

Water Use on Tanglewood Island

A Special Biology Project

March 30, 2003

Water is a non-renewable resource. At Hubbard Lake, which is located in Stephens County, Texas, water is of vital concern to residents of the lake and the all the surrounding area. People use an enormous amount of water for personal use, for agriculture and livestock management and in industry.

“Groundwater is a non-renewable resource. Everything depends on water for survival.”

Collecting Groundwater

Approximately, half of the people living in the United States use groundwater for drinking and cooking. Many large cities such as San Antonio and Abilene depend entirely on groundwater for their public water supply. Hubbard Creek Reservoir is an example of a managed water supply.

Non-renewable Resource

According to Raven and Berg in *Environment 3*, the main goal of water management is to provide a sustainable supply of high-quality water. The Earth has plenty of water, but most of it is too salty for human use.

Raven and Berg note that the fresh water that exists on Earth is distributed unevenly which often results in serious regional water supply problems. Shortages can cause serious conflicts between residents of areas that have water and those who don't.

In order to meet the ever growing need for fresh water municipal districts sometimes construct dams and reservoirs. Reservoirs are artificial lakes which are created to store water for later use. Lake water, if used wisely, can be a viable source of water for house and garden.

Water Management

Hubbard Creek Lake lies in North Central Texas, oil and mesquite pasture country. The lake presents a rocky shoreline and abundant standing timber, which provides an ideal game and fish habitat, a feature which is not always found in this semi-arid region. The size of the lake is 15,250 acre feet of

water with a maximum depth of 60 feet.

Sustainable Water Supply

In addition to providing a water to residents, Hubbard Creek Lake has long been known as a hot spot for water sports and recreation, and for fishing. Crappie and black bass, which is a renewable food source is plentifully available. The normal water clarity of the lake is considered to be slightly stained to clear with visibility up to 6 feet.



The water level fluctuation is moderate, and sometimes prone to long periods with dropping water levels. The current water level is 14 ft below normal.

The Reservoir, as a water delivery system, was created in 1962. Two large, parallel pipe lines can provide up to 30 mgd to the Phantom delivery system in Abilene, Texas.

*Article by Richard Williams
A Special Project for Fred Kinman*

Hubbard Creek Lake

Hubbard Creek Lake lies on a tributary of the Clear Fork of the Brazos River which is five miles west of Breckenridge, in Stephens County at 32°49' N, 98°58' W. It was created to for a municipal and industrial water supply and control flooding in the Brazos River watershed.

Today the lake remains a major source of recreation and the water supply for Abilene and other communities in the Big Country. Usually, the water is fairly clear for this part of the state.

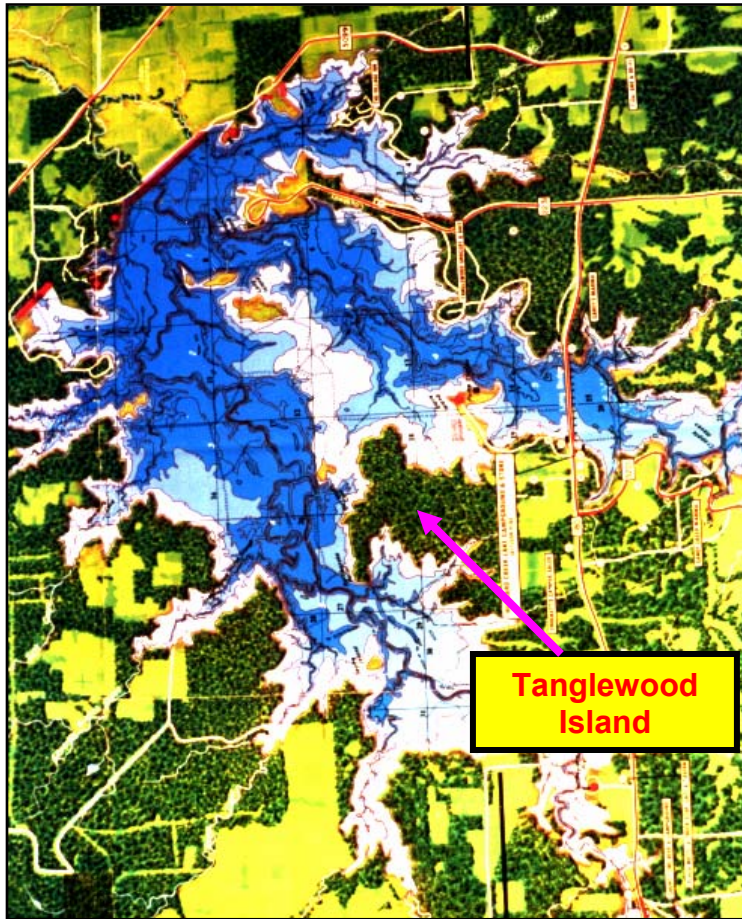
Construction began in May 1961 and the dam was completed in December 1962.

In the 1990s the reservoir had a conservation storage capacity of 317,800 acre-feet and a conservation surface area of 15,250 acres at an elevation of 1,183 feet above mean sea level, with a lake shoreline of 100 miles.

Hubbard Lake is owned by the West Central Texas Municipal Water Authority and serves as a source of water for industry, mining,

and nearby municipalities, including Abilene, Albany, Anson, and Breckenridge.

The drainage area of the reservoir is some 1,107 square miles, which includes



Hubbard Creek Lake and numerous other seasonal creeks within the watershed area.

The most recent amendment to the Water District contract, August 1985, allows the City of Abilene to obtain maximum benefit through coordinated use of water from Lake Ft. Phantom and Hubbard Creek Lake. With the construction of a second pipeline in 1988,

Abilene's daily pumpage can reach 31 million gallons per day.

A 1989 report on Economy of System Operation provides policy guidelines for the most economic operation of Lake Fort Phantom Hill and Hubbard Creek Reservoir. The policy allows for maximum daily pumpage in drought conditions, but retains the 15.5 mgd average over a period of years.

Wildlife Factors

According to *Texas Parks and Wildlife*, you can look for ducks such as Canvasback, Redhead, Northern Pintail, Gadwall, American Widgeon, Green-winged and Blue-winged Teal, Bufflehead, Ring-necked Duck, Ruddy Duck, Hooded Merganser, and

Common Golden eye.

Along the rocky shorelines, look for various shorebirds. In the winter, there is much diversity among sparrows in the grasslands. Expect to find Chipping, Field, Lark, Savannah, Song, and Vesper sparrows. The mesquite and live oaks host woodpeckers, nuthatches, and creepers.

Article compiled from Internet Online sources

Feature Article – Report from Tanglewood Island

Island Life

In 1987 my family and I purchased six lots on the water at a popular man-made lake in North Central Texas.

The land is located at Tanglewood Island, which is connected by a causeway to the mainland, near Hubbard Creek Dam, just outside Breckenridge, Texas, which is located on US 183 on the route from Graham to Abilene.

Lake Water Use

By 1989 an underground water system had been installed on the property consisting of an electric Ruth Berry water pump connected via 3 inch PVC pipe to a depth in the lake of 12 feet.



The water was pumped to 22 spigots located around the property and to a filtration system consisting of three levels of activated charcoal and sand.

The accompanying photographs, taken in 1987



and 1999, show the result of utilizing and managing water directly from the lake for the combined purposes of cooking, landscaping, garden, and lawn irrigation and for personal and recreational use. Also included in this report are tips on wildlife and fishing tactics at the lake.

The six lots were originally comprised of rocky and red sandy loam, mesquite trees and various weeds. In 1987, at the time of purchase, the land was in near original state and was semi-arid.

Beginning in 1987 various trees and bushes were planted including pine, pecan, and willow. The front yard features Xeriscape and large areas of native Johnson grass

Renewable Food Source

This reservoir is known for excellent white crappie and white bass fishing in Hubbard

and Sandy Creeks in late fall and winter. The Lake is also a popular choice for largemouth bass anglers, especially tournament anglers. Florida largemouth bass were introduced in 1979. Cat fishing is often underrated but in fact, the lake supports good populations of catfish, especially blue catfish.

The northern campground of Hubbard Creek Lake is situated in a Post Oak-mesquite savannah bordering a rocky shore - this is a large park with good access to the water, with a nice sandy beach, for the whole family.

The outlying area supports



various mammals and birds and year-round you can expect to find many White-tailed Deer, Common Gray Fox, Nine-banded Armadillo, Western Diamondback Rattlesnake, and even Bobcat! Greater Roadrunner and Wild Turkey can also be found roaming through these park grounds.

*Photographs by Richard Williams
Source: Texas Parks and Wildlife*

Fishing Tips Fishing Tips

At their Website, *Texas Sport Fishing*, winter months are described as excellent times for catching fish in the major creeks. Launch your boat at Sandy Creek and use live minnows to catch your limit of crappie.



To get to Hubbard Creek Lake from San Antonio or Austin, take US 281 north past Max Starck Dam at Marble Falls, to Burnet - turn west on US 183 for about 200 miles until you get to Breckenridge. Take Walker Blvd. west to County Road 274, turn right at the Wall Mart, after stocking up on essentials, and head for Hubbard Lake Dam, which is signposted for Public Boat Ramps.

If you enjoy fishing, look for white crappie and white bass fishing in Hubbard and Sandy Creeks in late fall and throughout the winter.

Another very effective technique during this time of year is to locate brush in 10-15 feet of water in the creek channel and vertically fish with a purple plastic worm while shallow wading in a black rubber inner-tube.

Standing timber and brush is a very good habitat for largemouth bass, so be sure to try the shallows around Tanglewood Island. According to Mr. Seth Breeding, the author of *Texas History Online*, Hubbard Creek Lake is also effectively fished using crank baits and top water lures.

Seth says that "...during late summer and early fall, schools of largemouth and white bass will often feed on the surface."

Drift fishing during the summer is also a good technique for catching large catfish, especially from a well-stocked, Glastron flat bottomed, party boat!

Fish: A renewable Sustainable Food Source

Largemouth Bass 

White Bass 

White Crappie 

Channel Catfish 

Striped Bass 

Sunfish 

Stocking History

Largemouth bass - 1967, 1968, 1971

Florida bass -- 1979, 1986, 1990

Channel catfish -- 1970

Hybrid striped bass -- 1979, 1984

Threadfin shad -- 1984

Bibliography:

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Breeding, Seth D. *Handbook of Texas History Online*.

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<http://www.texasportfishing.com/>

Texas Parks and Wildlife

<http://www.tpwd.state.tx.us/>

Abilene Chamber of Commerce

<http://www.abilenetx.com/>

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Notes:

One acre-foot of water is the amount required to cover one surface acre to a depth of one foot or 325,651 gallons.

Fishing tips compiled by Willytex, Conservationist and Resident Angler.