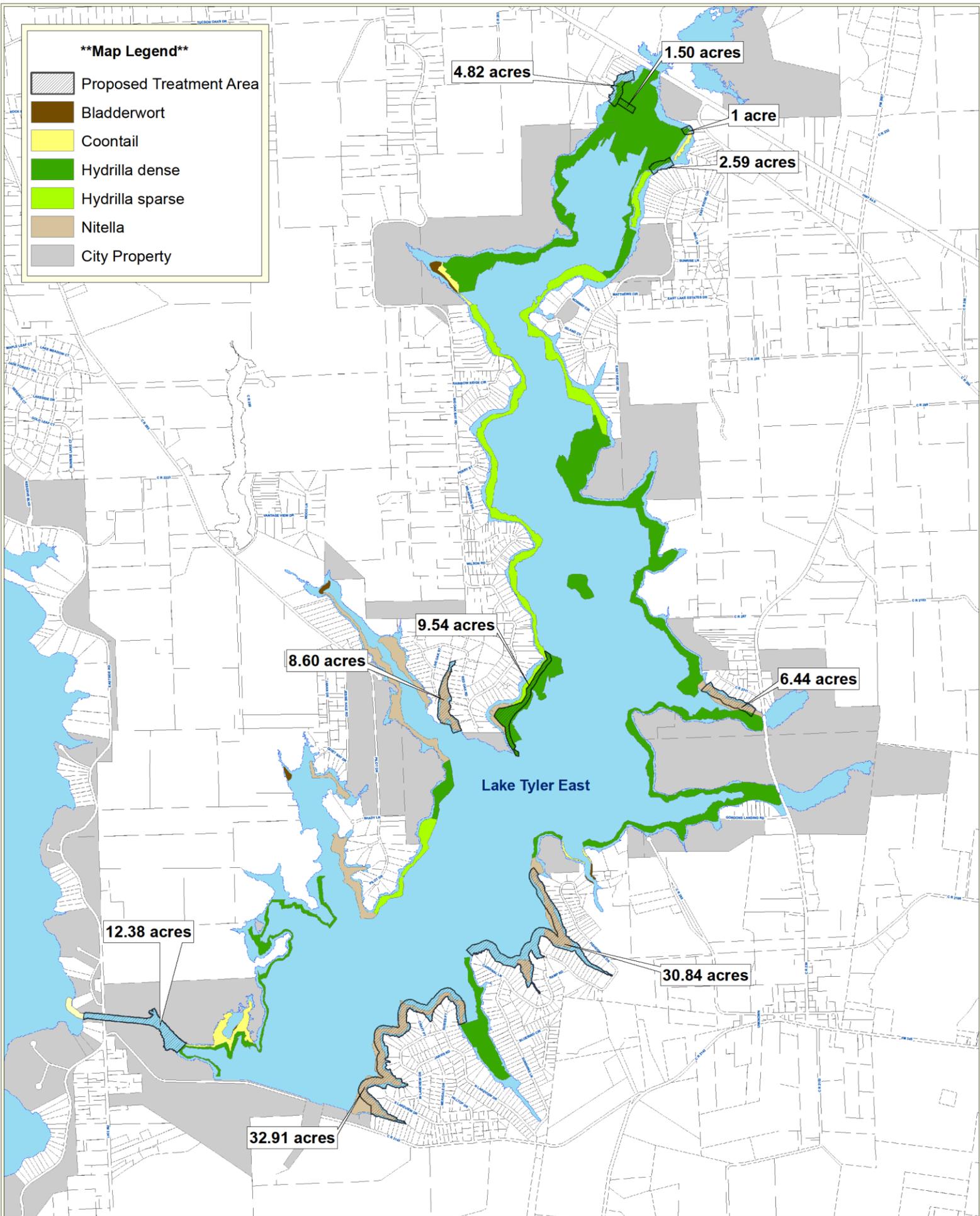


Figure 22. Example of Proposed Treatment Area

Chapter 4.

Recommendations



4. Recommendations

The following recommendations have been developed based on an analysis of existing conditions, public and City staff input, and engineering/planning principles. These recommendations are intended to maintain water quality, provide recreational amenities for lake residents and Tyler citizens, establish partnerships between the lake residents and the City, and to improve the character as the lake area continues to develop.

4.1 Planning & Development

The recommendations relating to planning and development refer to a variety of topics, including enhancing the image and safety of the lake and establishing partnerships and coordination between lake residents and the City.

Recommendation 1: Conduct an evaluation of the residential and nonresidential lease agreements to reflect current standards and practices.

This recommendation focuses on encroachment issues, design standards, insurance and audit requirements, land use compatibility, and property ownership and subdivision requirements.

1a. Encroachment

Several cases have been identified of major encroachment by residential property lessees onto vacant City property. The City should address these major encroachment issues by incorporating text such as the following into the *Rules and Regulations*:

- “No use/structure shall encroach into an existing easement right-of-way, an identified future easement right-of-way, over an adjacent property or easement line, or an identified or set aside access path.”

1b. Lease Updates

The current *Rules and Regulations* that apply to construction surrounding the lakes do not adequately address concerns regarding pier and dock construction. Development guidelines should be incorporated into the regulations to ensure safe and aesthetically-pleasing design (see **Recommendation 3a**).

1c. Insurance and Audits

The City should review leases for proper insurance requirements that require public access. This review should be conducted as each lease is renewed.

Additionally, the City should evaluate whether independent audits are being performed for appropriate nonresidential leases.

1d. Oil and Gas Wells

The City has existing regulations and rules that apply to existing and new oil and gas wells. These regulations should continue to be enforced and the City should continue to monitor oil/gas well leases for compliance with existing regulations.

1e. Property Ownership and Subdivision

The City should consider leasing and/or selling some City-owned parcels for residential uses, increasing revenue and decreasing maintenance costs for underutilized open space areas.

Additionally, the City should revise the *Rules and Regulations* to allow for smaller lots with no lake frontage. The regulations currently require lots be at least one acre and have a minimum of 100 feet of lake frontage for the subdivision of property. The smaller lots would still be required to meet on-site sewer facility regulations and setback requirements in the *Rules and Regulations*.

Recommendation 2: Place additional wayfinding signage in appropriate areas surrounding the lakes to guide visitors to amenities and public access areas.

There are currently few signs to guide visitors to the lakes and to public access points around the lakes. The lack of signage discourages visitors from utilizing the lakes. As indicated in the public surveys, some Tyler residents have had the impression that the lakes are privately owned by the residents.

2a. Routing Signage

It is recommended the City coordinate with TxDOT and develop a way-finding signage plan in Tyler and Whitehouse on major routes leading to Lake Tyler and Lake Tyler East.

2b. Area Signage

A way-finding signage plan should be developed for the area around Lake Tyler and Lake Tyler East directing users to the various camping, boating, swimming and other facilities. The signage should be of a common design or theme to clearly identify public facilities and to ensure a consistent identity for the Lake Tyler area.



Trail Signage

Recommendation 3: Identify mechanisms for managing development and restrict new uses that do not contribute to the desirable character of the lakes.

It is recommended that the City address primary issues concerning future development surrounding the lakes, such as development guidelines and City services.

3a. Development Guidelines

The City should include development standards in new development agreements attached to residential and nonresidential leases, established by the city as leases are renewed.

On-Water Facilities

Standards should be developed and adopted for all on-water facilities, such as docks, piers, boathouses, and gazebos. The current Rules and Regulations ordinance contains a limited amount of standards for on-water facilities; however, it is recommended these standards be expanded.

Definitions

The Rules and Regulations should be amended to define various terms that describe on-water facilities, including, but not limited to, docks, piers, walkways, barges, boathouses, gazebos, boats, and watercraft. Proper definition of such facilities is required in order to establish development standards.

Construction and Inspection

Construction and maintenance of facilities should be performed by licensed professionals who certify that structures meet all national, state, and local codes that apply to the property. Following completion, the structure should be inspected by a licensed inspector, at the lessee's expense, to ensure all applicable codes have been met.

Facility Area and Placement

Maximum size limits should be established for all on-water facilities, including walkways, piers, and docks. For example, facilities should not negatively impact access to or view from another property, or obstruct public access to the lake. Facilities should not extend more than 100 feet into the lake, nor more than one-third of the way to the opposing shoreline with a clear channel maintained of at least 40 feet in width. Facilities should not exceed 30 feet in height above 378 feet-msl.

Floatation

All multiple air filled internal compartments should provide for floatation in the event of a breach of an exterior wall.

Anchor System Standards

An anchorage system should be required to secure all on-water facilities, and maintained in good condition.

Fuel Dispensing Systems

Privately-owned residential fuel dispensing systems should be prohibited on-water and on land in the areas surrounding the lakes. Nonresidential fuel dispensing systems should require approval from the City and meet all State and Federal regulations.

Residential Uses

Living quarters should be limited on on-water facilities by establishing a maximum livable area size and prohibiting expansion of existing facilities in excess of the maximum. Residential uses should be located at least 100 feet away from the shoreline.

Sanitary Facility Connections

Boathouses are currently allowed to have sanitary facility connections. A provision should be included that prohibits floating boathouses or any other on-water facility which has a sanitary facility connections. This provision would reduce the risk of broken service lines in the event of the fluctuating on-water facilities.

Existing Structures

Structures that exist prior to the adoption of development guidelines should be allowed to remain

in their present condition until alterations require a construction permit.

Land Development

Construction Permitting

Construction activity at the lakes is overseen by the City's lake management office. A construction permit is required to be filed and periodic construction inspections are performed by City staff, however the current Rules and Regulations do not reference building code requirements. It is recommended that the Rules and Regulations be amended to adopt the City of Tyler's building codes and construction inspection requirements.

Improvements

All improvements presently require written approval by the City and compliance with the *Rules and Regulations*. Fences, driveways, and other improvements should be placed inside the lot line. New improvements (excluding fences) should not be built less than five feet from the side and rear lot lines. Improvements should not negatively impact use of or access to another property.

Impervious Cover

The existing *Rules and Regulations* address tree preservation, which is particularly important within the watershed of a drinking water supply. The removal of tree cover within the watershed increases lake sedimentation, which negatively impacts water quality. Native trees absorb much of the rainfall, thereby reducing the amount of runoff collecting dirt, fertilizer, sewage, and sediment.

Similar to tree preservation, limiting the amount of impervious cover is crucial to protecting water quality. Impervious surfaces such as buildings, driveways, and roads increase the amount of storm water runoff by inhibiting absorption of rainwater into the ground.

The City should limit impervious cover to fifty percent of total lot area to reduce storm water runoff.

Erosion Control

Controlling shore erosion is important to reduce sedimentation and the growth of algae and weeds, and to prevent property from eroding which decreases lot size. The City should develop a voluntary shore erosion control program for interested property owners to install a method of erosion control, such as riprap or a retaining wall.

Riprap

Riprap refers to medium/large granite or limestone stones covering the shore to prevent erosion by decreasing the impact of waves on the shoreline. Riprap is the preferred method of erosion control.



Riprap

Retaining Walls

Retaining walls should only be used if there is no other practical means of preventing erosion, and should require approval from the City. The City should develop a standard construction detail for retaining walls. Additionally, retaining walls should not be used to increase lot size or the amount of water frontage.



Retaining Walls

3b. Future Land Use and Development

The City should perform an evaluation to determine if City-owned areas are suitable for future development. For example, land at low elevations will likely experience significant drainage and flooding issues, and should be designated as permanent open space/conservation areas. Other areas that may be appropriate for development should be considered for residential lease/sale.

Additionally, the City should consider receiving applications for a comprehensive hotel/motel recreation package. There are currently no hotels/motels within a short distance of the lakes. There are many bass fishing tournaments and other events that could support such a complex. This complex should be considered on the south portion of Lake Tyler in the vicinity of the proposed corporate retreat center (see **Recommendation 7b**).

3c. Public Access

The City should limit expansion of existing shoreline nonresidential uses that are not open to the public. Because the lakes are a public amenity, public access should be maximized. Nonresidential uses are permitted; however, an element of public space and/or access should be incorporated into the development.

3d. Property Maintenance

The City should redevelop barge lot area (as described in the Recreation section), and in the interim the City should reassess litter/dumping, parking, grey/black wastewater issues, and RV temporary permits within the barge lot areas.

3e. Annexation

The City should evaluate annexation opportunities consistent with the recommendations in the Tyler 21 Plan. It would be appropriate to have development around the lakes inside the city limits at some point in the future.

Recommendation 4: Ensure future development within and around Camp Tyler, Green Acres Baptist Church, and the Petroleum Club is compatible and complementary to the lake area.

Camp Tyler, Green Acres Baptist Church, and the Petroleum Club are semi-public uses which have mutually beneficial relationships with the City. The City should coordinate with these entities to improve the area surrounding the lakes.

4a. Adjacency Standards

The City should establish adjacency land use standards to ensure compatible development and minimize conflicting land uses adjacent to these semi-public uses. Commercial uses are generally not appropriate adjacent to church playgrounds or

activity areas of Camp Tyler. More intense uses may require additional screening and landscaping to provide an additional buffer between the uses.

4b. Partnerships

The City should establish partnerships with these semi-public entities for lake improvements. Such improvements may include:

- Trails connecting with adjacent areas
- Public shoreline access
- Shared parking

These improvements will positively impact both the lake atmosphere and the uses by enhancing the accessibility of the lake area.

4c. Lease Conversion

The Petroleum Club currently holds a residential lease with an associated residential rate. The City should convert the Petroleum Club lease from residential to nonresidential to reflect the current use.

Recommendation 5: Address issues with Fritz & Opal’s Fishing Barge, Lake Tyler Marina and RV Park, barge lots, and potential new nonresidential leases (such as new marinas or restaurants) to promote the image, safety, and accessibility of the lake community.

The nonresidential uses surrounding Lake Tyler have a strong impact on the area’s atmosphere. Existing development should be brought into compliance with regulations that are already in place, and new regulations should be established to ensure future development/redevelopment is safe and reflective of the lake’s desirable character and aesthetics.

5a. Public Use

The City should evaluate parking, permanency, and sanitation facilities for the purpose of promoting more public use. For example, temporary “Port-a-Potties” are acceptable as long as they are temporary. If there is a permanent need then permanent facilities should be constructed.

5b. Recreational Vehicles and Campers

The City should review lease contract regarding RVs and campers to ensure quality pads/sites and short-term stays, address litter/maintenance, and evaluate utility connections and environmental protections.

The City should also develop an area across from Langley Island where an upscale RV short-term stay area would be built. There are many good examples of these types of facilities. Texas Parks and Wildlife operates the Doctors Creek campgrounds on Cooper Lake, east of Commerce, where spaces can be rented for RVs or cabins or similar RV park would be appropriate for Lake Tyler.



Example of an Appropriate RV Park

5c. Partnerships

The City should consider options such as partnerships with nonresidential users to promote more desirable development or improvements. For example, the City could form a partnership with Fritz & Opal’s Fishing Barge to allow for improved access and parking. Pursuing such partnerships allows for the mutually beneficial relationship between the City and these nonresidential uses. Better access means more business for the fishing pier.

5d. Recreation Opportunities

Barge lots, excluding Fritz & Opal’s Fishing Barge, should be converted to a high quality recreation area to include lodging, concessions, limited access areas, and other amenities. To implement this change, the City should establish a date for conversion to be included in leases. Additional information regarding this recreation area is provided within the Recreation recommendations section.

Recommendation 6: Ensure access and thoroughfare planning for current and future lake amenities and public access are adequately addressed by the Master Street Plan for the City of Tyler and Tyler Metropolitan Planning Organization (MPO).

As previously discussed in the Existing Conditions, the current level of service (LOS) for many of the roadways providing access is generally below a desirable condition. The City and County should be generally aware of the demands on the roadway infrastructure and take appropriate measures to ensure adequate access is available to the lake area.

The City, County, and State should work together to determine what improvements are necessary in the future. If a motel/hotel is constructed and other amenities, traffic will certainly increase.



Figure 24. 2007 Level of Service



Figure 25. 2035 Projected Level of Service, Incorporating 2012 Committed Projects

Source: Tyler Area MPO Metropolitan Transportation Plan 2035

4.2 Recreation

This component provides recommendations for existing and proposed recreational facilities, and marketing/promoting of the lake’s amenities.

Recommendation 7: Expand and improve the Lake’s existing facilities.

Lake Tyler currently has several existing facilities that should be expanded and improved to better serve lake residents and visitors.

7a. Concession #1 / Lake Tyler Marina

An Area Development Plan should be created for the Lake Tyler Marina area. The plan needs to address a mix of uses and opportunities. The Marina should be the retail hub of Lake Tyler. The Marina serves as the face of Lake Tyler and therefore, all aspects of the marina need to be addressed from both functional and aesthetic perspectives. Access in and around the site needs to be revisited in order to provide a grand entry while promoting a pedestrian friendly development. The shoreline should be reserved for retail and recreation opportunities rather than street access. Boat storage (both wet and dry) is a necessity and can generate long term income; however, that needs to be secondary to the function of the marina as a retail center. The plan also should identify and delineate areas for various uses while preserving key view corridors and points. The result will be a blueprint for development (both public and private) to follow and ensure that quality improvements are developed over time in a cohesive manner.

The City should continue to explore public/private partnership opportunities as they arise in order to provide residents with a sustainable development that serves the needs of the entire region.

7b. Hill Creek Recreation Area

Hill Creek Recreation Area is currently one of the most heavily used sites at Lake Tyler. The City should continue to maintain Hill Creek at a high level while

exploring further improvements. Improvements should include defined campsites (concrete pad with picnic table, fire pit, level area for tent camping, trash receptacles and parking), trail system to promote pedestrian circulation, restrooms with showers, and area lighting. Improvements to the boat ramp area should include better parking lot lighting and a small dedicated swimming area to help reduce the number of children playing on the ramps themselves.



Lake Tyler recreation area

7c. Old #2 / Chapman Recreation Area

The Chapman Recreation Area provides the best opportunity for redevelopment at Lake Tyler. Its location is central to Lake Tyler, it is adjacent to Langley Island, it has the best access directly to Tyler and it is the largest contiguous tract owned by the City. Additionally, the Barge Lot leases are annual leases, thus, the City would not have to wait a long time to begin the redevelopment effort. In addition, because the Lake Patrol offices are located onsite, the City can patrol this site with ease.

This site should be the centerpiece of the Lake Tyler network. Therefore, it should be aptly renamed to Lake Tyler Park. The development plan for Lake Tyler Park should be passive in nature, utilize the existing topography and focus on “snow bird” types of facilities. Not only will this address the needs of area residents, but it will also create a premier ecotourism destination. Improvements should

include high quality R.V. facilities, cabins, defined tent camping sites and restrooms with shower facilities. The City should explore alternative development opportunities for the southern portion of the site (see **Figure 26**). One of these alternatives could be consolidating the offices/living quarters located west of the intake facility to the patrol/maintenance complex located east of the intake facility (option 1). The structure could then be converted into a birding center. Another alternative would be to consolidate the patrol/maintenance complex to the west side of the intake facility and utilize it as a birding center (option 2). While the latter option would provide users with better birding opportunities, relocation of the patrol/maintenance complex could prove to be too costly. A third option could be to develop a new birding center from on the west side of the property and leave the existing patrol / maintenance facilities as they are (option 3).

The development plan should also incorporate Fritz & Opal’s Barge. Boat launching facilities should be developed on the south end of the point to provide water shuttle services between Lake Tyler Park and Langley Island. Again, development should follow a cluster pattern with shared infrastructure and common areas. The park should be developed in a pedestrian friendly fashion to minimize pedestrian/vehicular conflicts. A large common area pavilion, natural play features, trail network including improved and natural trails and other similar recreation opportunities will provide a well rounded experience for users of all ages.

The City should pursue a public/private partnership to develop Lake Tyler Park in a sustainable manner. The City could promote a mix of uses and opportunities that accomplish the goal of creating a first class ecotourism destination on Lake Tyler.

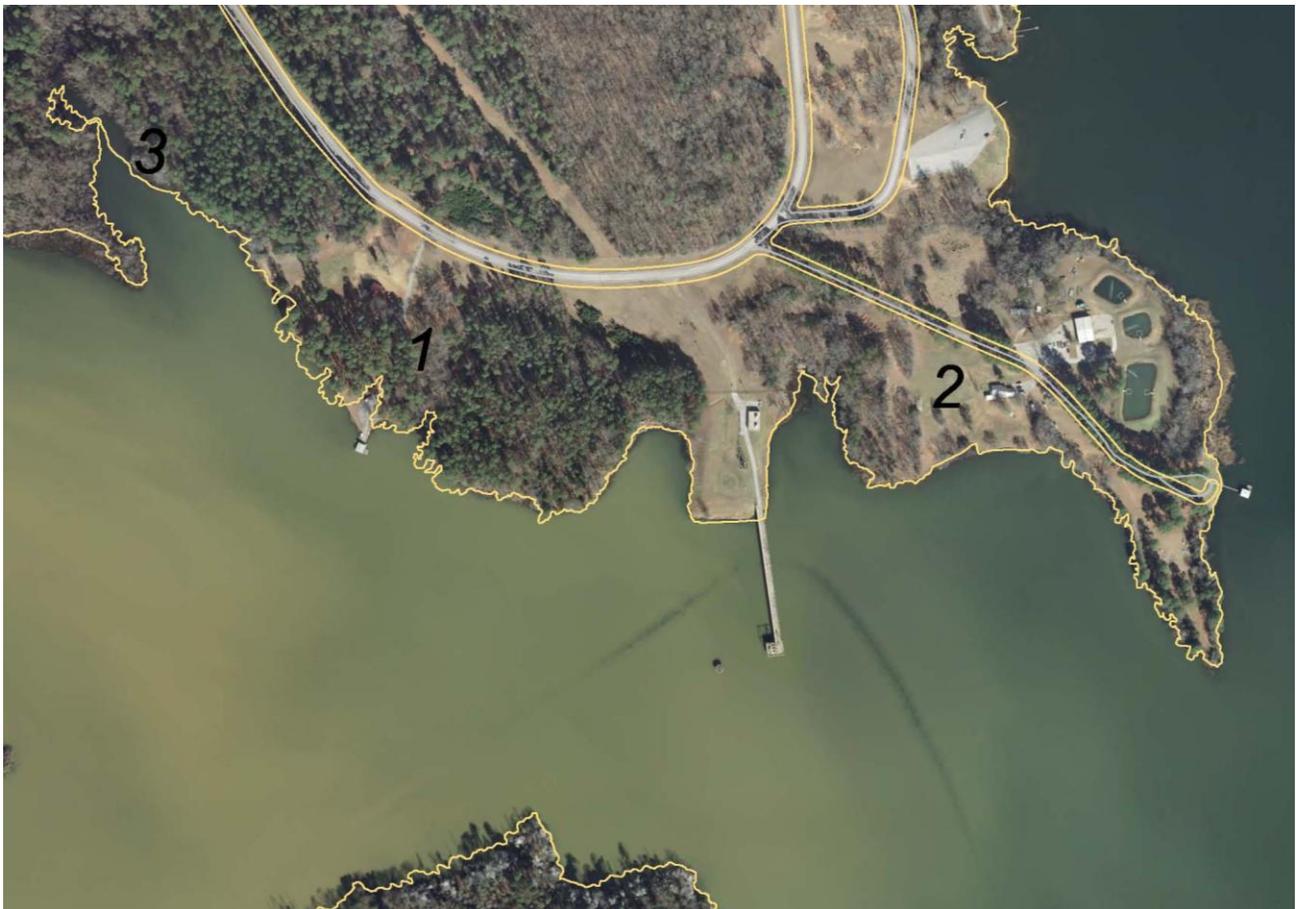


Figure 26. Development Alternatives (Options 1 and 2)

7d. Fritz & Opal's Barge

The City should continue to work with the owners of Fritz & Opal's Barge to provide fishing opportunities for residents who do not have direct access to boats. The City should try to partner, where practical, in providing and improving shared infrastructure such as parking, access drives, sewer line improvements etc.

7e. Sandy Beach

The City should explore the feasibility of converting the abandoned Sandy Beach Recreation Area to residential leases.

Removing existing improvements at the abandoned Sandy Beach Recreation Area would allow natural vegetation to reestablish.

7f. East Side Recreation Area

Improvements at the East Side recreation area should include defined campsites (concrete pads with picnic tables, fire pits, level area for tent camping, trash receptacles and parking), improved picnic stations, restrooms, and area security lighting.



East Side Recreation Area

7g. Langley Island Nature Preserve

Birding is increasing in popularity. The City should continue to work with the Audubon Society to maintain and develop nature based recreation

opportunities on the island. Explore the opportunity for an enhanced natural trail system in and around the island. Install piers at primary access points to allow visitors to tie up and experience the wildlife and birding opportunities at the island.

The Tyler Audubon Society (TAS) has developed a plan for prescribed burning to open the canopy and remove the pine-needled ground cover. TAS plans to reseed the island with a native plant seed mix and add plants to prevent invasion by non-native species now on the surrounding lakeshore. To protect the island from erosion and prevent fire debris from entering the water supply, a 100-foot buffer around the perimeter of the island will not be burned. The initial burn will be followed by a series of low-intensity burns on a three- to five- year rotation for quality maintenance.

TAS, working with Audubon Texas and the City of Tyler, has accepted a habitat improvement project at Langley Island funded by a Texas Commission on Environmental Quality (TCEQ) settlement through the Supplemental Environmental Project Program. The project objective is to improve the access, enhance the habitat, and increase the educational value for visitors while maintaining the uniqueness of the island.

7h. Highway 64 Recreation Area

Improve the recreation facilities at the Highway 64 Recreation Area to include security lighting, restrooms and picnic facilities. This facility serves as a gateway feature to the lake from the north. As future improvements are made, attention should be given to improving aesthetic qualities such as landscaping/green space and developing multiple smaller parking lots rather than one massive lot.

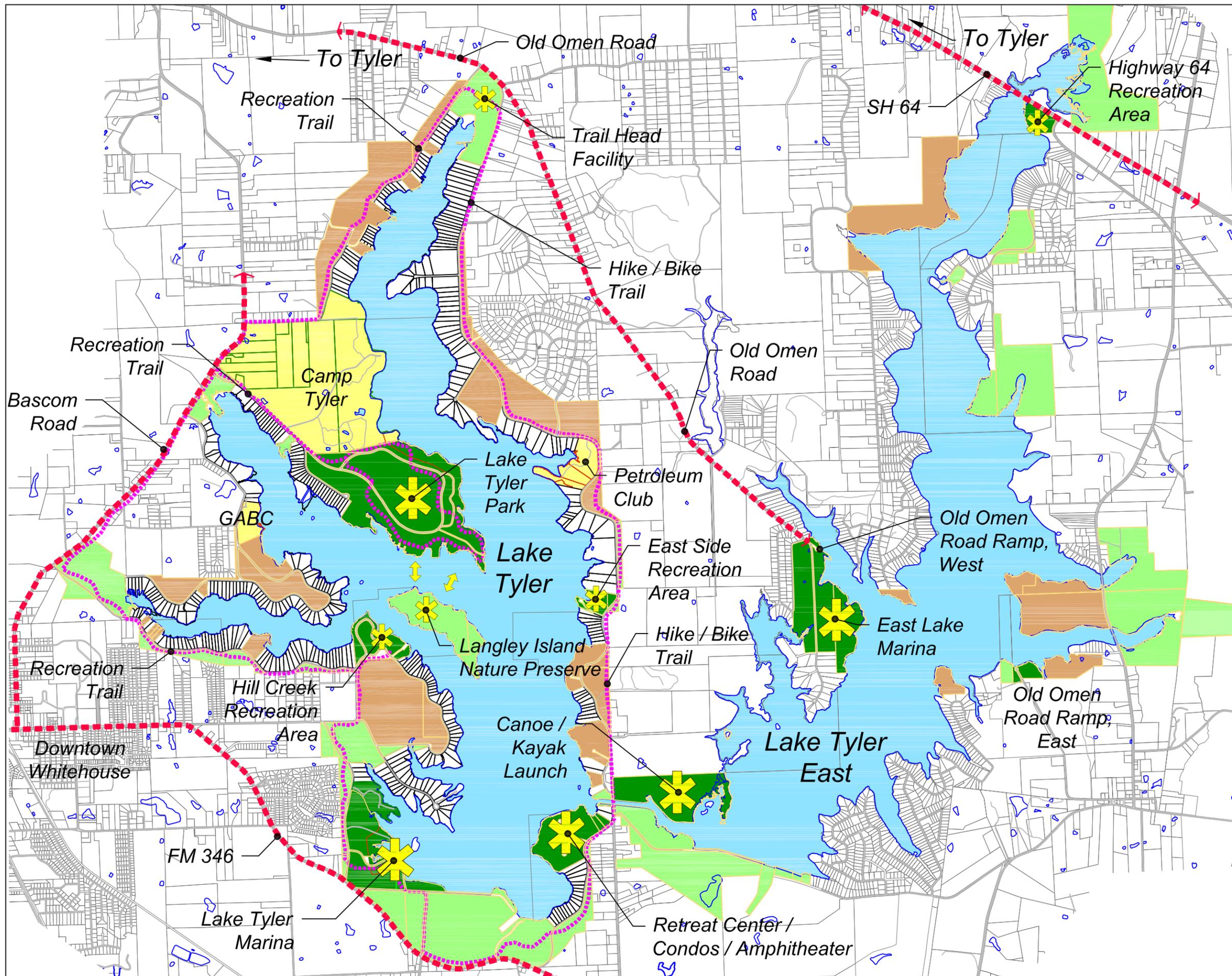


Figure 26
Recreation
Plan

Legend

- Recreation Areas
- Natural Areas
- Non-Residential
- Potential Development
- Proposed Trails
- Major Roads



Recommendation 8: Plan and develop new facilities and recreational amenities

New facilities and a variety of recreational amenities should be planned and developed to accommodate the existing and growing number of lake residents and visitors.

8a. Canoe/Kayak Launch Facilities

Develop canoe/kayak launch facilities on city owned property north of the channel and east of East Side Road. Improvements should be low impact and natural in character. This property is situated along a “no wake” portion of the channel connecting the two lakes. This facility could be similar to Caddo Lake State Park, with trail head facilities such as parking, restrooms, and picnic areas. This area also has opportunity for adding natural trails to compliment the water based recreation.

8b. Corporate Retreat Center

Develop a corporate retreat center on city owned property south of the channel and west of East Side Road. This site sits high above the lake and contains more than 60 acres, offering unparalleled views of Lake Tyler. A corporate style retreat complex with meeting space and lodging could be a major draw and provide some of the needed quality lodging at the lake. The site is also close to the marina, eliminating the need to duplicate facilities such as restaurants, boat rental facilities, etc. However, improvements and/or expansion of restaurant facilities would be needed at the existing marina in order to accommodate full development. Another alternative would be to explore restaurant opportunities as part of the development plan for the corporate retreat center. Residential lots/condos should be incorporated into the overall plan in order to provide the most sustainable development possible. The overall design should incorporate a natural cluster approach in order to minimize tree removal and maximize the natural experience.

8c. Amphitheater

Develop an amphitheater/outdoor venue at the corporate retreat center location. The recently adopted Parks and Open Space Master Plan identified the need for an outdoor venue at Lake Tyler. This location provides a natural bowl and would have the least impact on nearby residential properties. When designing the amphitheater, consideration should be given to ensuring a 365 day a year use. Utilizing alternative types of seating, such as a combination of lawn and boulder seating rather than fixed seats, would create a more natural environment and allow more flexibility in programming.

8d. Lake Tyler East Marina

Pursue a public/private partnership to explore the feasibility of a new Marina Facility on Lake Tyler East. Currently, the Lake Tyler Marina is the only place on either lake to get fuel for watercraft. There is a need for a second marina on Lake Tyler East. Two possible locations have been identified on Lake Tyler East, both of which are on property owned by the City of Tyler and well suited for this type of development.

The first site is nearly 80 acres on the west side of Lake Tyler East, east of Pilot Drive and just south of Old Omen Road Ramp, West. The City also owns nearly 50 acres across the street so any nonresidential development would have little impact on existing residential properties. Access to this site is by way of Old Omen Road, which eventually ties into the University of Texas at Tyler.



80 Acre Site West Side of Lake Tyler East

The second site is just over 100 acres on the east side of Lake Tyler East, between CR 2311 and Gordon’s Landing, west of CR 230. This site is surrounded by water on three sides with direct access to CR 230, thus minimizing potential conflicts with existing residential properties.



100 Acre Site East Side of Lake Tyler East

Both properties have enough acreage to develop a cluster type of development with a combination of residential and nonresidential structures in a setting that has little impact on the adjacent properties. The 80 acre site is more proximate to the City of Tyler, has better access and would serve a greater developed population. The 100 acre site is more remote, but would have less impact on nearby residential properties. As with the other proposed

developments, special consideration should be given to promoting a mixed-use development to ensure sustainability. The City should consider a public/private partnership in order to provide quality facilities and services to area residents.

8e. Public/Private Partnerships

The City should also pursue public/private partnerships for various mixed-use, residential and/or recreational projects on both lakes as opportunities arise.

8f. Trails and Trail Head Facilities

There is a tremendous need to develop a comprehensive trail network around Lake Tyler. Trails have been the most requested recreational components at the Lakes. Trail segments should be prioritized based on the population served and connections to major points of interest. The City should use the cross sections established in the Regional Trail Plan and adjust them as necessary to fit the projected use and maintain a natural setting. The following are specific trail segments that should be considered:

- Develop Multi-Use Trail from Hill Creek to the Marina. (2 miles)
- Develop Multi-Use Trail from Lake Tyler Park to Hill Creek. (5 miles)
- Develop Multi-Use Trail from Lake Tyler Park to north end of lake. (2.75 miles)
- Develop a bike trail along East Side Road from the marina to the north end of the lake. (7.5 miles)
- Develop Trail Head facilities at the north end of the Lake Tyler.
- Develop Trail Head facilities at Hill Creek.

Recommendation 9: Explore options for programming and marketing of the Lakes

Establishing a programming/marketing strategy is critical for maintaining facilities and attracting visitors and Tyler citizens to utilize the lake amenities.

9a. Facility Programming Partnership

Partner with the City of Tyler Parks and Recreation Department to maximize facility programming and marketing for facilities at Lake Tyler and Lake Tyler East.

9b. Promotion of the Lakes to Tyler Citizens

The City should also explore creative ways to promote use of Lake Tyler and Lake Tyler East for Tyler residents. One option may be discounts for boat or canoe rentals or lodging discounts during off-peak seasons. Another may be a discounted boat ramp pass for Tyler residents.

4.3 Water Quality

Recommendation 10: Preserve City-owned land at headwaters of tributaries into lakes.

Land should be designated as open space, conservation areas, or low impact development. Examples of low impact development may include trail, trailheads, small parking area. Most of this land is low lying and relatively undevelopable as it naturally exists.

Recommendation 11: Expand the existing water quality sampling and field monitoring program for the lakes and tributaries.

The monitoring program should serve as a qualitative assessment of water quality indicators and trends. The City already samples water quality at the raw water intake point on a regular basis but should expand this to other areas of the lakes, especially where creek tributaries enter the lakes.

Recommendation 12: Revise inspection and monitoring polices in the Rules and Regulations regarding near-shore On-Site Sewer Facilities (OSSF).

Near-shore on-site sewer facilities (OSSF) (i.e., septic systems) pose a point-source pollution threat to lake water quality in the event that septic systems are not properly maintained or inspected.

12a. Fees and Inspections

Section 19-206 of the *Rules and Regulations* states that City will assess a fee for annual inspections of aerobic systems, but the fee is waived if chlorine is found in the discharge. The inspections should be expanded to address whether spray irrigation fields are being inspected with respect to stated setback/elevation requirements. It is also recommended that the fee waiver clause be

eliminated, as the annual inspections should be mandatory and, thus, the inspection costs would still be incurred by the City.

12b. Inspection Frequency

Section 19-206 of the *Rules and Regulations* does not address the frequency of inspection for anaerobic systems. It is recommended that the inspections be performed on an annual basis, the same as for aerobic systems, and that the inspection fee be non-refundable for the same reasons listed in Recommendation 12.a.

12c. System Design Requirements

Section 19-206.c of the *Rules and Regulations* states that annual inspections are required for boathouse sanitary facilities. In addition to a physical condition assessment, annual inspections should check system design requirements (storage volume, pump capacity, pipe pressure rating, leak and overflow alarms).

12d. Concurrent Inspections

Section 19-221 of the *Rules and Regulations* states that separate inspections are performed for aerobic systems and boathouse systems. It is recommended that inspections be combined and performed concurrently.

12e. Cost Structure and Certification

It is recommended City evaluate its cost structure for performing OSSF inspections. The inspection burden should be evaluated in terms of full-time employees required to perform and document the inspections and provide follow-up services. It is recommended that the City include applicable certifications for OSSF inspections as a job requirement.

12f. Reporting and Monitoring

Septic system inspection reporting and monitoring should be made a key metric in the lake operations. To aid in this, a GIS database of septic systems on City property and near-shore private property should be created.

12g. Wastewater Evaluation

The RV and Marina area (Concession #1) have wastewater service to City of Whitehouse system. The City should obtain engineering data (plans, details, reports, etc.) about system connection details. If engineering plans are unavailable, a field survey of existing conditions may be required. An evaluation should be made of wastewater line connections for individual RV users and compared against applicable laws/regulations. The evaluation should also consider whether previous holding tanks and drainfields have been properly decommissioned.

12h. Centralized Wastewater Collection and Treatment System

The City should perform an analysis of the benefits and costs of transitioning near-lake septic systems to a centralized wastewater collection and treatment system. The City of Whitehouse operates the nearest wastewater collection and treatment system to the lakes. While such a transition is not a short-term recommendation within this master plan, knowing the benefits and costs should help the City in future infrastructure planning around the lakes.

Recommendation 13: Revise inspection and monitoring policies in the Rules and Regulations regarding erosion and sediment control practices around the lakes.

Siltation from storm water runoff is a non-point source pollution which has led to some areas of the lake to become too shallow to be useful or unsafe.

13a. SWPPPs

The City should require Storm Water Pollution Prevention Plans (SWPPPs) for construction on near-lake City owned land. State and federal requirements typically apply to plans for construction on sites larger than one acre. Given the critical location to the lake, SWPPPs should be required for all construction activities, regardless of size. The existing permit for construction should be modified to the new SWPPP requirement.

13b. Dredging Feasibility

The City should evaluate dredging feasibility in key areas of the lake such as: a) at coves at tributary confluences, b) extremely shallow open water areas (i.e., areas on Lake Tyler East), and c) shallow islands near the marina.

13c. Dredging Documentation

For any proposed dredging activity, the City should require documentation that the activity either meets the limits of U.S. Army Corps of Engineers nationwide permits or has been permitted individually. The required documentation should be sealed by a licensed professional engineer in the State of Texas. The existing permit for construction should be modified to address dredging activities.

13d. Storm Water Surcharge Fee

In order to support water quality protection initiatives, the City should evaluate potential for assessing a storm water surcharge fee in the areas around the lake, similar to the storm water fees assessed for City service areas within the City limits.

Recommendation 14: Evaluate development standards and guidelines that can be implemented throughout the watershed in order to protect the lakes' water quality from storm water runoff.

The majority of the contributing watershed and near-shore land is not within City of Tyler city limits, therefore there are few guidelines to control development standards. Storm water runoff from the watershed (i.e., non-point source pollution) is a primary threat to the lakes' water quality.

14a. Storm Water Runoff

The City should develop standards for protecting storm water runoff from near-shore development on City-owned land. Since the majority of the lakes' shorelines are already developed, these standards would need to be focused towards future development of existing open space lands. Development standards could address impervious cover limits, setbacks, fertilizer/herbicide/pesticide uses, etc. Grandfathering clauses would need to be included for existing development.

14b. Development Regulations

The City should evaluate development ordinances within Tyler's ETJ, as City-owned land around the lake constitutes a relatively small portion of overall watershed. Partnerships and/or common guidelines should be explored with stakeholders in the watershed, including Smith County, Whitehouse, Chapel Hill, and Arp. Development standards should address:

- Requirement, inspection, maintenance of SWPPPs
- Creek and floodplain setbacks
- Critical environmental feature protection
- Vegetative buffering
- On-site storm water detention
- Impervious cover limits

The City should contact the County to ascertain if any standards could be added to the County subdivision regulations.



Lake Tyler

14c. Water Quality Protection Initiatives

The City should continue to evaluate S.B. 1362 related to creation of Lake Columbia for initiatives related to water quality protection within the watershed. The City should coordinate with the Angelina-Neches River Authority in implementation of watershed water quality protection initiatives.

Recommendation 15: Continue to inspect oil and gas wells for leaks and develop a policy for future well development.

The potential of storm water run-off from oil and gas wells around the lake poses a point-source pollution threat to water quality. Several oil and gas wells have been drilled on city-owned land in recent years. While no contamination issues have been reported from these well sites to date, the City should periodically inspect completed well sites for leaks or potential for contaminated runoff. Such inspections should be coordinated with the lease owner involved. In addition, the City should develop a policy for future gas well development on city-owned land which considers well location and potential impacts from storm water runoff.

Recommendation 16: Evaluate alternatives to maintain constant lake elevations by procuring make-up water sources.

Lake Tyler and Lake Tyler East are not constant-pool lakes. Recreational activities, as well as shoreline aesthetics, are negatively impacted when lake levels drop only a few feet below normal pool elevation. As the City considers future investments into the lake and surrounding areas, normal pool elevation reliability should be a factor that is considered. Being able to maintain a more constant water level may lead to more interest in commercial development.

Recommendation 17: Evaluate pesticide chemicals being used around the lakes, and include inspection of pesticides in boathouse sewer system inspection.

The use of pesticide misting systems is becoming more common in outdoor areas of residences around the lake. These systems, especially when located in and around boathouses directly over water, pose a threat to water quality. The City should evaluate what pesticide chemicals are suitable for use in near-water situations. The *Rules and Regulations* may need to be revised to address an approved list of chemicals. Where applicable, annual inspections of boathouse sewer systems should be expanded to include inspection of properly functioning misting systems and appropriate use of chemicals.

Recommendation 18: Continue to pursue aquatic vegetation management.

Aquatic vegetation management, in particular hydrilla, has become an increasingly important issue at the lakes. It has been mentioned numerous times in the public meetings. The City coordinates vegetation surveys performed by the Texas Parks and Wildlife Department (TPWD) to identify areas of treatment and the City then pays for these treatments. The aquatic management issue has

competing interests that must be balanced with each other: open water usability, private dock usability, aesthetics, fish habitat, and cost of treatments are among the issues that must be considered.

18a. IPM Requirements

New regulations are set to take effect in April 2011 which affect the current regulatory notification and treatment process. Under these new regulations, an Integrated Pest Management (IPM) Plan will be required to be developed and submitted to the Texas Commission on Environmental Quality (TCEQ). The City should revise the existing Hydrilla Management Plan in coordination with TPWD to meet the new IPM requirements. The plan should be updated with the experience and input from more recent and aggressive treatment programs that have been undertaken. The plan should extend survey and treatment recommendations to Lake Tyler, in addition to Lake Tyler East. The plan should also be updated to take into consideration the survey and treatment of other invasive aquatic species, such as giant salvinia.

18b. Planned Vegetation Surveys

The Aquatic Vegetation Management Plan should be modified to have planned vegetation surveys starting early in the spring and on a more frequent basis. Work with TPWD to identify methods for identifying areas of hydrilla before full bloom or growth explosion occurs. Continue efforts to streamline the survey-notification-treatment process so that treatments can occur more responsively to surveys.

18c. Pre-Approved Contractors

The City should evaluate feasibility for creating a pre-approved list of contractors which are licensed and qualified to treat hydrilla and other invasive aquatic vegetation species. This alternate treatment program would allow private residents and neighborhood associations to pool resources and perform treatments intermittently and in addition to City-funded treatments. The alternate treatment program would be administered by the City and coordinated with TPWD surveys and City-funded treatments.

Recommendation 19: Develop a timber management program for un-leased City owned property around Lake Tyler to promote timber growth and minimize potential fire hazards.

Chapter 5.

Implementation



5. Implementation

This Lake Tyler Master Plan outlines recommendations for ensuring that these lakes continue to offer the type of living, recreation, and water quality that is important to the City of Tyler. Other than the City-provided services discussed previously, the City of Tyler does not have budget funds currently dedicated to undertake the majority of the recommendations presented in this Master Plan. Acknowledging this basic funding limitation, an implementation schedule was developed that ties the implementation of recommendations to the identification of future funding.

The implementation schedule was divided into two categories: short term and long term. Short term implementation goals were considered to be those goals that are recommended to be implemented within 1 to 5 years from the time in which a funding source is identified. This time frame should not be interpreted as a recommendation that the action items be implemented within 1 to 5 years of the date of this master plan, as this would likely not be feasible. Similarly, long term implementation goals were considered to be those goals that are recommended to be implemented beyond 5 years from the time in which a funding source is identified.

There are two important notes related to the following implementation table. First, the recommendations are listed in the order they appear in the Master Plan, not in order of importance or priority. Second, cost estimates are presented in 2011 dollars. Cost estimates for projects in the long term category should be revisited as necessary when implementation becomes more imminent.



Lake Tyler

Short Term: 1 to 5 years from Identification of Funding Source

	Action Item	Rec. Reference(s)	Estimated Cost
Planning and Development	Update the <i>Rules and Regulations</i> code to include the new development guidelines.	1a., 1b., 1d., 1e., 3a., 3c., 4a.	Internal staff task; and/or up to \$50,000
	Establish wayfinding signage to and around the lakes.	2a., 2b.	\$200,000-\$500,000
	Create list of areas to be developed for large lots and prepare plats for lease agreements.	1e., 3b.	Internal staff task; \$100,000-\$300,000 for plats
	Address the various issues with barge lots, including issues such as property maintenance and site quality, and eventual redevelopment as a high quality recreation area. <ul style="list-style-type: none"> - Develop an annual budget for site maintenance - Develop conceptual site plan 	3d., 5d.	\$75,000 annually / \$50,000 site plan
	Develop a high-quality RV park and cabin area.	5b.	\$500,000-\$1,000,000

Recreation	Hill Creek Recreation Area	6b.	\$300,000 – 550,000
	East Side Recreation Area	6f.	\$300,000 - 400,000
	Sandy Beach	6e.	\$25,000 – 50,000
	Langley Island Nature Preserve	6g.	\$200,000 – 300,000
	Lake Tyler East Marina	7d.	\$2,000,000 – 4,000,000 *Partnership with developer – limited cost to City
	Trail – Marina to Hill Creek (2 miles)	7f.	\$350,000
	Trail – Trails within Hill Creek (1.5 miles)	6b., 7f.	\$200,000
	Trail – Bike Trail along East Side Drive (7.5 miles)	7f.	\$1,000,000 – 1,500,000

Water Quality	Preserve City-owned land at headwaters of tributaries into lakes.	10.	No cost
	Expand existing water quality sampling program and field monitoring program for lakes and tributaries	11.	\$50,000 - \$100,000 per year
	Expand OSSF inspections, remove fee waiver clause, reevaluate inspection fee structure, improve inspection reporting, and perform preliminary evaluation of Marina and RV Park wastewater system	12a., 12b., 12c., 12d., 12e., 12f., 12g.	Internal staff task; \$25,000 - \$50,000 in misc. costs
	Require SWPPPs on all City-owned land near lakes and require documentation for dredging activities	13a., 13c.	Internal staff task
	Inspect all oil and gas wells on City-owned land in near vicinity of lakes	15.	Internal staff task
	Evaluate pesticide chemicals commonly being used around lakes, revise Rules and Regulations as necessary	17.	Internal staff task
	Continue hydrilla management program, coordination with TPWD, and monitor proposed changes to IPM regulations	18.	Internal staff task; \$100,000 - \$300,000/year for treatment
	Develop timber management program around lakes	19.	Internal staff task; \$25,000 - \$50,000

Long Term: 5+ years from Identification of Funding Source			
	Action Item	Rec. Reference(s)	Estimated Cost
Planning and Development	Review leases for proper insurance requirements.	1c.	Internal staff task
	Ensure that a strategic committee is in place to make future decisions regarding the lakes (Lake Tyler Roundtable).	3e.	Internal staff task
	Establish partnerships with semi-public and nonresidential entities for lake improvements.	4b., 5c.	Internal staff task
	Convert Petroleum Club lease to nonresidential.	4c.	Internal staff task
	Evaluate parking, permanency, and sanitation facilities for public use.	5a.	Internal staff task
	Review the Tyler Area MPO Metropolitan Transportation Plan 2035 and ensure adequate roadway network is planned for the lake area.	6.	Internal staff task

Lake Tyler Master Plan

Recreation	Lake Tyler Marina Master Plan	7a	\$25,000 – 50,000
	Lake Tyler Marina	7a	TBD – based on results of master plan
	Chapman Recreation Area Master Plan	7c, 7d	\$25,000 – 40,000
	Chapman Recreation Area	7c, 7d	TBD – based on results of master plan
	Highway 64 Recreation Area	7h	\$250,000 – 300,000
	Canoe/Kayak Launch Facilities	8a	\$450,000 – 600,000
	Corporate Retreat Center	8b	\$2,000,000 – 4,000,000
	Amphitheater	8c	\$150,000
	Trail – Chapman to Hill Creek (5 miles)	8f	\$800,000 – 1,000,000
	Trail – Chapman to North End of Lake Tyler (2.75 miles)	8f	\$450,000 – 500,000
	Trail Head Facilities – North End of Lake Tyler	8f	\$225,000 – 275,000

Water Quality	Perform analysis of transitioning to centralized wastewater collection and treatment system	12h.	\$100,000 - \$250,000
	Evaluate dredging feasibility	13b.	\$50,000 - \$100,000
	Evaluate potential for assessing storm water surcharge fee around lakes	13d.	Internal staff task
	Evaluate development regulations throughout the watershed to reduce non-point source pollution from storm water runoff	14a., 14b., 14c.	Long-term initiative, no cost estimate developed
	Evaluate alternatives to maintain constant lake elevations	16.	\$100,000 - \$250,000

Appendix A.

Public Survey



Appendix A: Public Survey Summary

Participant Questionnaire

Yes No

1. Are you a water and/or sewer customer of the City of Tyler Water Utilities? Yes No

Did you know that:

Yes No

2. Lake Tyler (west side) /Lake Tyler East (east side) is the primary water supply source for City of Tyler Water Utilities? Yes No

3. Lake Tyler / Lake Tyler East are owned by the City of Tyler and operated by Tyler Water Utilities Department? Yes No

4. The City of Tyler owns land around Lake Tyler / Lake Tyler East? Yes No

5. Some of the City-owned land around the lakes is leased for residential and commercial uses? Yes No

6. Lake Tyler / Lake Tyler East and the land around the lakes is not located within the city limits of Tyler? Yes No

7. Tyler Water Utilities operates public use facilities at the Lake Tyler / Lake Tyler East, including boat ramps and camping areas? Yes No

8. commercial leases at Lake Tyler / Lake Tyler East include:

a. A fishing barge? Yes No

b. A marina with a restaurant, shop, boat slips, boat ramp, and RV facility? Yes No

c. Small barge lots with lake access, rented on 1-year leases? Yes No

d. A church retreat center? Yes No

e. Commercial club lots? Yes No

f. Youth educational foundation (Camp Tyler Foundation)? Yes No

9. Were you involved with the Tyler 21 Comprehensive Plan development? Yes No

In the past 3 years, how have you used Lake Tyler / Lake Tyler East? all that apply. If applicable, please indicate number of uses in the space to the right.

Circle

Boating & swimming_____	Camp Tyler_____	Residential lease holder
Fishing_____	Boat slips at marina_____	Private landowner
Camping_____	Fishing barge_____	Other: _____
RV facility at marina_____	Hiking / biking along public roadways_____	Other: _____
Restaurant or shop at marina____	Barge lot lease holder	Other: _____

How do you think future improvements and maintenance at Lake Tyler/Lake Tyler East should be funded? Check one answer per funding option.

Options	Prefer Most	Prefer	Do Not Prefer	Prefer Least
Sale of Tyler Water Utilities properties				
Increase user fees for recreational facilities				
Increase residential and commercial lease rates				
Increase Tyler Water Utilities fees or rates				
Issuance of revenue bonds				
Increase City taxes				
Other (please specify)				

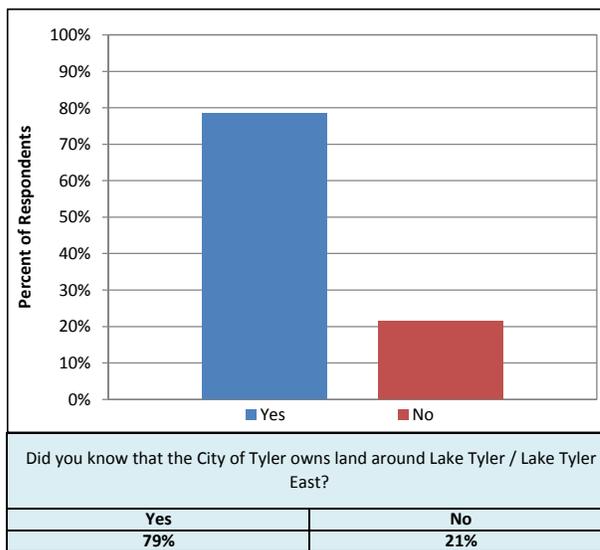
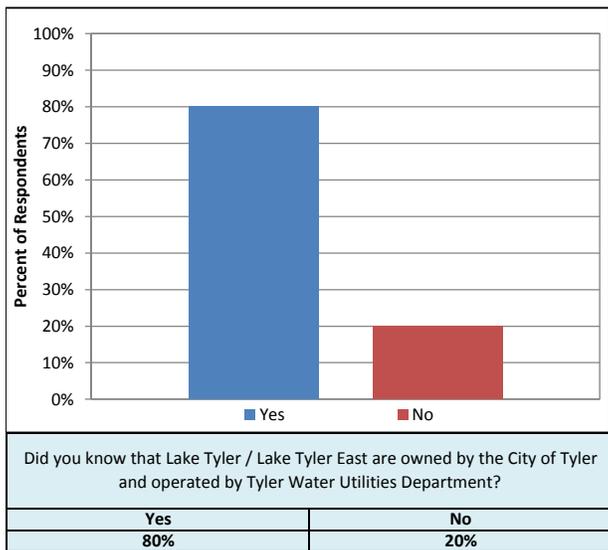
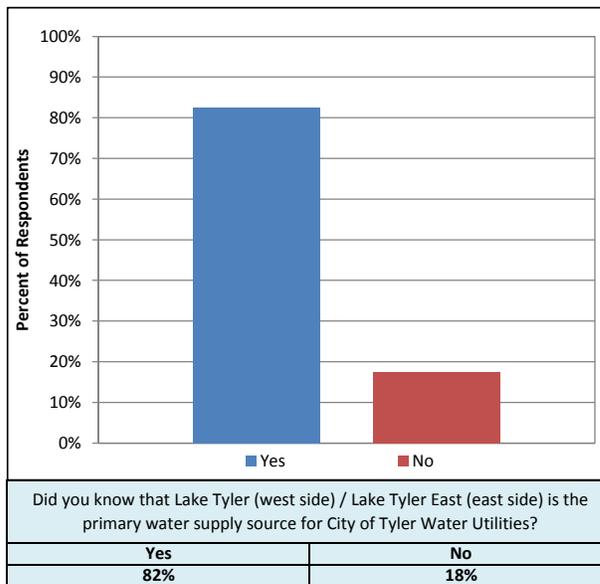
What do you think are the biggest problems or challenges at Lake Tyler/Lake Tyler East? Check one answer per issue.

<i>Please check one answer for each problem or challenge</i>	Very Important	Neutral	Not Important
Access to and around the lakes.			
Practices to protect and preserve water quality.			
More recreational opportunities at and around the lakes.			
More retail facilities at and around the lakes.			
Quality of existing recreation facilities (i.e. boat ramps, camping areas, etc.)			
Vegetation management at lakes (i.e. hydrilla issues)			
Awareness of public lands and facilities at the lakes.			
Quality of existing commercial leases.			
Lakes not being located within Tyler city limits.			
Impacts on water quality by development.			
Impacts on water quality by oil and gas production.			
Adequate funding sources for capital improvements.			
Adequate funding sources for proper operation and maintenance of public facilities.			

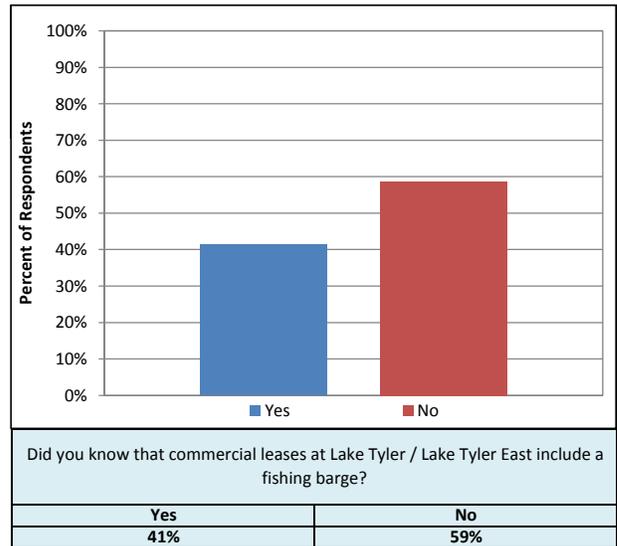
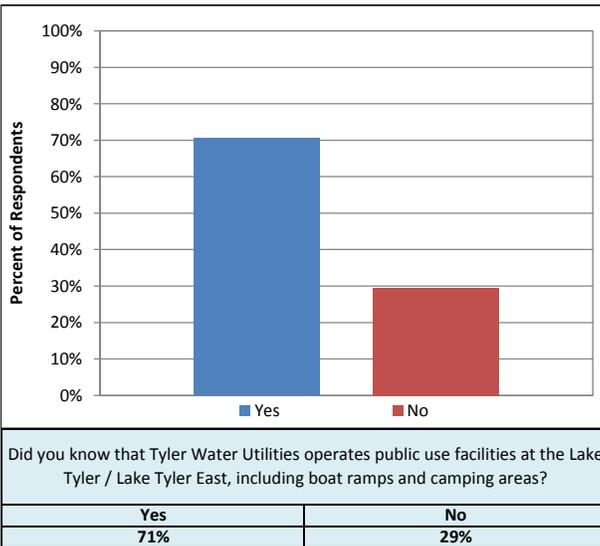
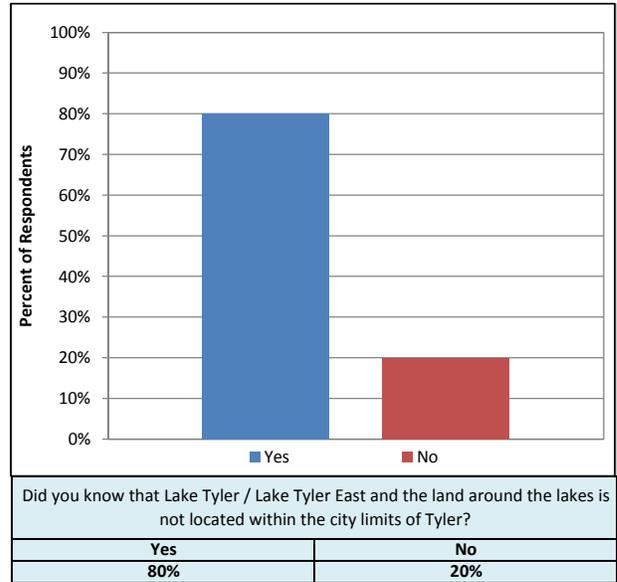
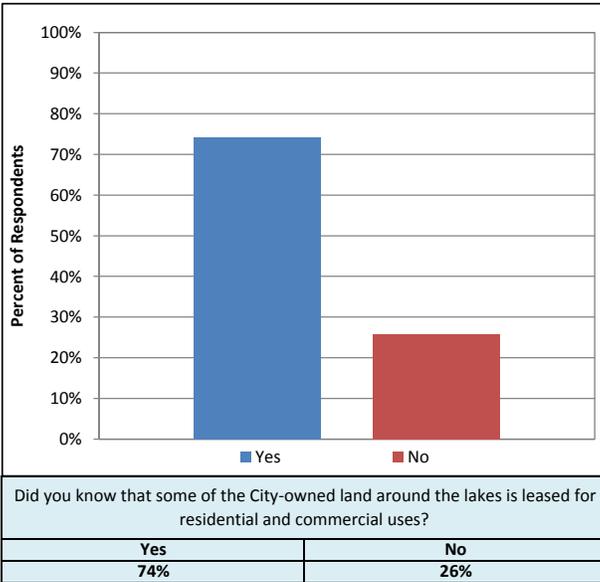
What do you envision the Lake Tyler/Lake Tyler East area looking like and operating as in 10 years? 20 years? Please provide comments below or on a separate page.

Part 1. General Information

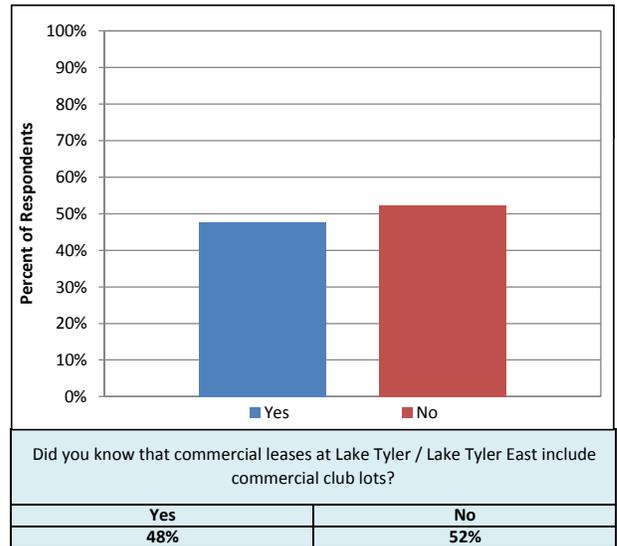
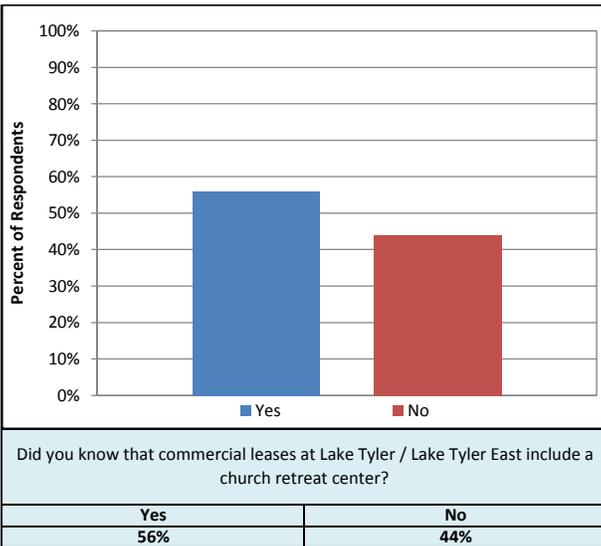
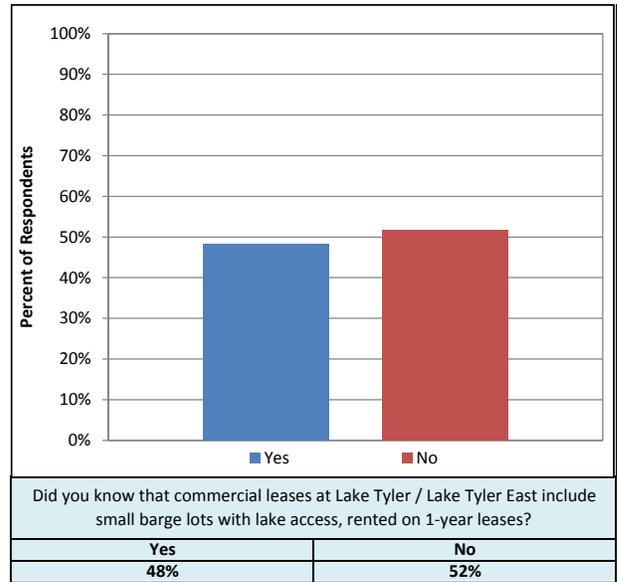
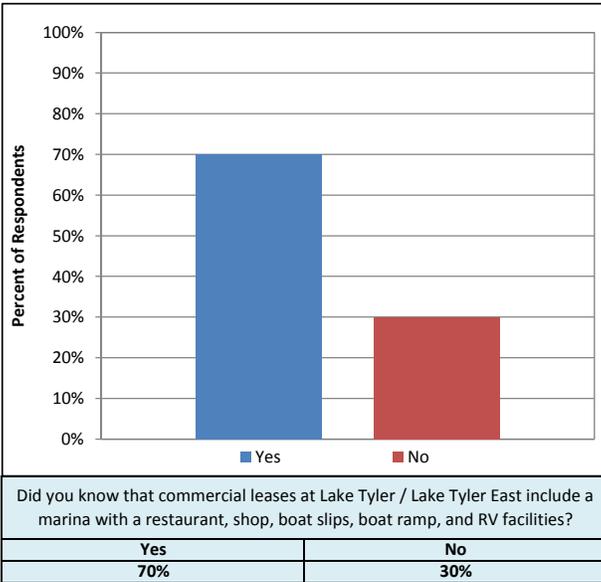
Total Paper Surveys: 380
 Total On-line Surveys: 107
 Total Surveys: 487



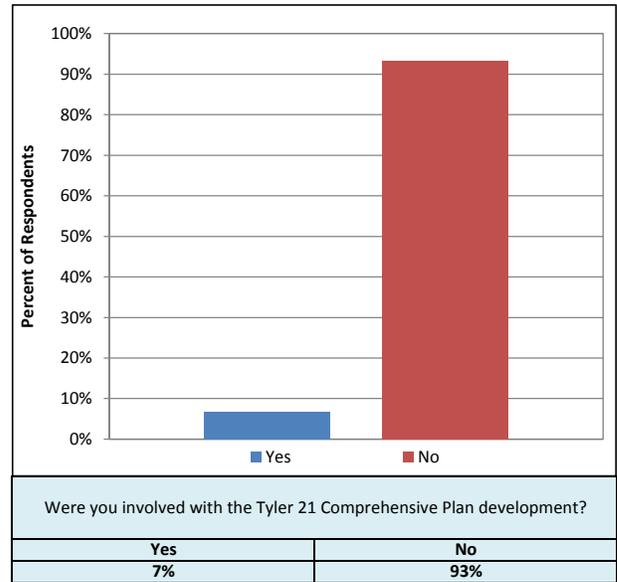
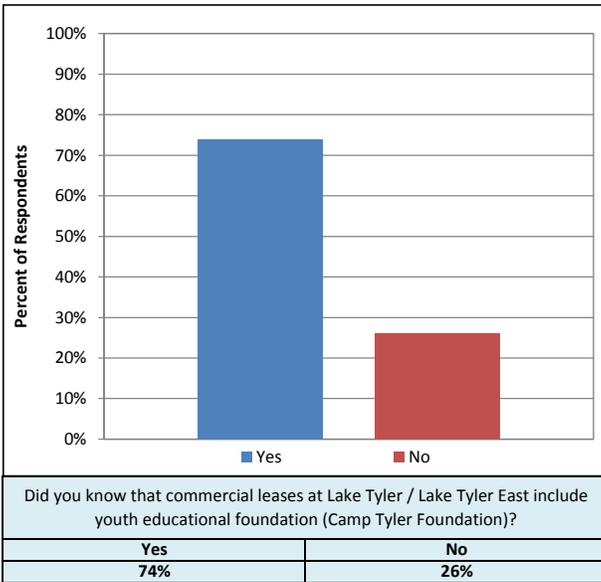
Part 1. General Information



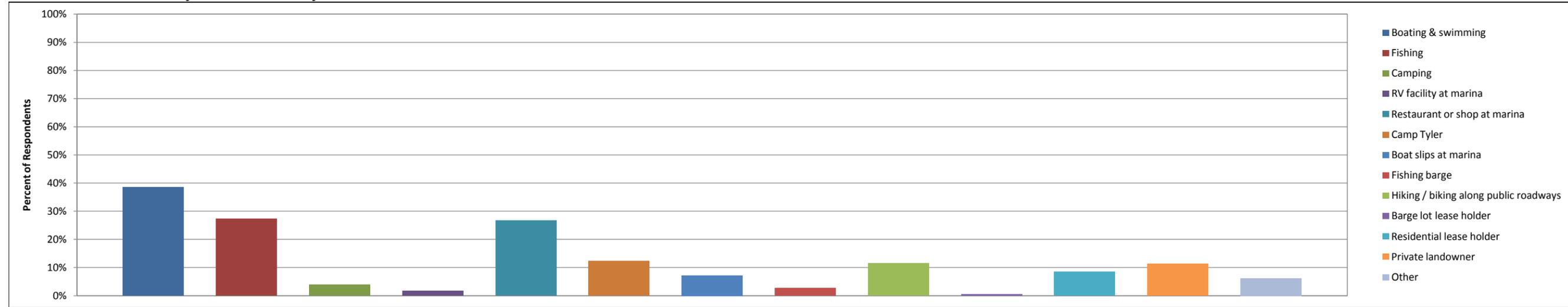
Part 1. General Information



Part 1. General Information



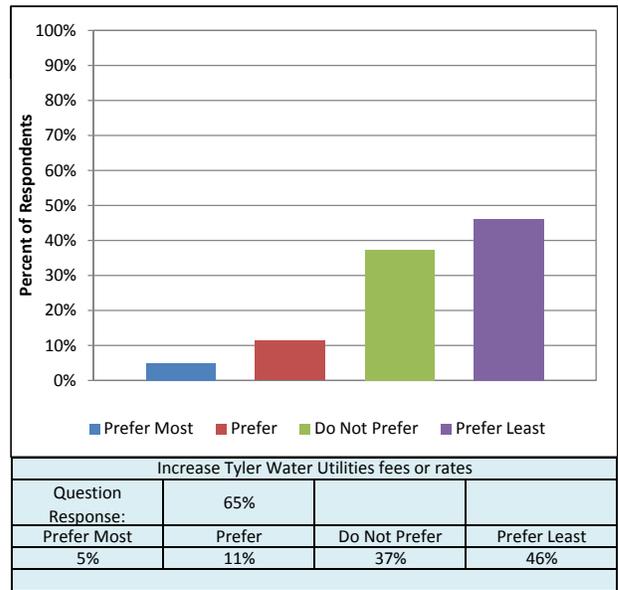
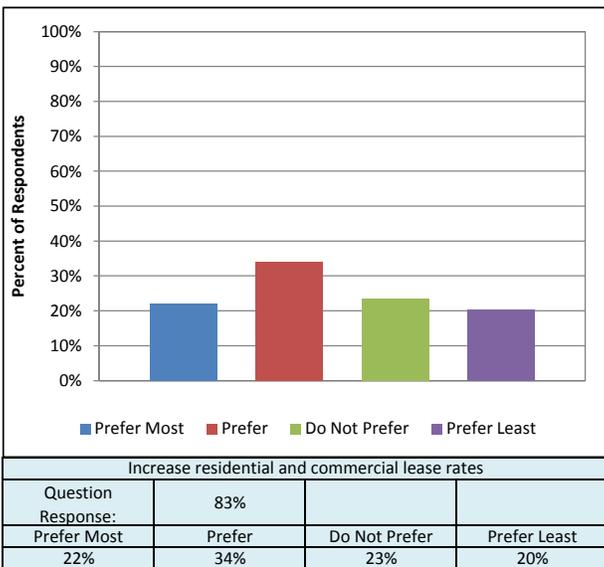
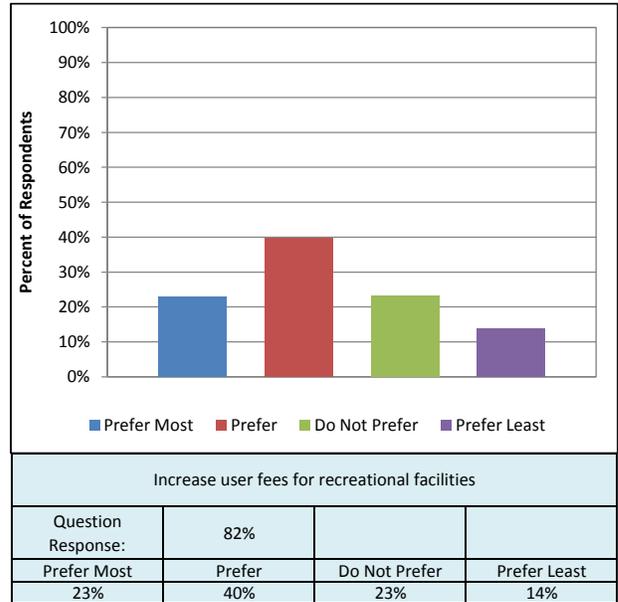
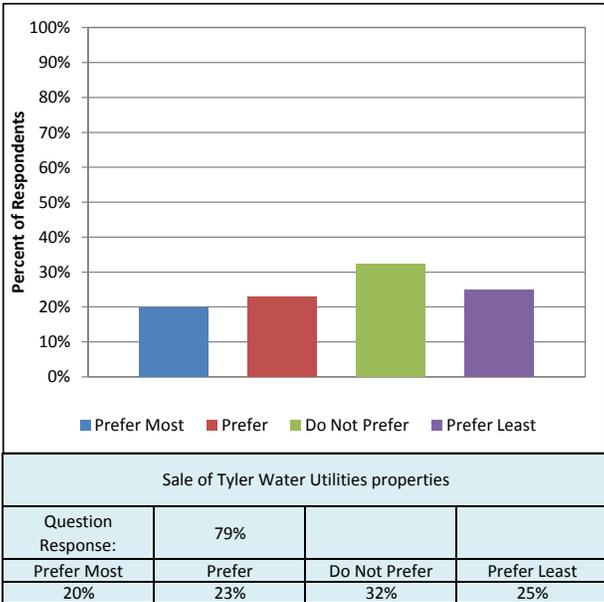
Part 2. Use of Lake Tyler and Lake Tyler East



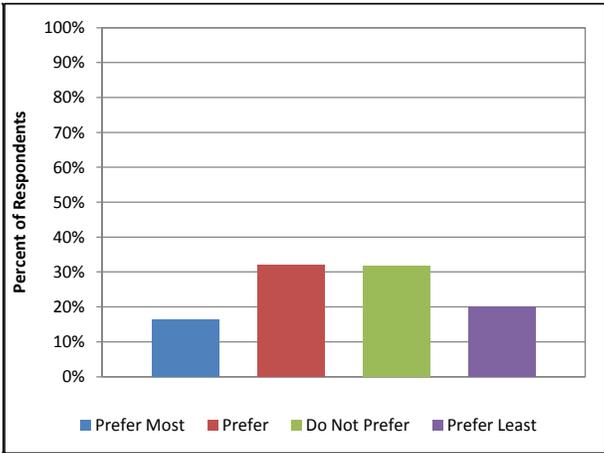
In the past 3 years, how have you used Lake Tyler / Lake Tyler East?

Total Number of Surveys:		487												
Percent	39%	27%	4%	2%	27%	12%	7%	3%	11%	0%	8%	11%	6%	
Count	188	133	19	8	130	60	35	13	56	2	41	55	30	
	Boating & swimming	Fishing	Camping	RV facility at marina	Restaurant or shop at marina	Camp Tyler	Boat slips at marina	Fishing barge	Hiking / biking along public roadways	Barge lot lease holder	Residential lease holder	Private landowner	Other	Comment

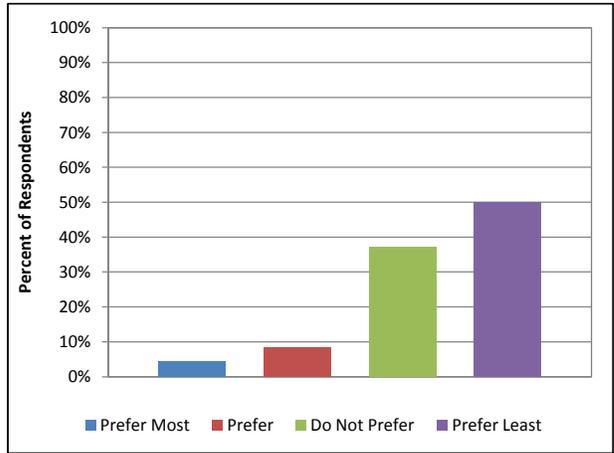
Part 3. Funding Lake Tyler and Lake Tyler East Improvements and Maintenance



Part 3. Funding Lake Tyler and Lake Tyler East Improvements and Maintenance

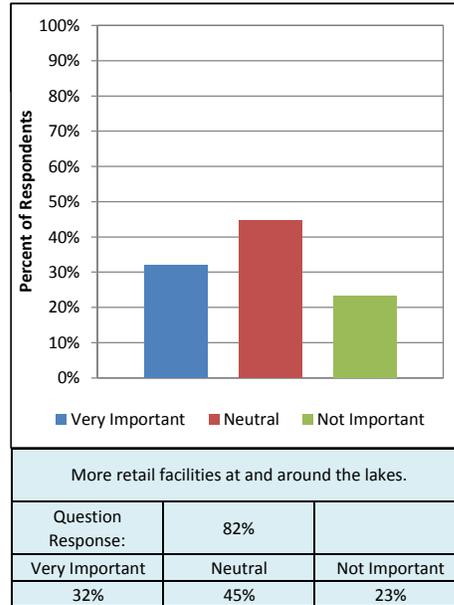
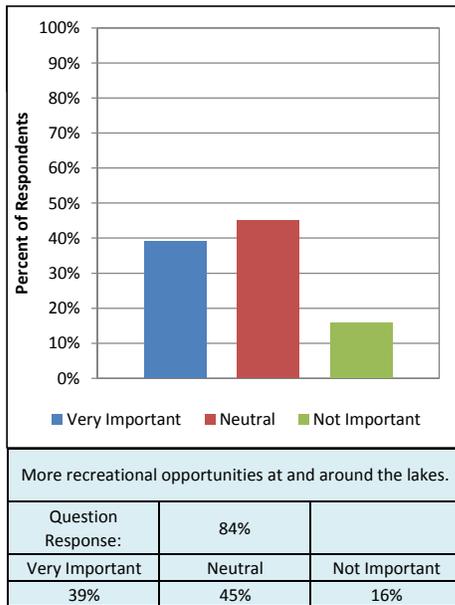
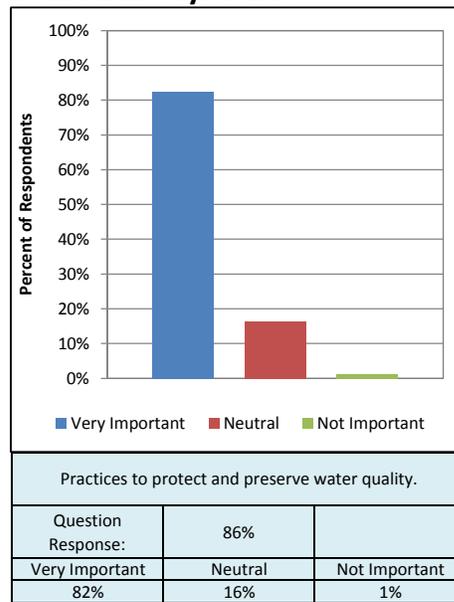
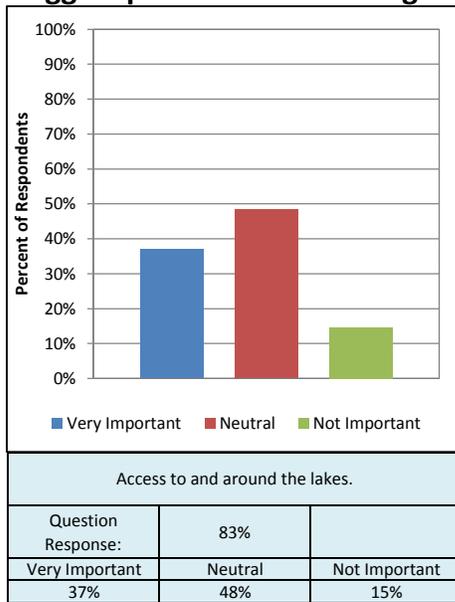


Issuance of revenue bonds			
Question Response:	78%		
Prefer Most	Prefer	Do Not Prefer	Prefer Least
16%	32%	32%	20%

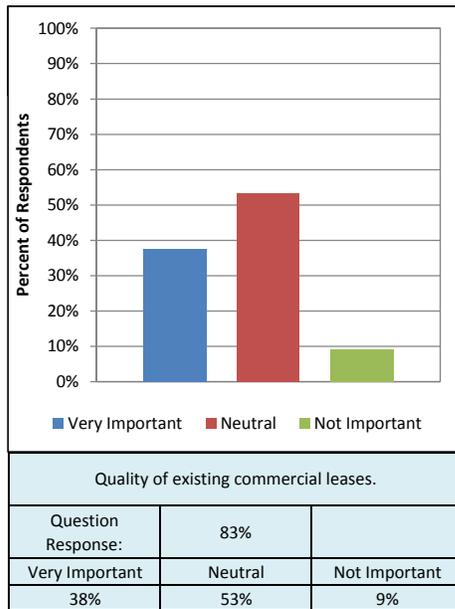
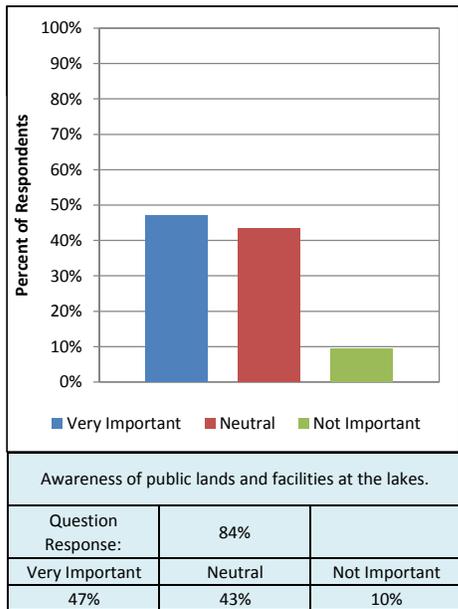
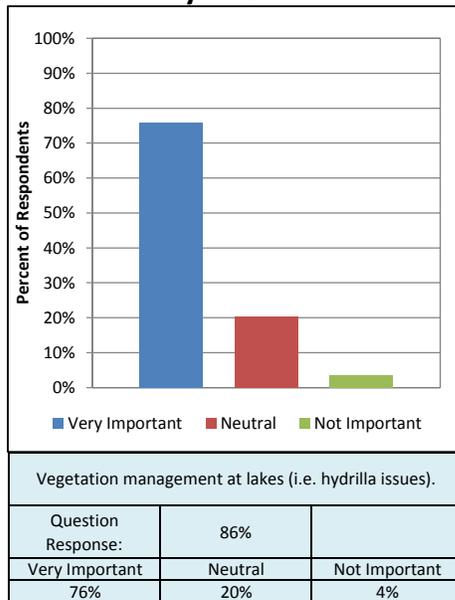
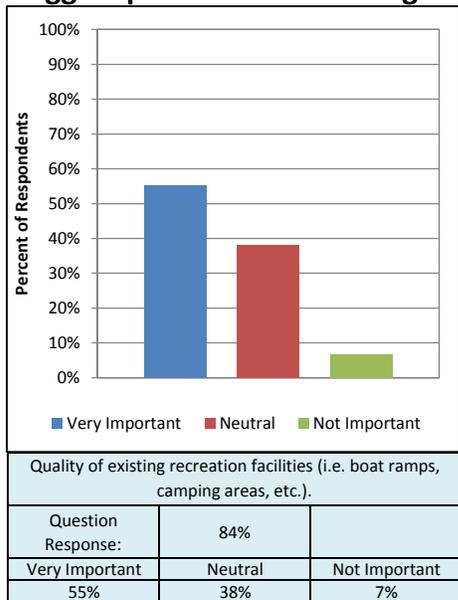


Increase City taxes			
Question Response:	82%		
Prefer Most	Prefer	Do Not Prefer	Prefer Least
5%	8%	37%	50%

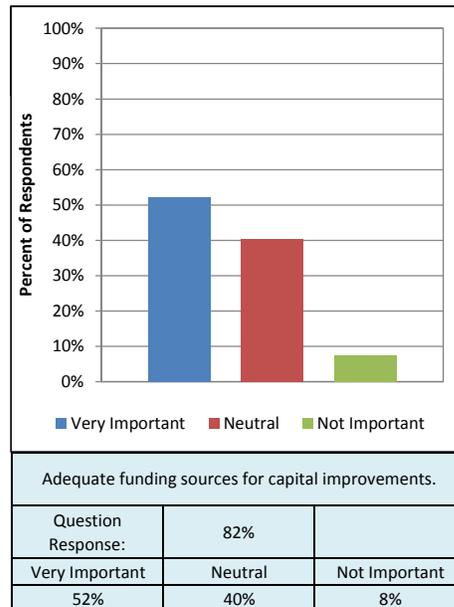
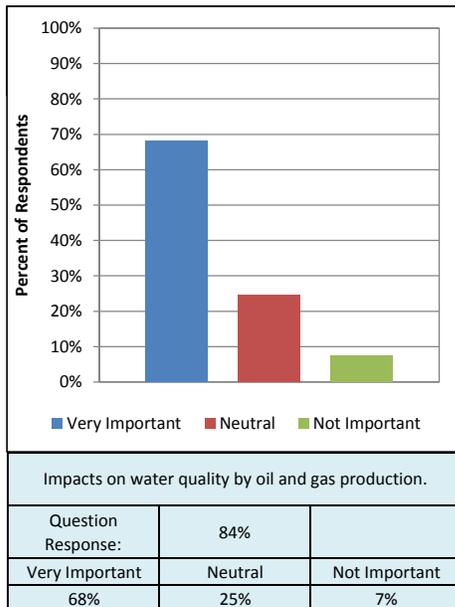
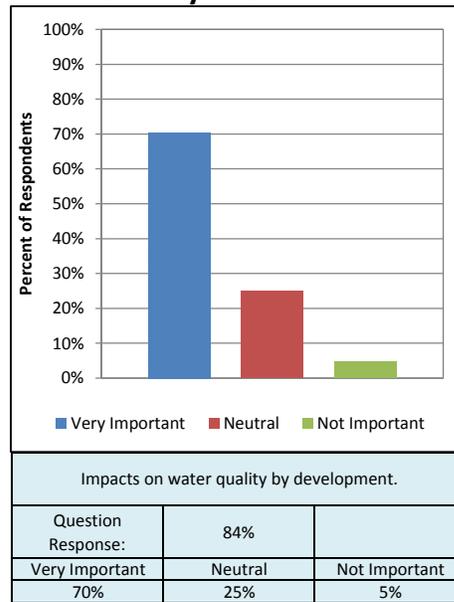
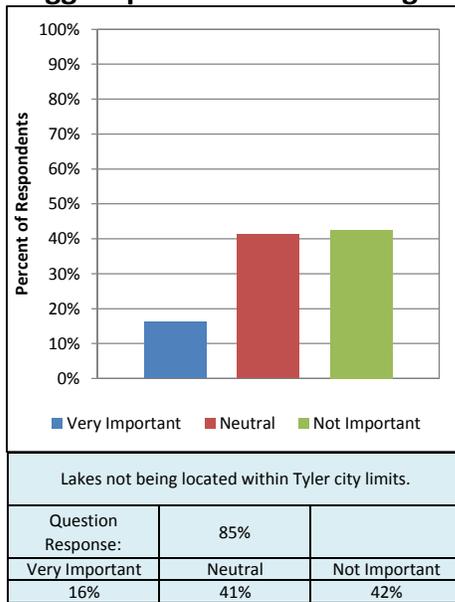
Part 4. The biggest problems or challenges at Lake Tyler and Lake Tyler East



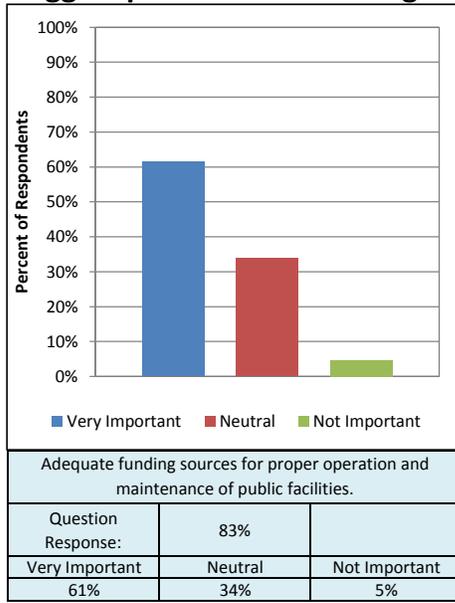
Part 4. The biggest problems or challenges at Lake Tyler and Lake Tyler East



Part 4. The biggest problems or challenges at Lake Tyler and Lake Tyler East



Part 4. The biggest problems or challenges at Lake Tyler and Lake Tyler East



Adequate funding sources for proper operation and maintenance of public facilities.

Question	83%	
Response:	Neutral	Not Important
	61%	5%