Volumetric Survey of Stillhouse Hollow Lake

May 2005 Survey

Prepared by:

The Texas Water Development Board

September 2006

Texas Water Development Board

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Prepared for:

Brazos River Authority

In cooperation with the

United States Army Corps of Engineers

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Executive Summary

In March of 2005, the Texas Water Development Board (TWDB) entered into agreement with the Brazos River Authority (BRA), for the purpose of performing a volumetric survey of Stillhouse Hollow Lake while the reservoir was at or near the top of the conservation pool elevation. This information was converted into updated Elevation-Volume and Elevation-Area Tables, presented in Appendices A through D. Secondarily, this data was compared to the 1995 TWDB survey of Stillhouse Hollow Lake to monitor any changes in volume or surface area. In addition, historical sediment range lines established in 1967 by the United States Army Corps of Engineers (USACE), and resurveyed in 1987 by the USACE, were compared to cross-sections of the TWDB 1995 and 2005 surveys.

The results of the TWDB 2005 Survey indicate Stillhouse Hollow Lake has a volume of 227,825 acre-feet, at conservation pool elevation, 622.0 ft, and encompasses 6,484 acres. To directly compare the 2005 and 1995 TWDB surveys, the 1995 survey results were recalculated using the boundary digitized for the 2005 survey. The 2005 survey results show that there is 1.3% more capacity in Stillhouse Hollow Lake than the 1995 revised survey would indicate. The complete results are discussed on page 5. Comparison of the TWDB 2005 Survey to the USACE original design capacity of 235,700 acre-feet and a surface area of 6,430 acres, results in a 3.3% loss in volume, and a 0.8% increase in surface area in 2005.

The results of the cross-sectional comparison of historical sediment range lines, presented in Appendix G, are variable. Some significant differences may be due to the interpolation routine of the TIN Model.

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Stillhouse Hollow Lake General Information

Stillhouse Hollow Lake is located in the Brazos River Basin five miles southwest of Belton, in Bell County, TX. See Figure 1. Stillhouse Hollow Lake was built by the United States Army Corps of Engineers to control flooding in the Brazos River Basin. The reservoir provides fish and wildlife habitat, recreation, and is a source of water supply for several surrounding communities.[1] See Table 1, on the following page, for more information about Stillhouse Hollow Dam and Reservoir.

Stillhouse Hollow Lake, originally named Lampasas Lake until changed by Public Law 86-307 on September 21, 1959, was authorized by the Flood Control Act of September 3, 1954 (PL 83-780) (HD 535/81/2). Construction was initiated June 11, 1962, and completed in July of 1968. Deliberate impoundment began February 19, 1968.[3]

The Brazos River Authority and the United States Government entered into a contractual agreement, approved April 13, 1962, for the storage of 235,700 acre-feet of water in Stillhouse Hollow Lake between elevations 572 and 622 feet above mean sea level. Permit to Appropriate Public Waters of the State of Texas, No. 2109, issued July 24, 1964, authorized the BRA to impound 235,700 acre-feet and divert or release up to 74,000 acre-feet of water per annum for municipal purposes, 74,000 acre-feet of water per annum for industrial purposes, and 74,000 acre-feet of water per annum for irrigation of lands in the Brazos River Basin and adjacent coastal areas. Additionally, the BRA was authorized to maintain a priority of right limited to 82,000 acre-feet of water per annum. Permit to Appropriate State Water No. 2109A, granted September 4, 1979, amended Permit No. 2109 to authorize the use of Stillhouse Hollow Lake for non-consumptive recreational purposes. A second amendment to Permit No. 2109, Permit No. 2109B, granted November 3, 1980, authorized the conversion of 300 acre-feet of water to mining purposes out of the 74,000 acre-feet of water originally authorized for irrigation purposes per annum. Certificate of Adjudication 12-5161, issued December 14, 1987, recognized the right of the BRA to impound 235,700 acre-feet of water in Stillhouse Hollow Lake between elevations 569 and 622 ft and changed the priority right to 67,768 acre-feet per annum from 82,000 acre-feet per annum. However, for the purpose of system operation,

the BRA is allowed to exceed that and annually divert and use 74,000 acre-feet of water for municipal purposes, 74,000 acre-feet of water for industrial purposes, 73,700 acre-feet of water for irrigation purposes, and 300 acre-feet of water for mining purposes. All diversions and use exceeding the priority right are charged against the sum of priority rights of the other reservoirs included in the System Operation Order, set by Commission Order of July 23, 1964.

Table 1. Pertinent Data for Stillhouse Hollow Lake and Stillhouse Hollow Dam[2]

Owner of Stillhouse Hollow Lake and Facilities
United States of America

Operator of Stillhouse Hollow Lake and Facilities
U.S. Army Corps of Engineers

Engineer
U.S. Army Corps of Engineers (Design)

Location of Dam
On the Lampasas River 16 miles upstream of the confluence of the Lampasas and Leon Rivers, which flow into Little River, Brazos River Basin, Bell County, TX

Drainage Area
1,318 square miles

Dam

Type	Rolled Earth Fill
Length (total)	15,624 ft (including spillway and dike)
Maximum Height	200 ft
Top Width	42 ft (dike 10 ft)

Spillway

Type	Broadcrested
Length	1,650 ft net at crest
Crest Elevation	666.0 ft above msl
Control	None

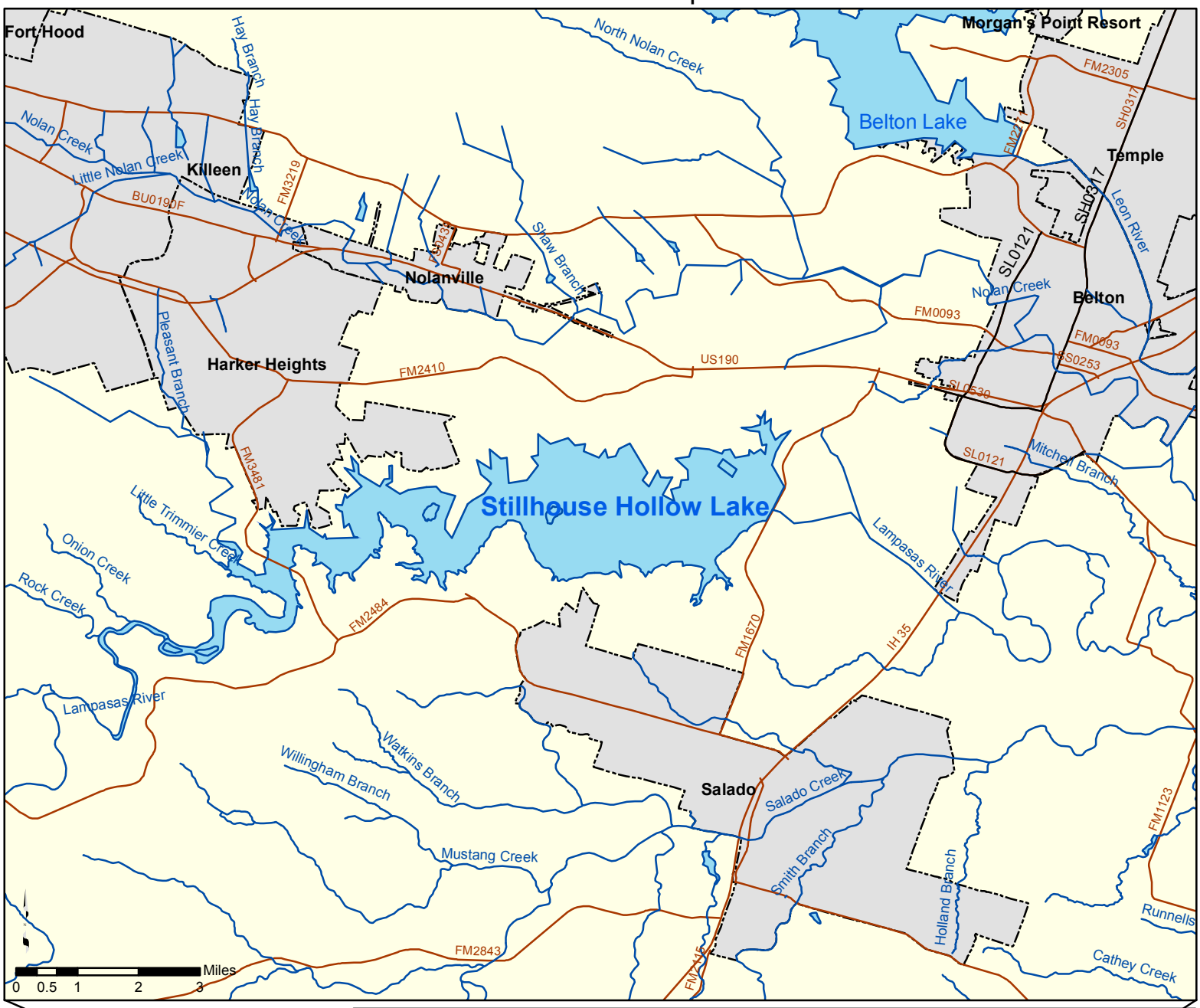
Outlet Works

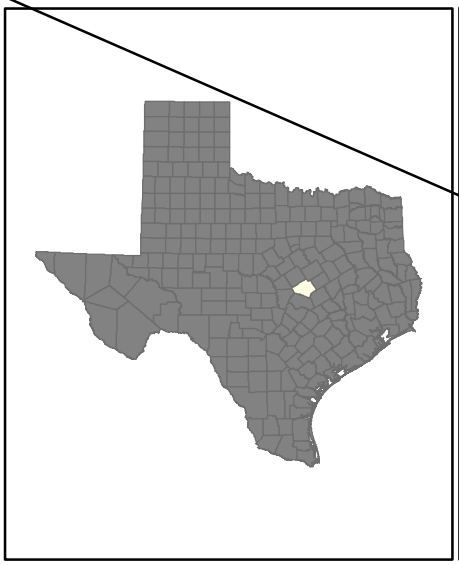
Type	1 gate controlled conduit
Dimension	12 ft diameter
Control	2- 5.67 ft x 12 ft hydraulically operated slide gates
Invert Elevation	515.0 ft above msl

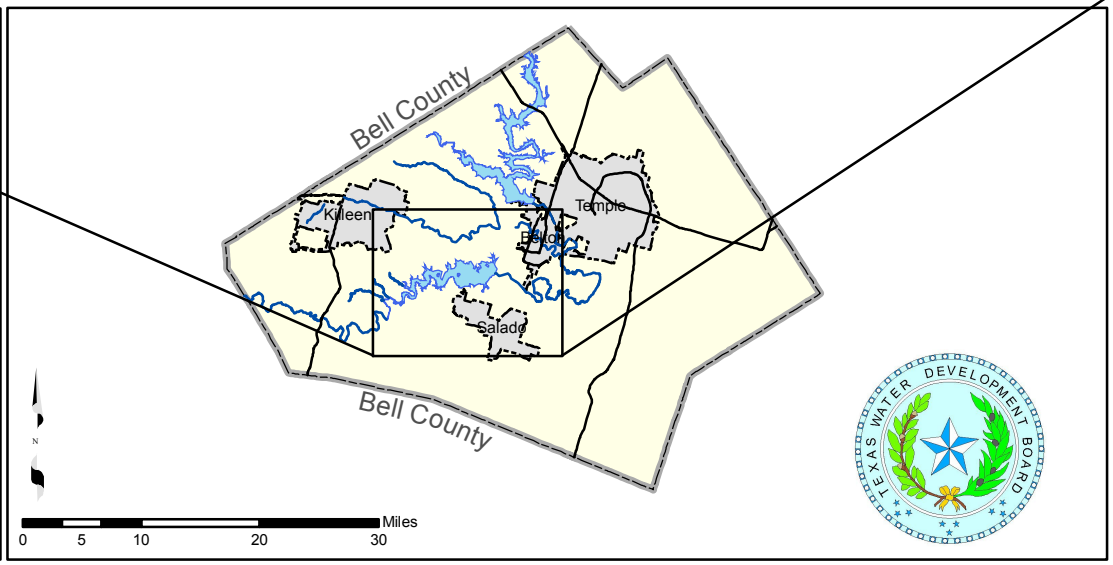
Reservoir Data (Based on TWDB 2005 Volumetric Survey)

Feature	**Elevation (ft above msl)**	**Capacity (Acre-feet)**	**Area (Acres)**
Top of Dam	698.0	N/A	N/A
Top of Flood Control Pool And Spillway Crest	666.0	N/A	N/A
Top of Conservation Pool	622.0	227,825	6,484

Figure 1
Stillhouse Hollow Lake
Location Map







TEXAS WATER DEVELOPMENT BOARD

Volumetric Survey of Stillhouse Hollow Lake

Introduction

In March of 2005, the Texas Water Development Board entered into agreement with the Brazos River Authority, for the purpose of performing a volumetric survey of Stillhouse Hollow Lake while the reservoir was near the top of the conservation pool elevation, and converting this information into updated Elevation-Volume and Elevation-Area Tables. Secondarily, this data was compared to the 1995 TWDB survey of Stillhouse Hollow Lake to monitor any changes in volume or surface area. In addition, historical sediment range lines established in 1967 by the United States Army Corps of Engineers, and resurveyed in 1987 by the USACE, were compared to cross-sections of the TWDB 1995 and 2005 surveys.

Hydrographic Survey

The volumetric survey of Stillhouse Hollow Lake occurred between May 25 and June 1 of 2005, while the water surface elevation was above the conservation pool elevation of 622.0 ft above mean sea level (msl).[2] The water surface elevation varied between 622.09 ft and 622.62 ft above msl during the TWDB survey. The survey team used two boats equipped with depth sounders, velocity profilers, and integrated Differential Global Positioning System (DGPS) equipment to navigate along pre-planned range lines spaced approximately 500 feet apart in a perpendicular fashion to the original stream channel. These lines were originally plotted for the TWDB 1995 Survey of Stillhouse Hollow Lake. During the 2005 survey, the team navigated over 180 miles of range lines and collected over 102,000 data points. In 1995, less than 58,000 data points were collected.

The depth sounders were calibrated each day using the velocity profilers to measure the speed of sound in the water column and a weighted tape or stadia rod to verify the depth reading. The average speed of sound through the water column varied between 4,843 and 4,922 feet per second during the 2005 survey.

Survey Results

The results of the TWDB 2005 Survey indicate Stillhouse Hollow Lake has a volume of 227,825 acre-feet and encompasses 6,484 acres at conservation pool elevation. Table 2 compares these results to those of previous surveys of Stillhouse Hollow Lake.

Table 2: Area and Volume Comparisons of Stillhouse Hollow Lake

	USACE		TWDB	
Feature	Original Design	Resurvey	Volumetric Survey	
Year	1967	1987	1995 (Revised 2005)	2005
Area (acres)	6,430	N/A	6,484	6,484
Volume (acre-feet)	235,700	N/A	225,002	227,825

The TWDB 1995 Survey was revised using the 2005 boundary for the purpose of directly comparing any changes in volume between 1995 and 2005. Originally, the 1995 boundary was digitized from 1:24,000 scale USGS Topographic Maps[3], whereas, the 2005 boundary was digitized from 1995-1996 1:12,000 scale aerial photographs. The Model Boundary section on the next page discusses the use of aerial photographs to digitize the 2005 reservoir boundary.

The addition of a shallow water boat during the TWDB 2005 Survey allowed data to be collected in shallow areas near the shore and in the upper reaches. The Lampasas River, for instance, was inaccessible by boat during the 1995 survey. The TWDB 2005 survey data is presented in Figure 2. Figure 3 compares the data collected in 2005 to the data the TWDB collected in 1995.

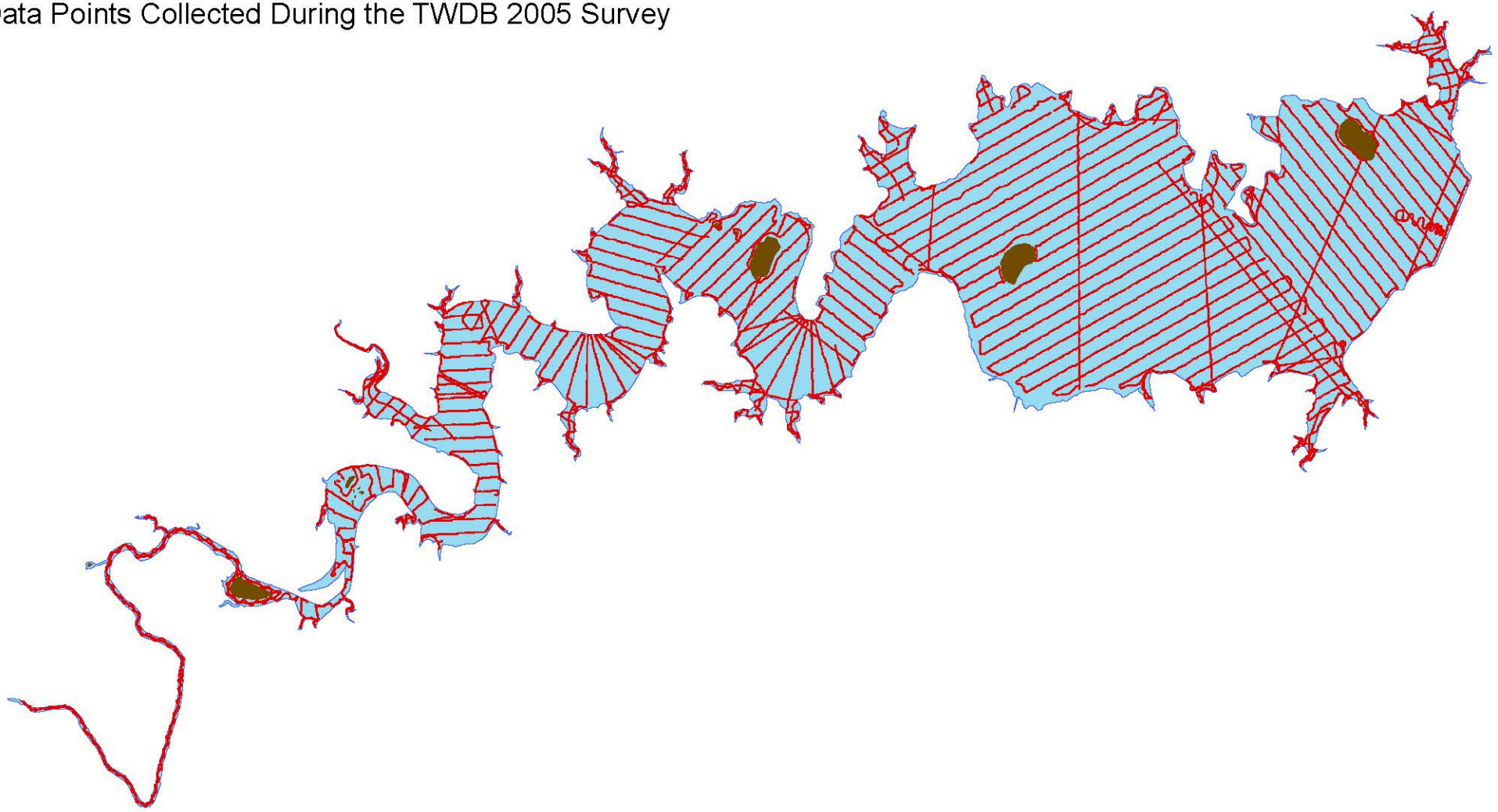
A revised Triangular Irregular Network (TIN) Model using the 1995 data with the 2005 boundary was created and compared to the 2005 model. The additional data in 2005 resulted in a better interpolation of the TIN Model around the edges and may explain the 1.3% increase in volume in the 2005 survey results.

The TWDB 2005 Survey indicates a 3.3% loss of volume compared to the original design, and a 0.8% increase in surface area. Some differences between the original design and the TWDB surveys may be due to methodological differences used in computing the area and volume and direct comparisons are not recommended.[4]

Figure 2

Stillhouse Hollow Lake

Data Points Collected During the TWDB 2005 Survey



N

0 0.5 1 2 Miles

TEXAS WATER DEVELOPMENT BOARD

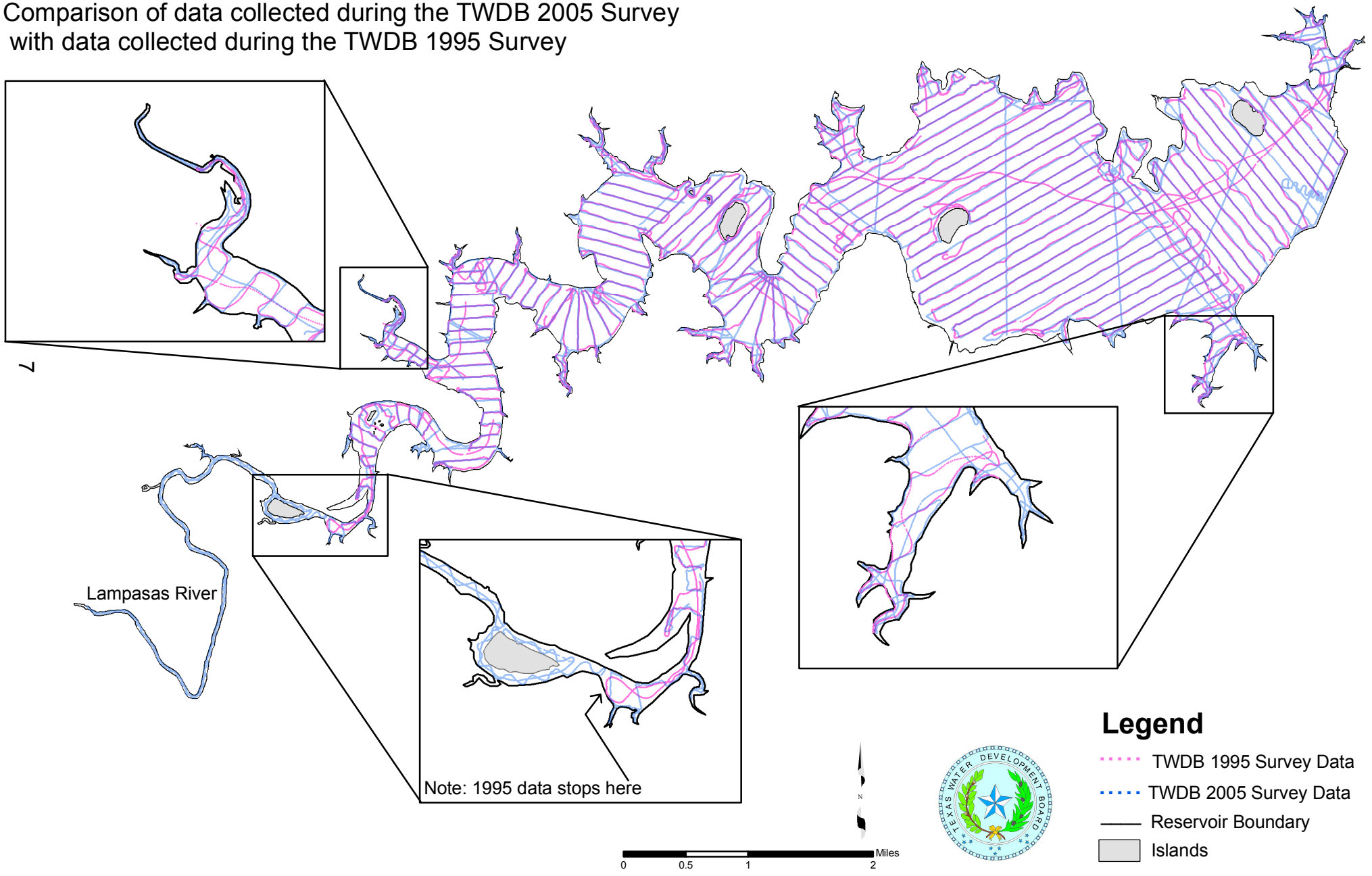
Legend

- Data Points
- Islands
- Lake Boundary

Figure 3

Stillhouse Hollow Lake

Comparison of data collected during the TWDB 2005 Survey
with data collected during the TWDB 1995 Survey



Data Processing

Datum

The vertical datum used during this survey is that used by the United States Geological Survey (USGS) for the reservoir elevation gauge USGS 08104050 Stillhouse Hollow Lk nr Belton, TX.[5] The datum for this gauge is reported as mean sea level (msl), thus elevations reported here are in feet (ft) above msl. Volume and area calculations in this report are referenced to water levels provided by the USGS gauge. The horizontal datum used for this report is NAD83 State Plane Texas Central Zone.

Model Boundary

The reservoir boundary was digitized from digital aerial photographs using Environmental Systems Research Institute's (ESRI) ArcGIS 9.1 software. The aerial photographs, or digital orthophoto quadrangle images (DOQs), used for Stillhouse Hollow Lake were Killeen, Nolanville and Youngsport, photographed between January and February of 1995. At the time of the photographs the water surface elevation varied between 622.08 and 622.31 ft, above the conservation pool elevation of 622.0 ft. Staff digitized the reservoir boundary at the land water interface visible in the aerial photographs. Although the water level was just above conservation pool in the photographs, at the recommended mapping scale of 1:12,000, the difference in water surface elevation at the land water interface was indiscernible between adjoining photographs of 622.08 and 622.31 ft. The digitized shoreline measures approximately 72 miles of which approximately 8.5 miles of shoreline near the dam were at elevation 622.31 ft. Therefore, for modeling purposes, staff rounded down and labeled the digitized boundary elevation 622.0 ft.

VARGIS of Texas LLC produced the DOQs for the Texas Orthoimagery Program (TOP). The DOQs produced for the Department of Information Resources and the GIS Planning Council under the TOP reside in the public domain. More information can be obtained on the Internet at http://www.tnris.state.tx.us/DigitalData/doqs.htm.

Triangular Irregular Network (TIN) Model

Upon completion of data collection, the raw data files are edited in HYPACK MAX to remove any data anomalies. The water surface elevations for each respective day are applied and the depths are converted to corresponding elevations and exported as a MASS points file. The MASS points and boundary files are used to create a Triangulated Irregular Network (TIN) model, a function of the 3D Analyst Extension of ArcGIS. The model uses Delauney's criteria for triangulation to place a triangle between three non-uniformly spaced points, including the boundary.[6]

Using Arc/Info software, volumes and areas are calculated from the TIN Model for the entire lake at one-tenth of a foot intervals, from elevation 504.4 ft to elevation 622.0 ft. The Elevation-Volume and Elevation-Area Tables, updated for 2005, are presented in Appendices A and B, respectively. The 1995 Revised Survey Elevation-Volume and Elevation-Area Tables are presented in Appendices C and D, respectively. An Elevation-Volume graph comparing the TWDB 2005 Survey with the 1995 TWDB Revised Survey is presented in Appendix E. A similar Elevation-Area graph is presented in Appendix F.

A raster image of the TIN Model was used to create Figure 4, an Elevation Relief Map representing the topography of the lake bottom, Figure 5, a map showing shaded depth ranges for Stillhouse Hollow Lake, and Figure 6, a 10 ft contour map. A raster is an interpolation of the TIN Model at a specified resolution. TWDB staff used a cell size of 30 feet to average the values of the TIN to produce a smooth elevation and depth gradient and smooth contours.

Sediment Range Lines

In 1967, the USACE established nine sediment range lines throughout Stillhouse Hollow Lake to measure sediment accumulation over time. In 1987, the USACE resurveyed these range lines. TWDB staff scanned and digitized these cross-sections to conduct a cross-sectional comparison of the 1967 and 1987 surveys with the TWDB 1995 and 2005 surveys. The results are presented in Appendix G along with a map locating

the USACE historical sediment range lines and Table 3, a list of the endpoints for each line. Some variance between the USACE cross-sections and the TWDB cross-sections may be a result of the interpolation routine of the TIN Model.

References

1. USACE Fort Worth District Stillhouse Hollow Lake Official Homepage, April 13, 2005, http://www.swf-we.usace.army.mil/stillhouse/, 27 October, 2005.

2. United States Corps of Engineers, Fort Worth District, Reservoir Control Office. 1981. <http://www.swf-wc.usace.army.mil/> Reservoir Pertinent Data. 19 October 2005.

3. Texas Water Development Board, 1995, "Volumetric Survey of Stillhouse Hollow Lake".

4. Blanton III, James O. Bureau of Reclamation. 1982. "Procedures for Monitoring Reservoir Sedimentation."

5. United States Geological Survey, http://tx.usgs.gov/ 02 June 2005.

6. ESRI, Environmental Systems Research Institute, 1995. ARC/INFO Surface Modeling and Display, TIN Users Guide

Figure 4

Stillhouse Hollow Lake

Elevation Relief Map

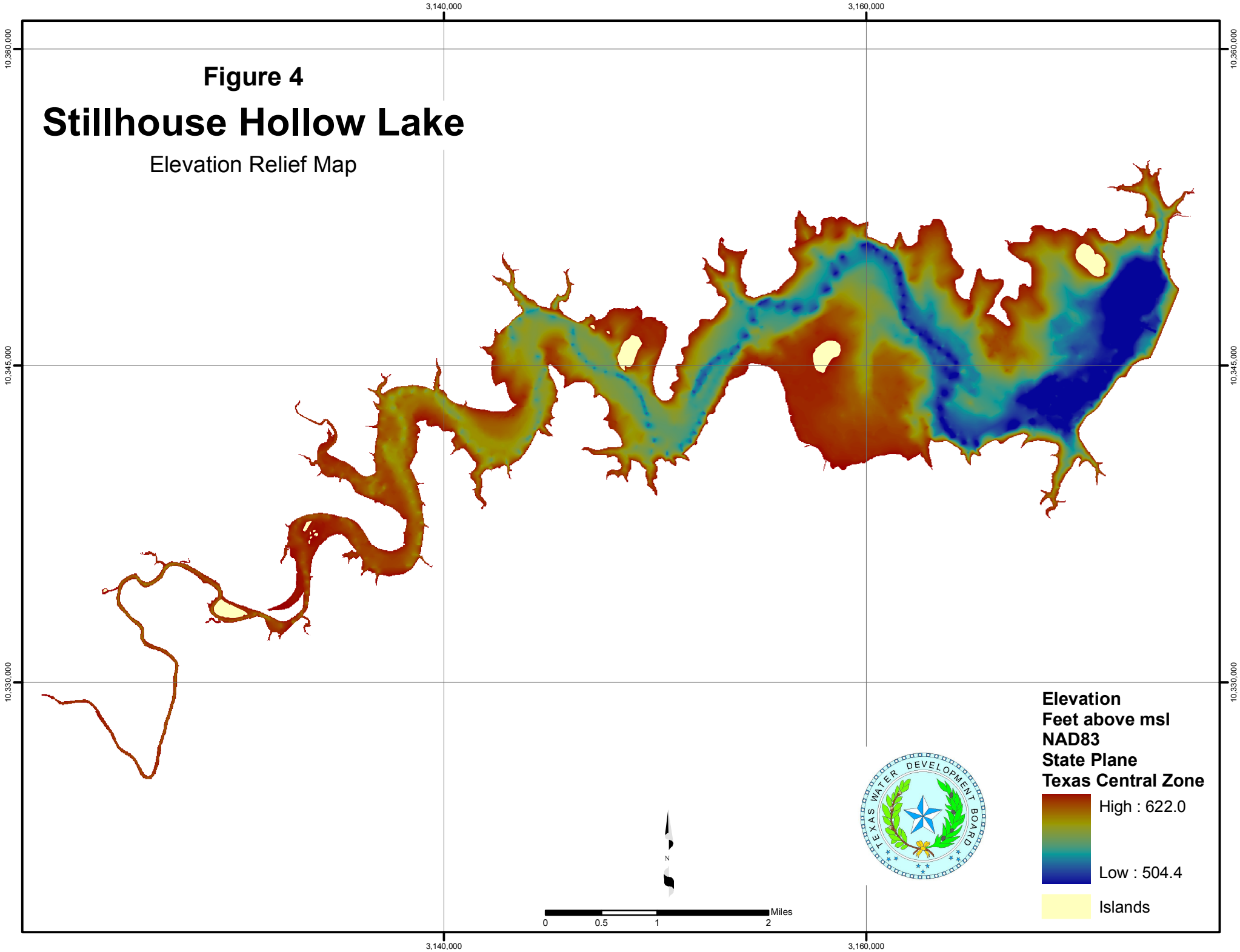
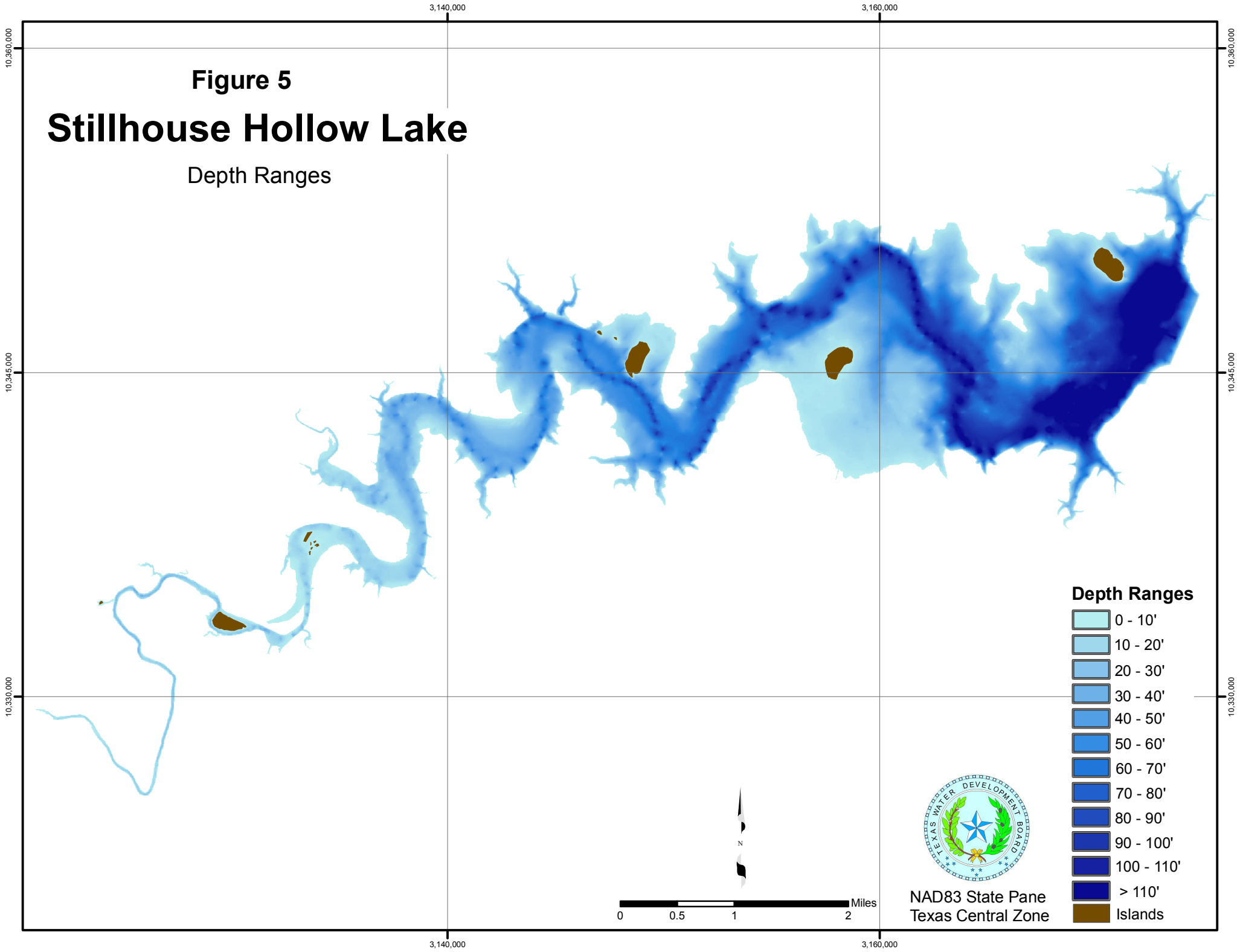


Figure 5

Stillhouse Hollow Lake

Depth Ranges



Appendix A

Stillhouse Hollow Lake

RESERVOIR VOLUME TABLE

TEXAS WATER DEVELOPMENT BOARD — MAY 2005 SURVEY

Conservation Pool Elevation 622.0'

VOLUME IN ACRE-FEET — ELEVATION INCREMENT IS ONE TENTH FOOT

ELEVATION in Feet	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
504		0	0	0	0	0	0	0	0	0
505	0	0	0	0	0	0	0	0	0	0
506	1	1	1	1	1	1	1	1	1	1
507	1	1	2	2	2	2	2	2	2	3
508	3	3	3	3	3	4	4	4	4	4
509	5	5	5	5	5	6	6	6	7	7
510	7	8	8	8	9	9	9	10	10	11
511	11	12	12	13	13	14	14	15	16	16
512	17	18	18	19	20	21	22	23	24	25
513	26	27	28	29	30	31	32	34	35	36
514	38	39	41	42	44	45	47	48	50	52
515	54	56	58	60	62	64	66	68	70	73
516	75	78	81	84	87	90	94	97	101	105
517	109	114	119	124	129	134	140	146	153	159
518	166	173	181	189	197	205	213	222	231	240
519	249	259	269	279	289	299	310	321	332	343
520	354	366	378	389	402	414	426	439	452	465
521	479	492	506	521	535	550	565	581	596	613
522	629	646	663	680	698	717	735	754	774	793
523	814	834	855	877	898	920	943	965	988	1,012
524	1,035	1,059	1,083	1,107	1,131	1,156	1,181	1,206	1,231	1,256
525	1,282	1,308	1,334	1,360	1,387	1,414	1,441	1,468	1,495	1,522
526	1,550	1,578	1,606	1,634	1,663	1,692	1,721	1,750	1,779	1,809
527	1,838	1,868	1,898	1,928	1,959	1,990	2,020	2,051	2,083	2,114
528	2,146	2,177	2,209	2,241	2,274	2,306	2,339	2,372	2,405	2,438
529	2,472	2,505	2,539	2,573	2,608	2,642	2,677	2,712	2,747	2,782
530	2,817	2,853	2,889	2,925	2,962	2,998	3,035	3,072	3,110	3,147
531	3,185	3,223	3,261	3,299	3,338	3,377	3,416	3,455	3,494	3,534
532	3,574	3,614	3,655	3,695	3,736	3,777	3,819	3,860	3,902	3,944
533	3,986	4,029	4,071	4,114	4,157	4,200	4,244	4,287	4,331	4,375
534	4,420	4,464	4,509	4,554	4,600	4,645	4,691	4,737	4,783	4,829
535	4,876	4,922	4,969	5,016	5,063	5,111	5,158	5,206	5,254	5,302
536	5,350	5,398	5,447	5,495	5,544	5,593	5,642	5,692	5,741	5,791
537	5,841	5,891	5,942	5,992	6,043	6,094	6,145	6,196	6,248	6,299
538	6,351	6,403	6,455	6,507	6,560	6,613	6,666	6,719	6,772	6,825
539	6,879	6,933	6,987	7,041	7,096	7,150	7,205	7,260	7,315	7,370
540	7,426	7,482	7,538	7,594	7,650	7,707	7,763	7,820	7,878	7,935
541	7,993	8,051	8,109	8,167	8,226	8,284	8,343	8,403	8,462	8,522
542	8,582	8,643	8,703	8,764	8,825	8,887	8,949	9,010	9,073	9,135
543	9,198	9,261	9,324	9,388	9,452	9,516	9,581	9,645	9,710	9,776
544	9,841	9,907	9,974	10,040	10,107	10,174	10,241	10,309	10,377	10,445
545	10,514	10,583	10,652	10,722	10,792	10,862	10,933	11,004	11,075	11,147
546	11,219	11,291	11,363	11,436	11,510	11,583	11,657	11,731	11,806	11,881
547	11,956	12,031	12,107	12,183	12,259	12,336	12,413	12,490	12,568	12,646
548	12,724	12,803	12,882	12,962	13,041	13,122	13,202	13,283	13,364	13,446
549	13,527	13,610	13,692	13,775	13,858	13,942	14,026	14,110	14,194	14,279
550	14,364	14,450	14,536	14,622	14,709	14,796	14,883	14,970	15,058	15,147
551	15,236	15,325	15,414	15,504	15,594	15,685	15,776	15,867	15,959	16,051
552	16,144	16,237	16,330	16,423	16,517	16,611	16,706	16,801	16,896	16,992
553	17,088	17,184	17,281	17,378	17,476	17,574	17,672	17,771	17,870	17,969
554	18,069	18,169	18,270	18,371	18,472	18,574	18,677	18,779	18,882	18,986
555	19,090	19,194	19,299	19,404	19,510	19,616	19,723	19,830	19,937	20,045
556	20,153	20,261	20,370	20,479	20,589	20,699	20,810	20,921	21,032	21,144
557	21,257	21,369	21,483	21,596	21,710	21,825	21,940	22,055	22,171	22,287
558	22,404	22,521	22,639	22,757	22,875	22,994	23,113	23,233	23,353	23,473
559	23,594	23,715	23,837	23,959	24,082	24,205	24,328	24,452	24,576	24,700
560	24,825	24,950	25,075	25,201	25,328	25,454	25,581	25,709	25,837	25,965
561	26,094	26,223	26,353	26,483	26,613	26,744	26,876	27,007	27,140	27,272

Appendix A

RESERVOIR VOLUME TABLE (Continued)

TEXAS WATER DEVELOPMENT BOARD — MAY 2005 SURVEY

Conservation Pool Elevation 622.0'

VOLUME IN ACRE-FEET — ELEVATION INCREMENT IS ONE TENTH FOOT

ELEVATION in Feet	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
562	27,405	27,539	27,673	27,807	27,942	28,078	28,214	28,350	28,487	28,624
563	28,762	28,900	29,039	29,178	29,318	29,458	29,598	29,740	29,881	30,024
564	30,166	30,310	30,454	30,598	30,743	30,888	31,034	31,181	31,328	31,476
565	31,624	31,773	31,922	32,072	32,222	32,373	32,524	32,676	32,829	32,982
566	33,136	33,290	33,445	33,600	33,756	33,913	34,069	34,227	34,385	34,544
567	34,703	34,862	35,022	35,183	35,344	35,505	35,667	35,830	35,993	36,157
568	36,321	36,485	36,651	36,816	36,983	37,149	37,317	37,485	37,653	37,822
569	37,991	38,161	38,332	38,503	38,675	38,847	39,019	39,192	39,366	39,540
570	39,715	39,890	40,066	40,242	40,419	40,596	40,774	40,952	41,131	41,310
571	41,489	41,669	41,850	42,031	42,213	42,395	42,577	42,760	42,944	43,128
572	43,313	43,498	43,683	43,869	44,056	44,243	44,431	44,619	44,808	44,997
573	45,187	45,377	45,568	45,760	45,951	46,144	46,336	46,530	46,724	46,918
574	47,113	47,308	47,504	47,700	47,897	48,094	48,292	48,491	48,690	48,889
575	49,090	49,290	49,491	49,693	49,895	50,098	50,301	50,505	50,710	50,915
576	51,120	51,326	51,533	51,740	51,948	52,156	52,365	52,575	52,785	52,995
577	53,206	53,418	53,630	53,843	54,057	54,271	54,485	54,701	54,917	55,133
578	55,350	55,568	55,787	56,006	56,225	56,446	56,666	56,888	57,110	57,333
579	57,557	57,781	58,006	58,232	58,458	58,685	58,912	59,141	59,370	59,599
580	59,829	60,060	60,291	60,523	60,755	60,988	61,222	61,456	61,691	61,927
581	62,163	62,399	62,637	62,875	63,113	63,352	63,592	63,832	64,073	64,315
582	64,557	64,800	65,043	65,287	65,532	65,777	66,022	66,269	66,516	66,764
583	67,012	67,261	67,511	67,761	68,012	68,264	68,516	68,769	69,023	69,278
584	69,533	69,788	70,045	70,302	70,560	70,818	71,077	71,337	71,597	71,859
585	72,120	72,383	72,646	72,910	73,174	73,440	73,705	73,972	74,239	74,507
586	74,775	75,044	75,314	75,584	75,855	76,127	76,399	76,672	76,945	77,219
587	77,494	77,769	78,045	78,322	78,599	78,877	79,156	79,435	79,715	79,996
588	80,277	80,559	80,842	81,126	81,410	81,695	81,980	82,266	82,553	82,841
589	83,129	83,418	83,707	83,998	84,289	84,580	84,873	85,166	85,460	85,754
590	86,050	86,345	86,642	86,939	87,237	87,536	87,835	88,135	88,436	88,738
591	89,040	89,342	89,646	89,950	90,255	90,561	90,867	91,174	91,482	91,790
592	92,099	92,409	92,720	93,031	93,344	93,657	93,970	94,285	94,600	94,916
593	95,233	95,550	95,869	96,188	96,509	96,830	97,152	97,475	97,799	98,123
594	98,449	98,776	99,103	99,431	99,760	100,090	100,421	100,752	101,084	101,417
595	101,751	102,085	102,420	102,756	103,093	103,430	103,768	104,107	104,447	104,787
596	105,128	105,470	105,813	106,156	106,501	106,845	107,191	107,538	107,885	108,233
597	108,581	108,930	109,281	109,631	109,983	110,335	110,688	111,042	111,397	111,752
598	112,108	112,465	112,823	113,181	113,540	113,900	114,260	114,621	114,983	115,346
599	115,710	116,074	116,439	116,805	117,171	117,538	117,906	118,275	118,645	119,016
600	119,387	119,759	120,132	120,505	120,880	121,255	121,631	122,008	122,386	122,765
601	123,144	123,524	123,905	124,287	124,670	125,053	125,437	125,822	126,208	126,595
602	126,982	127,370	127,760	128,150	128,541	128,933	129,325	129,719	130,113	130,508
603	130,904	131,301	131,699	132,098	132,498	132,898	133,299	133,701	134,104	134,508
604	134,913	135,319	135,725	136,133	136,541	136,951	137,361	137,773	138,185	138,599
605	139,013	139,428	139,845	140,262	140,681	141,100	141,521	141,942	142,365	142,788
606	143,213	143,639	144,066	144,493	144,923	145,353	145,784	146,216	146,649	147,084
607	147,520	147,957	148,395	148,834	149,275	149,717	150,160	150,604	151,049	151,496
608	151,943	152,392	152,841	153,292	153,744	154,197	154,650	155,106	155,561	156,019
609	156,477	156,936	157,396	157,857	158,320	158,784	159,248	159,714	160,181	160,650
610	161,119	161,590	162,062	162,534	163,009	163,484	163,960	164,438	164,917	165,397
611	165,878	166,361	166,845	167,330	167,816	168,304	168,793	169,283	169,774	170,267
612	170,762	171,257	171,754	172,252	172,752	173,253	173,755	174,259	174,764	175,270
613	175,778	176,286	176,797	177,309	177,823	178,338	178,854	179,372	179,891	180,412
614	180,935	181,458	181,984	182,511	183,040	183,569	184,100	184,633	185,167	185,702
615	186,239	186,777	187,316	187,857	188,400	188,944	189,489	190,036	190,584	191,134
616	191,685	192,237	192,791	193,347	193,904	194,462	195,022	195,584	196,147	196,712
617	197,278	197,847	198,417	198,989	199,564	200,140	200,719	201,300	201,883	202,470
618	203,058	203,650	204,244	204,839	205,437	206,036	206,637	207,240	207,843	208,449
619	209,055	209,662	210,271	210,881	211,493	212,105	212,718	213,334	213,949	214,567
620	215,185	215,805	216,426	217,048	217,672	218,297	218,923	219,551	220,180	220,810
621	221,441	222,074	222,708	223,343	223,980	224,617	225,256	225,897	226,538	227,181
622	227,825									

Appendix B

Stillhouse Hollow Lake

RESERVOIR AREA TABLE

TEXAS WATER DEVELOPMENT BOARD — MAY 2005 SURVEY

Conservation Pool Elevation 622.0'

AREA IN ACRES — ELEVATION INCREMENT IS ONE TENTH FOOT

ELEVATION in Feet	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
504		0	0	0	0	0	0	0	0	0
505	0	0	0	0	0	0	0	1	1	1
506	1	1	1	1	1	1	1	1	1	1
507	1	1	1	1	1	1	1	1	1	1
508	2	2	2	2	2	2	2	2	2	2
509	2	2	2	2	3	3	3	3	3	3
510	3	3	4	4	4	4	4	4	4	5
511	5	5	5	5	5	6	6	6	7	7
512	7	7	8	8	8	9	9	9	10	10
513	10	11	11	11	12	12	12	13	13	14
514	14	14	15	15	16	16	17	17	17	18
515	18	19	19	20	20	21	22	23	24	25
516	26	27	29	30	32	34	36	38	40	42
517	44	46	48	51	54	57	59	62	65	68
518	71	73	76	79	81	83	85	88	90	92
519	95	97	99	101	103	105	107	109	111	112
520	114	116	118	120	122	124	126	128	131	133
521	136	138	141	144	147	150	153	156	159	163
522	166	170	173	177	181	184	188	192	196	200
523	204	208	212	215	219	222	225	228	231	233
524	236	238	241	243	245	247	249	252	254	256
525	258	260	262	264	266	268	270	272	274	276
526	278	280	282	284	286	288	290	292	294	296
527	298	300	302	304	305	307	309	311	313	315
528	317	319	321	322	324	326	328	330	332	334
529	336	338	340	341	343	345	348	350	352	354
530	356	358	361	363	365	367	370	372	374	376
531	378	380	383	385	387	389	391	394	396	398
532	401	403	406	408	410	412	414	417	419	421
533	423	425	427	429	431	433	436	438	440	443
534	445	448	450	452	454	456	458	460	462	464
535	465	467	469	471	472	474	476	477	479	481
536	482	484	486	488	490	491	493	495	497	499
537	501	502	504	506	508	510	512	513	515	517
538	519	521	523	524	526	528	530	532	534	535
539	537	539	541	543	545	547	549	551	553	555
540	556	559	561	563	565	567	569	571	573	575
541	578	580	582	585	587	589	592	594	597	600
542	602	605	608	610	613	616	618	621	624	627
543	629	632	635	638	641	643	646	649	652	655
544	658	661	664	666	669	672	675	678	681	684
545	688	691	694	698	701	705	708	712	715	718
546	721	725	728	731	734	737	740	743	746	749
547	753	756	759	762	765	768	772	775	779	782
548	786	789	793	796	800	803	807	810	814	817
549	820	824	827	830	834	837	840	844	847	850
550	854	857	860	864	867	871	875	878	882	885
551	889	893	897	900	905	909	913	916	920	923
552	927	930	934	937	941	944	948	951	955	958
553	962	966	969	973	977	981	985	989	993	997
554	1,001	1,005	1,008	1,013	1,017	1,021	1,025	1,029	1,034	1,038
555	1,042	1,046	1,050	1,054	1,059	1,063	1,067	1,071	1,075	1,079
556	1,083	1,087	1,091	1,095	1,100	1,104	1,108	1,112	1,117	1,121
557	1,125	1,130	1,134	1,139	1,143	1,148	1,152	1,156	1,161	1,165
558	1,169	1,174	1,178	1,182	1,186	1,190	1,194	1,198	1,203	1,207
559	1,211	1,215	1,219	1,223	1,227	1,231	1,234	1,238	1,242	1,246
560	1,250	1,253	1,257	1,261	1,265	1,269	1,273	1,278	1,282	1,286
561	1290	1294	1298	1302	1307	1311	1315	1320	1324	1329

Appendix B

RESERVOIR AREA TABLE (Continued)

TEXAS WATER DEVELOPMENT BOARD — MAY 2005 SURVEY

Conservation Pool Elevation 622.0'

AREA IN ACRES — ELEVATION INCREMENT IS ONE TENTH FOOT

ELEVATION in Feet	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
562	1333	1338	1342	1347	1352	1357	1361	1366	1370	1375
563	1,380	1,385	1,389	1,394	1,399	1,404	1,409	1,414	1,420	1,425
564	1,430	1,436	1,441	1,447	1,452	1,458	1,463	1,469	1,474	1,480
565	1,485	1,490	1,495	1,501	1,506	1,511	1,517	1,522	1,528	1,534
566	1,540	1,545	1,551	1,556	1,562	1,567	1,572	1,578	1,583	1,588
567	1,593	1,598	1,603	1,608	1,613	1,618	1,623	1,628	1,634	1,639
568	1,644	1,649	1,654	1,660	1,665	1,670	1,676	1,681	1,687	1,692
569	1,697	1,703	1,708	1,713	1,718	1,723	1,729	1,734	1,739	1,745
570	1,750	1,755	1,760	1,765	1,769	1,774	1,779	1,784	1,789	1,794
571	1,799	1,803	1,808	1,813	1,818	1,823	1,828	1,833	1,838	1,843
572	1,848	1,854	1,859	1,864	1,869	1,874	1,879	1,885	1,890	1,896
573	1,901	1,906	1,911	1,916	1,921	1,926	1,931	1,936	1,940	1,945
574	1,950	1,955	1,961	1,966	1,972	1,977	1,982	1,987	1,993	1,998
575	2,004	2,009	2,014	2,020	2,025	2,031	2,036	2,042	2,047	2,052
576	2,058	2,064	2,069	2,075	2,081	2,086	2,092	2,097	2,103	2,109
577	2,115	2,120	2,126	2,132	2,138	2,144	2,150	2,156	2,162	2,168
578	2,175	2,181	2,187	2,194	2,200	2,207	2,213	2,220	2,226	2,233
579	2,239	2,245	2,252	2,259	2,266	2,273	2,279	2,286	2,292	2,298
580	2,304	2,310	2,316	2,322	2,328	2,334	2,340	2,346	2,352	2,358
581	2,364	2,370	2,376	2,382	2,388	2,394	2,400	2,406	2,412	2,418
582	2,424	2,430	2,436	2,443	2,449	2,455	2,461	2,467	2,473	2,480
583	2,487	2,493	2,500	2,507	2,514	2,521	2,528	2,534	2,541	2,548
584	2,555	2,561	2,568	2,574	2,581	2,588	2,594	2,601	2,608	2,615
585	2,621	2,628	2,635	2,642	2,648	2,655	2,661	2,668	2,675	2,681
586	2,688	2,694	2,700	2,707	2,713	2,719	2,725	2,731	2,738	2,744
587	2,750	2,756	2,763	2,769	2,776	2,783	2,790	2,797	2,804	2,811
588	2,818	2,825	2,831	2,838	2,845	2,851	2,858	2,865	2,872	2,879
589	2,886	2,893	2,900	2,907	2,914	2,921	2,928	2,935	2,942	2,948
590	2,956	2,962	2,969	2,976	2,983	2,990	2,997	3,004	3,011	3,018
591	3,025	3,032	3,039	3,046	3,053	3,060	3,067	3,074	3,081	3,088
592	3096	3103	3110	3118	3126	3133	3141	3149	3157	3165
593	3173	3181	3190	3198	3207	3216	3225	3233	3243	3252
594	3261	3270	3278	3286	3294	3302	3310	3318	3325	3333
595	3340	3348	3355	3363	3370	3378	3385	3392	3400	3408
596	3415	3423	3430	3438	3445	3453	3460	3468	3475	3483
597	3490	3498	3505	3512	3520	3527	3534	3542	3549	3557
598	3564	3572	3579	3587	3594	3601	3609	3616	3624	3631
599	3639	3646	3654	3662	3669	3677	3685	3693	3701	3709
600	3717	3725	3733	3741	3749	3757	3765	3773	3781	3790
601	3798	3806	3814	3822	3830	3838	3846	3855	3863	3871
602	3879	3888	3896	3905	3914	3922	3931	3939	3948	3956
603	3965	3974	3983	3991	4000	4008	4017	4026	4035	4044
604	4052	4061	4070	4080	4089	4100	4110	4120	4130	4140
605	4150	4160	4170	4180	4190	4200	4210	4220	4231	4241
606	4252	4263	4274	4285	4295	4306	4317	4328	4340	4352
607	4364	4376	4388	4400	4412	4424	4435	4447	4458	4469
608	4480	4491	4502	4512	4523	4534	4544	4555	4565	4576
609	4586	4597	4608	4619	4631	4642	4654	4665	4677	4688
610	4700	4712	4723	4735	4747	4759	4771	4783	4795	4807
611	4819	4832	4844	4857	4870	4883	4895	4908	4922	4935
612	4949	4962	4976	4989	5003	5016	5029	5043	5056	5070
613	5083	5097	5112	5127	5143	5158	5172	5187	5201	5216
614	5231	5247	5262	5277	5291	5305	5318	5332	5346	5360
615	5374	5389	5403	5418	5432	5447	5461	5475	5489	5503
616	5518	5532	5547	5562	5578	5593	5608	5624	5640	5657
617	5675	5693	5712	5732	5754	5776	5800	5824	5848	5875
618	5902	5926	5948	5967	5985	6001	6016	6030	6044	6057
619	6070	6082	6094	6106	6119	6131	6143	6155	6167	6179
620	6192	6204	6216	6229	6243	6256	6269	6282	6295	6308
621	6320	6333	6346	6359	6371	6384	6397	6409	6422	6435
622	6484									

Appendix C

Stillhouse Hollow Lake

RESERVOIR VOLUME TABLE

TEXAS WATER DEVELOPMENT BOARD — 1995 SURVEY (Revised 2005)

Conservation Pool Elevation 622.0'

VOLUME IN ACRE-FEET — ELEVATION INCREMENT IS ONE TENTH FOOT

ELEVATION IN FEET	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
502		0	0	0	0	0	0	0	0	0
503	0	0	0	0	0	0	0	0	0	0
504	0	0	0	0	0	0	0	0	0	0
505	0	0	0	1	1	1	1	1	1	1
506	1	1	1	1	1	1	1	1	1	2
507	2	2	2	2	2	2	2	2	2	3
508	3	3	3	3	3	3	4	4	4	4
509	4	4	4	5	5	5	5	5	6	6
510	6	6	7	7	7	7	8	8	8	8
511	9	9	9	10	10	10	11	11	11	12
512	12	12	13	13	14	14	15	15	15	16
513	16	17	17	18	19	19	20	20	21	22
514	22	23	23	24	25	26	26	27	28	29
515	30	30	31	32	33	34	36	37	38	39
516	41	42	44	46	48	49	51	54	56	58
517	61	63	66	69	71	74	77	80	84	87
518	91	94	98	102	105	109	113	118	122	126
519	131	135	140	145	150	155	160	165	171	176
520	182	188	194	200	206	213	219	226	233	241
521	248	256	264	273	282	290	300	309	319	329
522	339	350	360	371	382	394	405	417	429	442
523	454	467	480	493	507	521	535	549	563	578
524	593	608	623	639	654	670	686	703	719	736
525	753	771	788	806	823	841	859	878	896	915
526	934	952	972	991	1,010	1,030	1,050	1,070	1,090	1,110
527	1,131	1,152	1,173	1,194	1,215	1,236	1,258	1,279	1,301	1,323
528	1,346	1,368	1,391	1,414	1,437	1,460	1,484	1,507	1,531	1,555
529	1,580	1,604	1,629	1,654	1,679	1,704	1,730	1,755	1,781	1,807
530	1,834	1,860	1,887	1,914	1,941	1,968	1,996	2,023	2,051	2,080
531	2,108	2,136	2,165	2,194	2,223	2,252	2,282	2,312	2,341	2,371
532	2,402	2,432	2,463	2,493	2,524	2,555	2,587	2,618	2,650	2,682
533	2,714	2,746	2,779	2,811	2,844	2,877	2,910	2,944	2,977	3,011
534	3,045	3,079	3,113	3,147	3,182	3,216	3,251	3,286	3,321	3,357
535	3,392	3,427	3,463	3,499	3,535	3,571	3,607	3,644	3,680	3,717
536	3,754	3,791	3,828	3,865	3,902	3,940	3,977	4,015	4,053	4,091
537	4,129	4,167	4,206	4,244	4,283	4,322	4,361	4,400	4,440	4,479
538	4,519	4,558	4,598	4,638	4,678	4,719	4,759	4,800	4,841	4,882
539	4,923	4,965	5,006	5,048	5,090	5,132	5,174	5,217	5,260	5,303
540	5,346	5,390	5,434	5,478	5,522	5,567	5,612	5,657	5,703	5,749
541	5,795	5,842	5,889	5,936	5,983	6,031	6,079	6,128	6,176	6,225
542	6,275	6,325	6,375	6,425	6,476	6,528	6,579	6,631	6,684	6,736
543	6,790	6,843	6,897	6,951	7,006	7,061	7,117	7,173	7,229	7,286
544	7,343	7,400	7,458	7,516	7,575	7,634	7,693	7,753	7,813	7,873
545	7,934	7,995	8,057	8,118	8,180	8,243	8,305	8,368	8,431	8,495
546	8,559	8,623	8,687	8,752	8,816	8,882	8,947	9,013	9,079	9,145
547	9,212	9,278	9,345	9,413	9,480	9,548	9,616	9,685	9,754	9,823
548	9,892	9,962	10,032	10,102	10,173	10,243	10,315	10,386	10,458	10,531
549	10,603	10,676	10,750	10,824	10,898	10,972	11,047	11,123	11,198	11,274
550	11,351	11,427	11,505	11,582	11,660	11,738	11,816	11,895	11,974	12,054
551	12,134	12,214	12,294	12,375	12,457	12,538	12,621	12,703	12,786	12,870
552	12,953	13,037	13,122	13,207	13,292	13,378	13,464	13,551	13,638	13,726
553	13,813	13,902	13,991	14,080	14,170	14,260	14,350	14,441	14,533	14,625
554	14,717	14,810	14,904	14,998	15,092	15,187	15,282	15,378	15,474	15,571
555	15,668	15,765	15,863	15,962	16,061	16,160	16,260	16,360	16,461	16,562
556	16,664	16,766	16,868	16,971	17,075	17,178	17,283	17,387	17,492	17,598
557	17,704	17,810	17,917	18,025	18,132	18,240	18,349	18,458	18,568	18,678
558	18,788	18,899	19,011	19,122	19,235	19,348	19,461	19,574	19,688	19,803
559	19,918	20,033	20,149	20,265	20,382	20,499	20,616	20,734	20,852	20,971
560	21091	21210	21330	21451	21572	21694	21816	21938	22061	22184
561	22308	22432	22557	22682	22808	22934	23061	23188	23315	23443

Appendix C

RESERVOIR VOLUME TABLE (Continued)

TEXAS WATER DEVELOPMENT BOARD — 1995 SURVEY (Revised 2005)

Conservation Pool Elevation 622.0'

VOLUME IN ACRE-FEET — ELEVATION INCREMENT IS ONE TENTH FOOT

ELEVATION IN FEET	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
562	23,572	23,701	23,831	23,961	24,091	24,222	24,354	24,486	24,619	24,752
563	24,886	25,020	25,155	25,290	25,426	25,563	25,700	25,837	25,975	26,114
564	26,253	26,393	26,534	26,675	26,817	26,959	27,102	27,245	27,389	27,533
565	27,678	27,824	27,970	28,117	28,264	28,412	28,561	28,711	28,860	29,011
566	29,162	29,314	29,466	29,619	29,772	29,926	30,080	30,235	30,391	30,547
567	30,703	30,861	31,018	31,177	31,335	31,495	31,655	31,815	31,976	32,138
568	32,300	32,462	32,626	32,789	32,954	33,119	33,284	33,450	33,616	33,783
569	33,951	34,119	34,288	34,457	34,626	34,796	34,967	35,138	35,309	35,481
570	35,654	35,827	36,000	36,174	36,348	36,523	36,699	36,875	37,051	37,228
571	37,405	37,583	37,762	37,941	38,121	38,301	38,481	38,662	38,844	39,026
572	39,209	39,392	39,576	39,760	39,945	40,130	40,316	40,503	40,690	40,877
573	41,065	41,254	41,443	41,633	41,823	42,014	42,205	42,397	42,589	42,782
574	42,975	43,169	43,363	43,558	43,754	43,949	44,146	44,343	44,540	44,738
575	44,936	45,135	45,335	45,535	45,736	45,937	46,139	46,341	46,544	46,748
576	46,952	47,157	47,362	47,568	47,774	47,982	48,189	48,398	48,606	48,816
577	49,026	49,237	49,448	49,660	49,872	50,085	50,299	50,513	50,728	50,944
578	51,160	51,377	51,595	51,813	52,032	52,251	52,472	52,693	52,914	53,137
579	53,360	53,584	53,808	54,033	54,259	54,485	54,713	54,940	55,169	55,398
580	55,628	55,858	56,089	56,321	56,553	56,786	57,019	57,253	57,488	57,723
581	57,959	58,196	58,433	58,671	58,909	59,148	59,388	59,628	59,869	60,111
582	60,353	60,596	60,839	61,083	61,328	61,574	61,820	62,066	62,314	62,562
583	62,810	63,060	63,310	63,561	63,812	64,064	64,317	64,571	64,825	65,080
584	65,335	65,591	65,848	66,106	66,364	66,623	66,882	67,143	67,404	67,665
585	67,928	68,190	68,454	68,718	68,983	69,248	69,515	69,781	70,049	70,317
586	70,585	70,855	71,125	71,396	71,667	71,939	72,212	72,485	72,760	73,035
587	73,310	73,587	73,864	74,142	74,420	74,700	74,980	75,261	75,542	75,824
588	76,107	76,391	76,675	76,960	77,246	77,532	77,819	78,107	78,395	78,685
589	78,974	79,265	79,556	79,848	80,141	80,435	80,729	81,024	81,319	81,616
590	81,913	82,210	82,509	82,808	83,108	83,408	83,709	84,012	84,314	84,618
591	84,922	85,226	85,532	85,838	86,145	86,453	86,761	87,071	87,381	87,692
592	88,003	88,316	88,629	88,943	89,258	89,574	89,890	90,208	90,526	90,845
593	91,164	91,485	91,806	92,129	92,452	92,775	93,100	93,425	93,751	94,078
594	94,406	94,734	95,064	95,394	95,724	96,056	96,388	96,721	97,054	97,389
595	97,724	98,060	98,396	98,734	99,072	99,411	99,750	100,091	100,432	100,774
596	101,117	101,460	101,805	102,150	102,496	102,843	103,190	103,538	103,887	104,237
597	104,588	104,939	105,291	105,644	105,998	106,352	106,707	107,063	107,420	107,778
598	108,136	108,495	108,855	109,216	109,578	109,940	110,303	110,668	111,033	111,398
599	111,765	112,133	112,501	112,870	113,240	113,611	113,983	114,356	114,729	115,104
600	115,479	115,856	116,233	116,611	116,991	117,371	117,752	118,134	118,517	118,901
601	119,286	119,671	120,058	120,446	120,835	121,225	121,616	122,008	122,401	122,795
602	123,191	123,587	123,984	124,383	124,782	125,183	125,584	125,987	126,391	126,796
603	127,202	127,608	128,016	128,425	128,836	129,247	129,659	130,073	130,487	130,903
604	131,320	131,738	132,157	132,577	132,998	133,421	133,844	134,269	134,694	135,121
605	135,548	135,977	136,407	136,838	137,270	137,703	138,137	138,572	139,008	139,446
606	139,884	140,323	140,764	141,205	141,648	142,092	142,537	142,983	143,430	143,879
607	144,328	144,779	145,231	145,683	146,137	146,592	147,048	147,506	147,964	148,424
608	148,885	149,347	149,810	150,274	150,739	151,205	151,673	152,142	152,611	153,083
609	153,555	154,028	154,503	154,978	155,455	155,933	156,412	156,893	157,374	157,857
610	158,341	158,825	159,312	159,799	160,288	160,777	161,268	161,761	162,254	162,749
611	163,244	163,741	164,240	164,739	165,240	165,742	166,245	166,749	167,255	167,762
612	168,269	168,779	169,289	169,801	170,314	170,828	171,343	171,859	172,376	172,895
613	173,414	173,935	174,457	174,979	175,504	176,028	176,554	177,082	177,610	178,140
614	178,670	179,202	179,735	180,269	180,804	181,341	181,878	182,417	182,957	183,498
615	184,040	184,583	185,128	185,674	186,221	186,769	187,318	187,869	188,421	188,974
616	189,528	190,083	190,640	191,197	191,756	192,316	192,877	193,439	194,002	194,567
617	195,132	195,699	196,267	196,836	197,406	197,978	198,550	199,124	199,699	200,276
618	200,854	201,433	202,013	202,595	203,179	203,763	204,349	204,936	205,524	206,114
619	206,705	207,297	207,891	208,486	209,082	209,680	210,278	210,878	211,479	212,082
620	212,686	213,290	213,897	214,504	215,112	215,722	216,332	216,944	217,557	218,171
621	218,787	219,403	220,021	220,639	221,259	221,880	222,502	223,125	223,749	224,375
622	225,002									

Appendix D

Stillhouse Hollow Lake

RESERVOIR AREA TABLE

TEXAS WATER DEVELOPMENT BOARD — 1995 SURVEY (Revised 2005)

Conservation Pool Elevation 622.0'

AREA IN ACRES — ELEVATION INCREMENT IS ONE TENTH FOOT

ELEVATION IN FEET	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
502		0	0	0	0	0	0	0	0	0
503	0	0	0	0	0	0	0	0	0	0
504	0	0	0	0	0	0	0	0	0	0
505	0	0	0	0	0	0	1	1	1	1
506	1	1	1	1	1	1	1	1	1	1
507	1	1	1	1	1	1	1	1	1	1
508	1	1	1	1	1	1	1	2	2	2
509	2	2	2	2	2	2	2	2	2	2
510	2	2	2	2	3	3	3	3	3	3
511	3	3	3	3	3	3	3	4	4	4
512	4	4	4	4	4	4	5	5	5	5
513	5	5	5	5	6	6	6	6	6	6
514	6	7	7	7	7	7	8	8	8	8
515	9	9	9	10	10	11	12	13	13	14
516	15	16	17	18	19	20	21	22	23	24
517	25	26	27	28	29	30	31	32	33	34
518	35	36	37	38	39	40	41	42	43	44
519	46	47	48	49	50	51	53	54	55	56
520	57	59	60	62	63	65	68	70	72	75
521	78	80	83	86	88	91	94	96	99	101
522	103	106	108	110	113	115	117	120	122	125
523	127	129	131	134	136	138	141	143	145	147
524	150	152	154	156	159	161	163	165	168	170
525	171	173	175	177	178	180	182	184	185	187
526	189	191	192	194	196	197	199	201	203	204
527	206	208	209	211	213	214	216	218	220	222
528	224	226	228	230	232	234	236	238	240	242
529	244	246	248	250	252	254	256	258	260	262
530	264	266	268	270	272	274	276	278	280	282
531	284	286	288	290	292	294	296	297	299	301
532	303	305	307	308	310	312	314	316	318	320
533	322	324	326	328	329	331	333	334	336	338
534	339	341	342	344	346	347	349	350	352	353
535	355	356	358	359	360	362	363	364	366	367
536	369	370	371	373	374	375	377	378	380	381
537	382	384	385	387	388	389	391	392	394	395
538	397	398	400	401	403	405	406	408	410	411
539	413	415	417	419	421	423	425	427	430	432
540	435	437	440	443	446	449	452	455	458	461
541	464	467	470	473	476	479	483	486	489	493
542	496	500	503	507	511	515	518	522	526	530
543	534	537	541	545	549	553	557	561	565	569
544	573	577	580	584	588	591	595	599	602	606
545	609	612	616	619	622	625	628	630	633	636
546	639	642	645	647	650	653	656	658	661	664
547	667	669	672	675	678	680	683	686	689	692
548	695	698	701	704	708	711	714	718	722	725
549	729	733	736	740	744	747	751	755	758	762
550	765	769	773	776	780	783	786	790	793	797
551	800	804	808	811	815	820	824	828	832	836
552	840	844	848	852	856	860	864	868	873	877
553	881	886	890	895	899	904	908	913	917	922
554	927	932	937	941	946	951	955	960	964	969
555	974	978	983	987	992	996	1,001	1,005	1,009	1,014
556	1,018	1,023	1,027	1,031	1,036	1,040	1,045	1,049	1,053	1,058
557	1,062	1,066	1,071	1,075	1,080	1,084	1,089	1,093	1,098	1,103
558	1,107	1,112	1,116	1,121	1,125	1,130	1,134	1,139	1,143	1,147
559	1,151	1,155	1,159	1,164	1,168	1,172	1,177	1,181	1,186	1,190
560	1,195	1,200	1,204	1,209	1,213	1,218	1,222	1,227	1,231	1,236
561	1,240	1,245	1,249	1,254	1,259	1,264	1,268	1,273	1,278	1,283

Appendix D

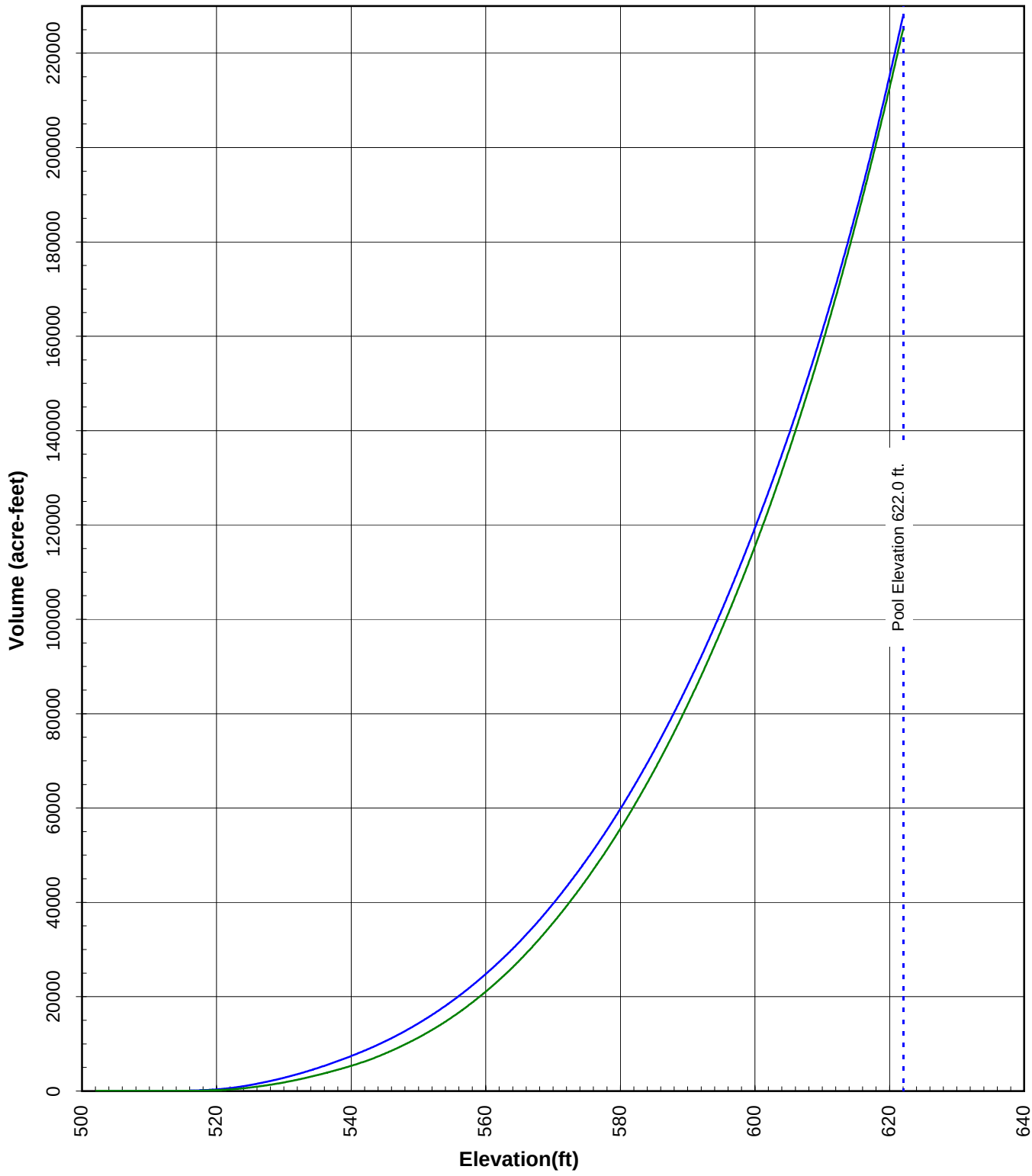
RESERVOIR AREA TABLLE (Continued)

TEXAS WATER DEVELOPMENT BOARD — 1995 SURVEY (Revised 2005)

Conservation Pool Elevation 622.0'

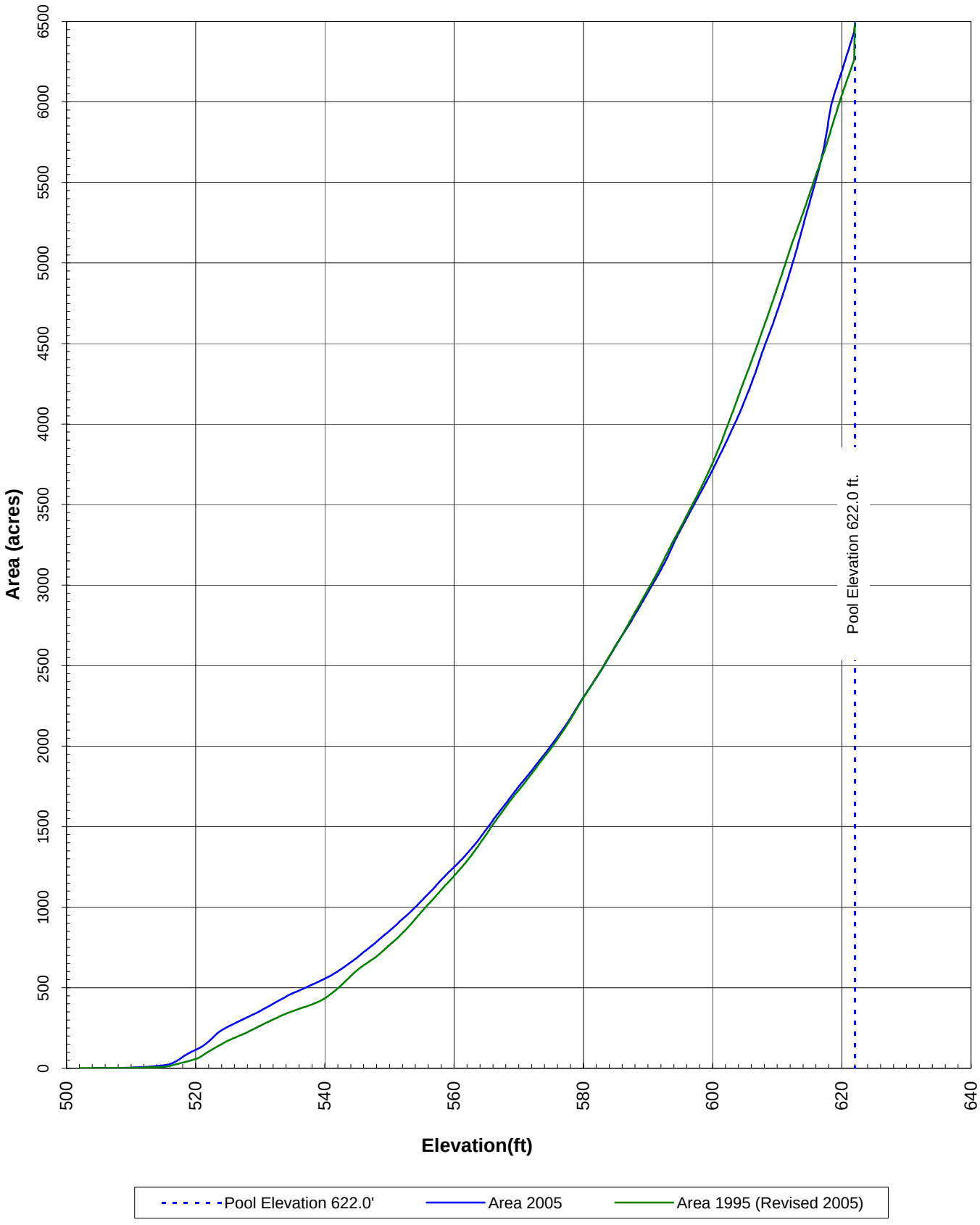
AREA IN ACRES — ELEVATION INCREMENT IS ONE TENTH FOOT

ELEVATION IN FEET	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
562	1,288	1,293	1,298	1,303	1,308	1,313	1,319	1,324	1,329	1,335
563	1,340	1,346	1,351	1,357	1,362	1,368	1,373	1,379	1,385	1,391
564	1,397	1,402	1,408	1,414	1,419	1,425	1,430	1,436	1,442	1,447
565	1,453	1,459	1,465	1,471	1,478	1,484	1,490	1,496	1,502	1,508
566	1,513	1,519	1,525	1,530	1,536	1,542	1,547	1,553	1,558	1,564
567	1,569	1,575	1,580	1,585	1,591	1,596	1,602	1,607	1,612	1,618
568	1,624	1,629	1,635	1,641	1,646	1,652	1,657	1,662	1,668	1,673
569	1,678	1,683	1,688	1,693	1,698	1,703	1,708	1,712	1,717	1,722
570	1,727	1,732	1,737	1,742	1,747	1,752	1,757	1,762	1,767	1,772
571	1,777	1,782	1,788	1,793	1,798	1,804	1,809	1,814	1,819	1,825
572	1,830	1,835	1,840	1,845	1,851	1,856	1,861	1,867	1,873	1,879
573	1,884	1,890	1,895	1,900	1,905	1,910	1,915	1,920	1,925	1,930
574	1,936	1,941	1,946	1,951	1,956	1,961	1,966	1,971	1,977	1,982
575	1,987	1,993	1,998	2,004	2,009	2,015	2,021	2,027	2,033	2,039
576	2,045	2,051	2,057	2,062	2,068	2,074	2,080	2,086	2,092	2,098
577	2,103	2,109	2,115	2,121	2,128	2,134	2,140	2,147	2,153	2,160
578	2,166	2,173	2,179	2,186	2,192	2,199	2,206	2,213	2,220	2,227
579	2,234	2,241	2,248	2,255	2,261	2,268	2,275	2,281	2,288	2,294
580	2,301	2,307	2,313	2,319	2,325	2,331	2,338	2,344	2,350	2,356
581	2,362	2,368	2,375	2,381	2,387	2,394	2,400	2,407	2,413	2,419
582	2,426	2,432	2,438	2,444	2,451	2,457	2,463	2,470	2,477	2,483
583	2,490	2,497	2,505	2,511	2,518	2,525	2,532	2,538	2,545	2,552
584	2,559	2,565	2,572	2,579	2,586	2,592	2,599	2,606	2,613	2,619
585	2,626	2,632	2,639	2,645	2,651	2,658	2,664	2,670	2,677	2,684
586	2,690	2,697	2,704	2,711	2,718	2,725	2,732	2,739	2,746	2,753
587	2,760	2,768	2,775	2,782	2,790	2,797	2,804	2,812	2,819	2,826
588	2,833	2,840	2,847	2,853	2,860	2,867	2,874	2,881	2,888	2,895
589	2,902	2,910	2,917	2,924	2,931	2,938	2,945	2,953	2,960	2,967
590	2,974	2,981	2,988	2,995	3,002	3,009	3,016	3,023	3,030	3,037
591	3,044	3,051	3,059	3,066	3,074	3,081	3,089	3,097	3,105	3,113
592	3,120	3,129	3,137	3,145	3,153	3,161	3,170	3,178	3,186	3,194
593	3,202	3,210	3,218	3,226	3,234	3,242	3,250	3,258	3,265	3,273
594	3,281	3,288	3,296	3,303	3,310	3,318	3,325	3,332	3,340	3,347
595	3,355	3,362	3,370	3,377	3,385	3,393	3,400	3,409	3,417	3,424
596	3,432	3,440	3,447	3,455	3,463	3,471	3,479	3,487	3,494	3,502
597	3,510	3,517	3,525	3,532	3,540	3,548	3,556	3,564	3,572	3,580
598	3,588	3,596	3,604	3,612	3,621	3,629	3,637	3,646	3,654	3,663
599	3,671	3,679	3,688	3,696	3,705	3,714	3,723	3,732	3,741	3,750
600	3,759	3,768	3,778	3,787	3,796	3,806	3,816	3,825	3,835	3,844
601	3,854	3,864	3,873	3,883	3,893	3,903	3,914	3,926	3,937	3,948
602	3,959	3,969	3,980	3,990	4,001	4,011	4,021	4,032	4,043	4,053
603	4,064	4,074	4,085	4,096	4,107	4,118	4,129	4,141	4,152	4,163
604	4,174	4,184	4,195	4,207	4,218	4,229	4,240	4,251	4,261	4,272
605	4,282	4,293	4,304	4,314	4,325	4,335	4,346	4,357	4,367	4,378
606	4,389	4,400	4,411	4,422	4,433	4,444	4,455	4,467	4,478	4,489
607	4,500	4,511	4,522	4,534	4,545	4,557	4,568	4,579	4,591	4,602
608	4,613	4,624	4,636	4,647	4,658	4,670	4,681	4,693	4,704	4,716
609	4,728	4,739	4,751	4,762	4,774	4,786	4,797	4,809	4,821	4,833
610	4,844	4,856	4,868	4,880	4,892	4,904	4,915	4,928	4,940	4,952
611	4,964	4,976	4,988	5,001	5,013	5,025	5,037	5,050	5,062	5,074
612	5,086	5,099	5,111	5,123	5,135	5,146	5,157	5,168	5,179	5,190
613	5,201	5,211	5,222	5,233	5,245	5,256	5,267	5,278	5,290	5,301
614	5,312	5,324	5,335	5,346	5,357	5,370	5,382	5,393	5,405	5,416
615	5,428	5,440	5,452	5,464	5,476	5,488	5,500	5,512	5,524	5,536
616	5,547	5,558	5,570	5,581	5,592	5,604	5,616	5,627	5,639	5,650
617	5,662	5,673	5,685	5,696	5,708	5,720	5,733	5,746	5,760	5,772
618	5,785	5,798	5,811	5,825	5,839	5,852	5,865	5,878	5,891	5,903
619	5,916	5,929	5,942	5,955	5,970	5,982	5,994	6,006	6,018	6,030
620	6,044	6,055	6,067	6,078	6,089	6,101	6,112	6,124	6,135	6,147
621	6,158	6,169	6,181	6,192	6,204	6,215	6,226	6,238	6,249	6,261
622	6,484									



Stillhouse Hollow Lake
May 2005
Prepared by: TWDB

Appendix E Elevation vs. Volume



Stillhouse Hollow Lake

May 2005

Prepared by: TWDB

Appendix G

Stillhouse Hollow Lake

Location of Historical Sediment Range Lines

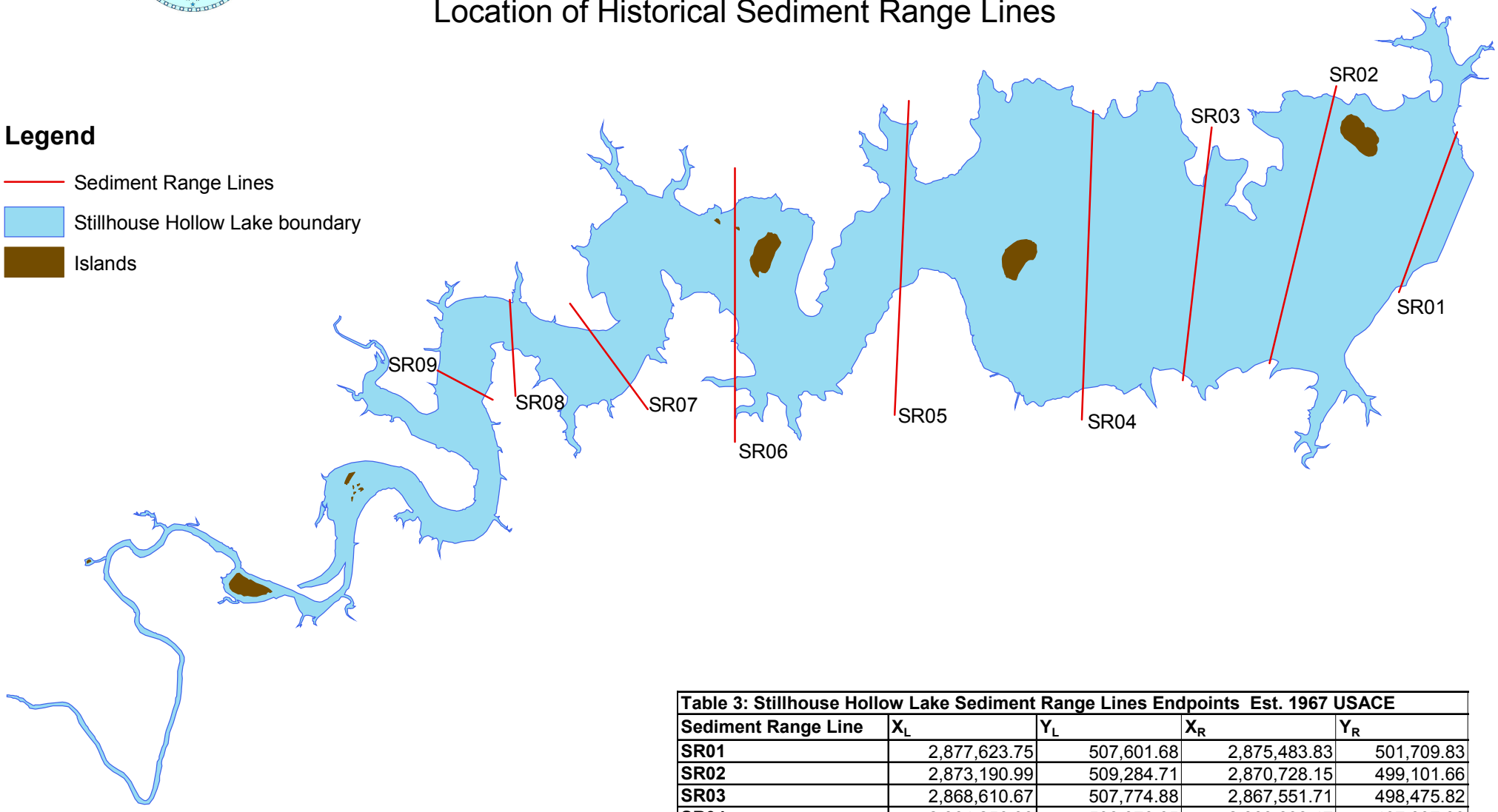
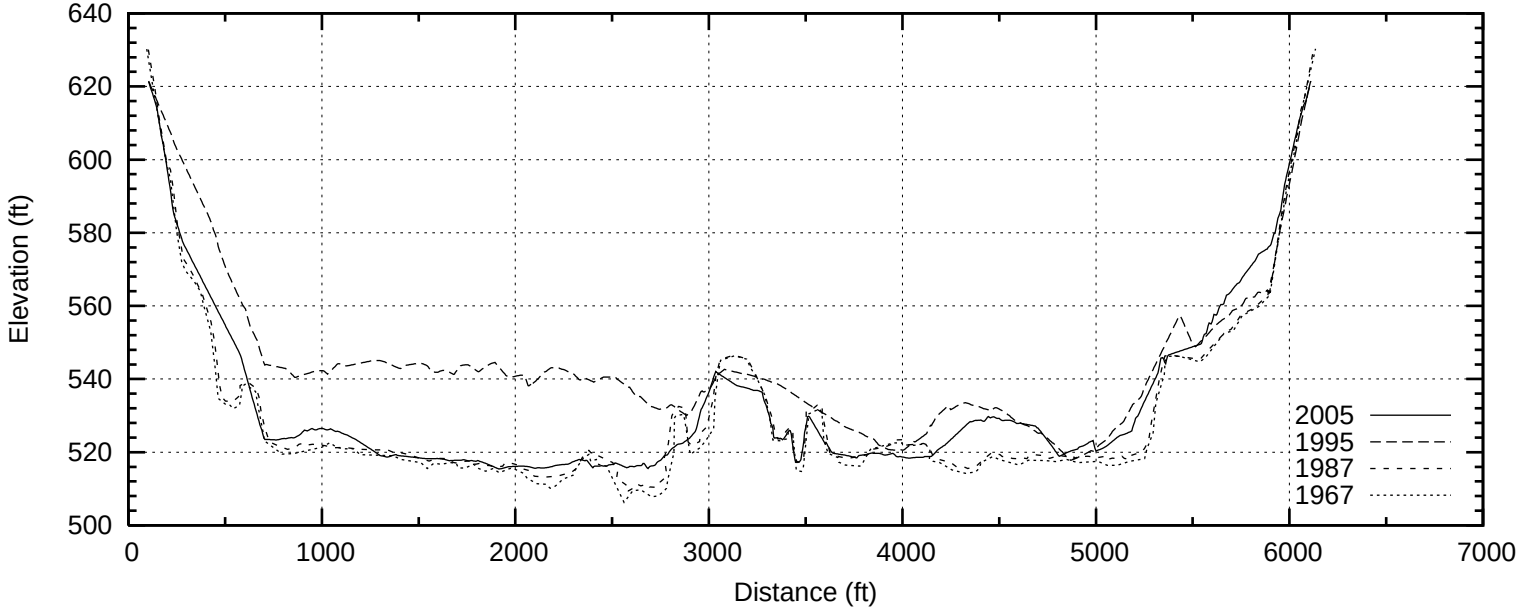


Table 3: Stillhouse Hollow Lake Sediment Range Lines Endpoints Est. 1967 USACE				
Sediment Range Line	**X_L**	**Y_L**	**X_R**	**Y_R**
SR01	2,877,623.75	507,601.68	2,875,483.83	501,709.83
SR02	2,873,190.99	509,284.71	2,870,728.15	499,101.66
SR03	2,868,610.67	507,774.88	2,867,551.71	498,475.82
SR04	2,864,256.30	508,376.65	2,863,838.47	497,037.30
SR05	2,857,494.77	508,737.01	2,856,978.92	497,213.29
SR06	2,851,115.22	506,275.28	2,851,105.76	496,222.59
SR07	2,845,059.38	501,299.03	2,847,900.03	497,423.79
SR08	2,842,842.16	501,441.14	2,843,048.93	497,913.36
SR09	2,840,174.95	498,840.09	2,842,217.54	497,762.46
XY: Lambert Grid Coordinates North American Datum 1927			L= Left End Pt R= Right End Pt	

Stillhouse Hollow Lake

Range Line SR01



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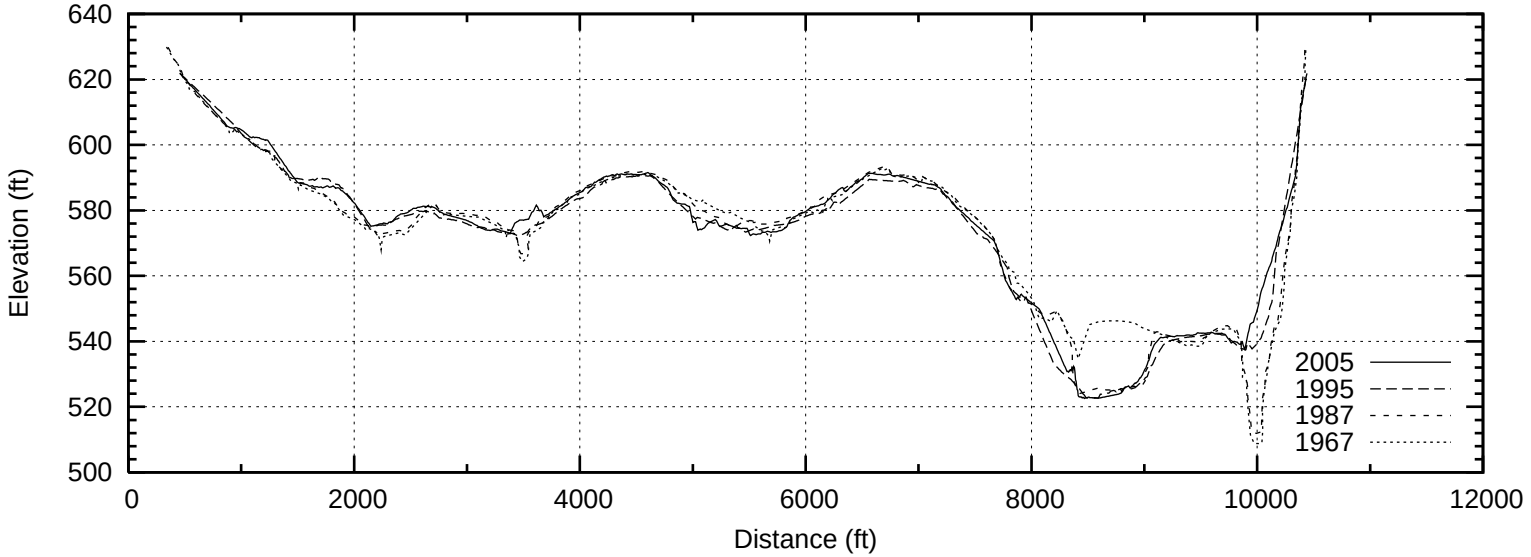
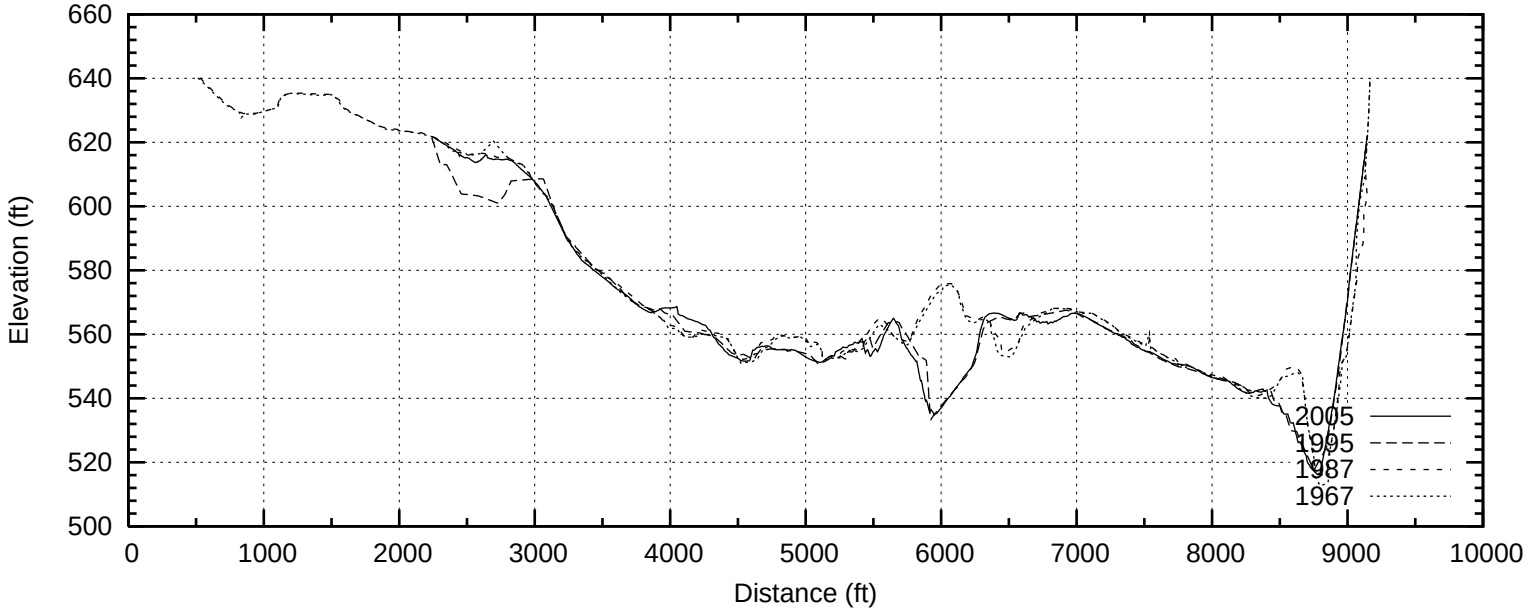


Stillhouse Hollow Lake

Range Line SR03



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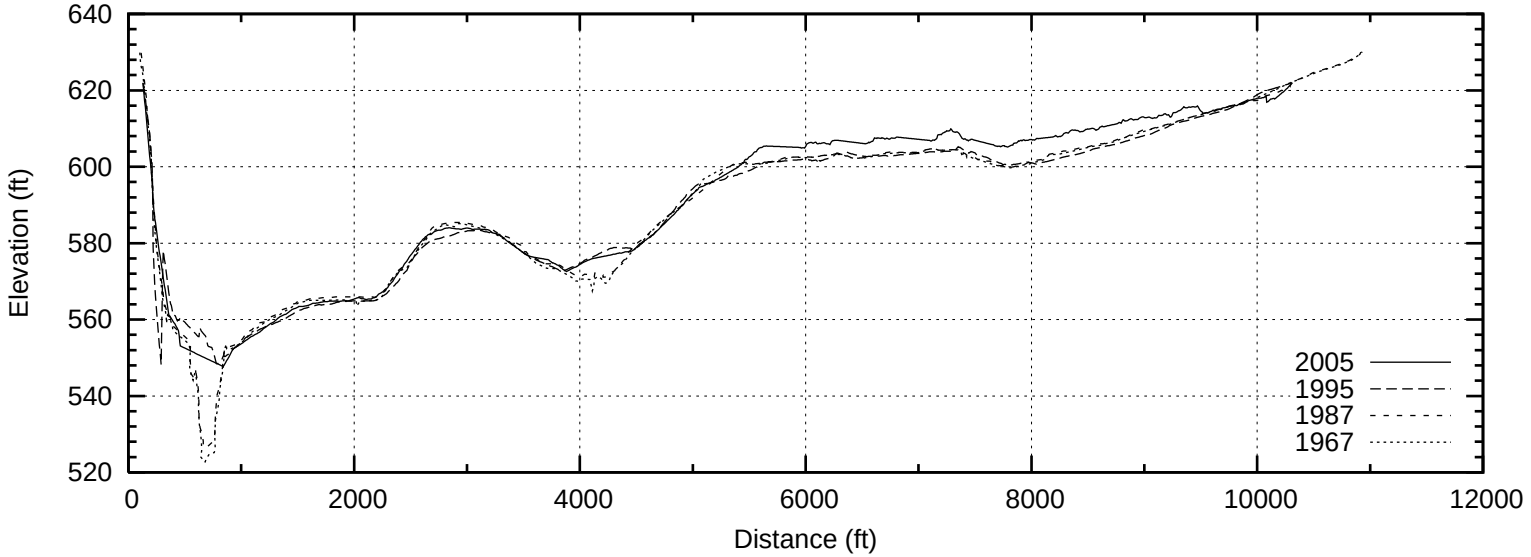

Stillhouse Hollow Lake

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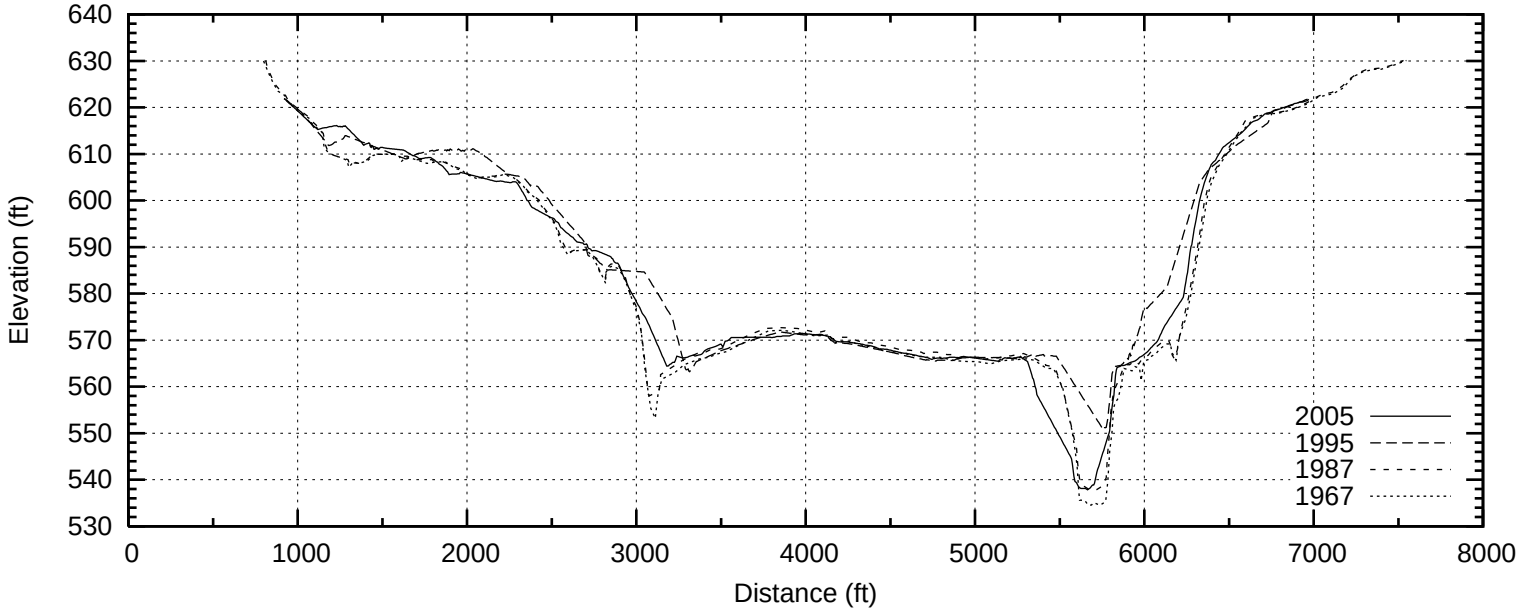

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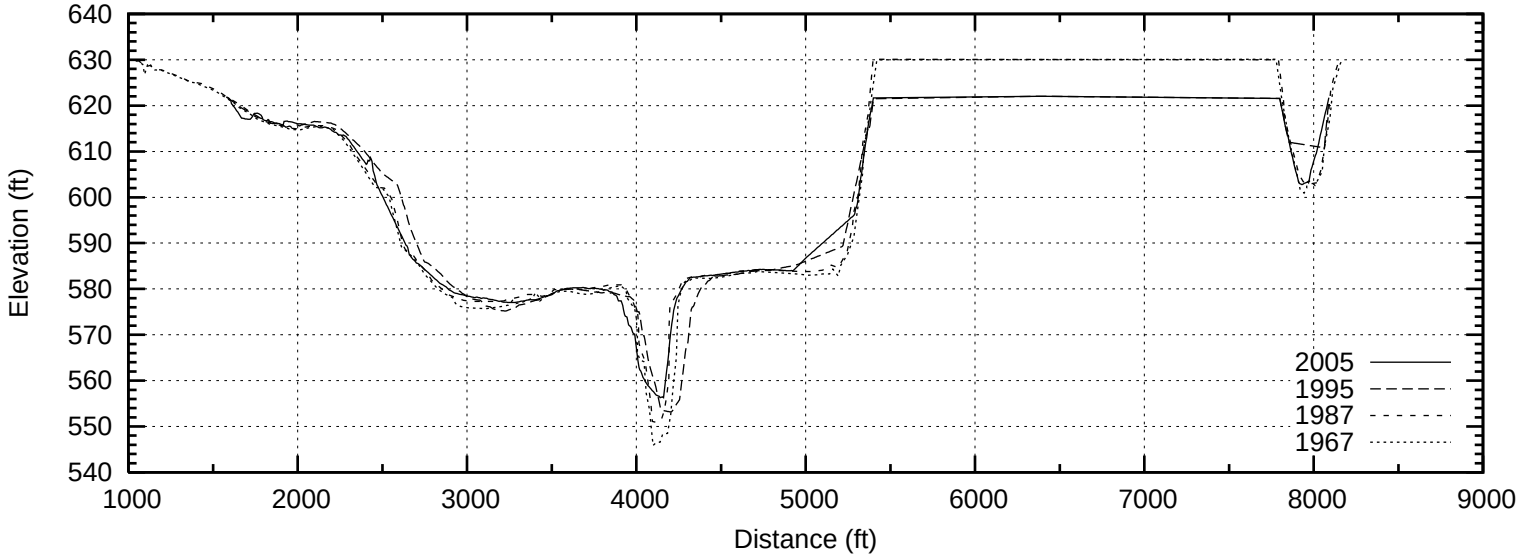
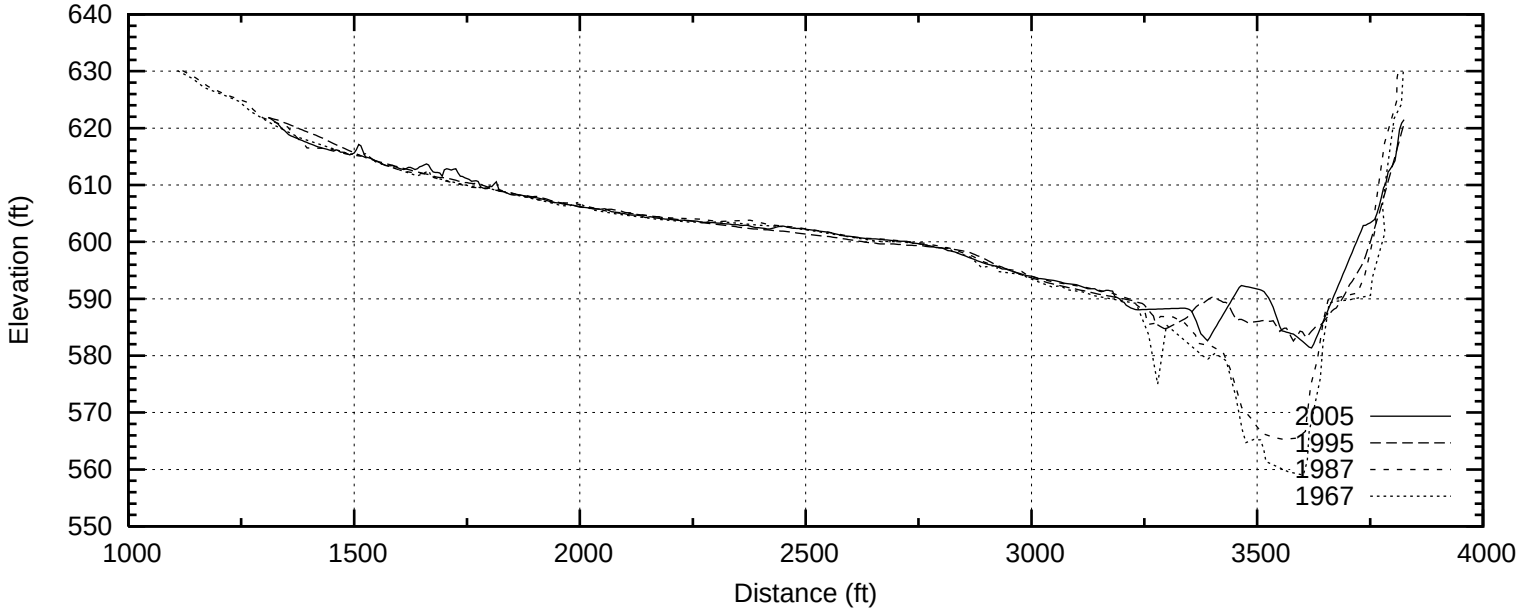


Stillhouse Hollow Lake

Range Line SR07



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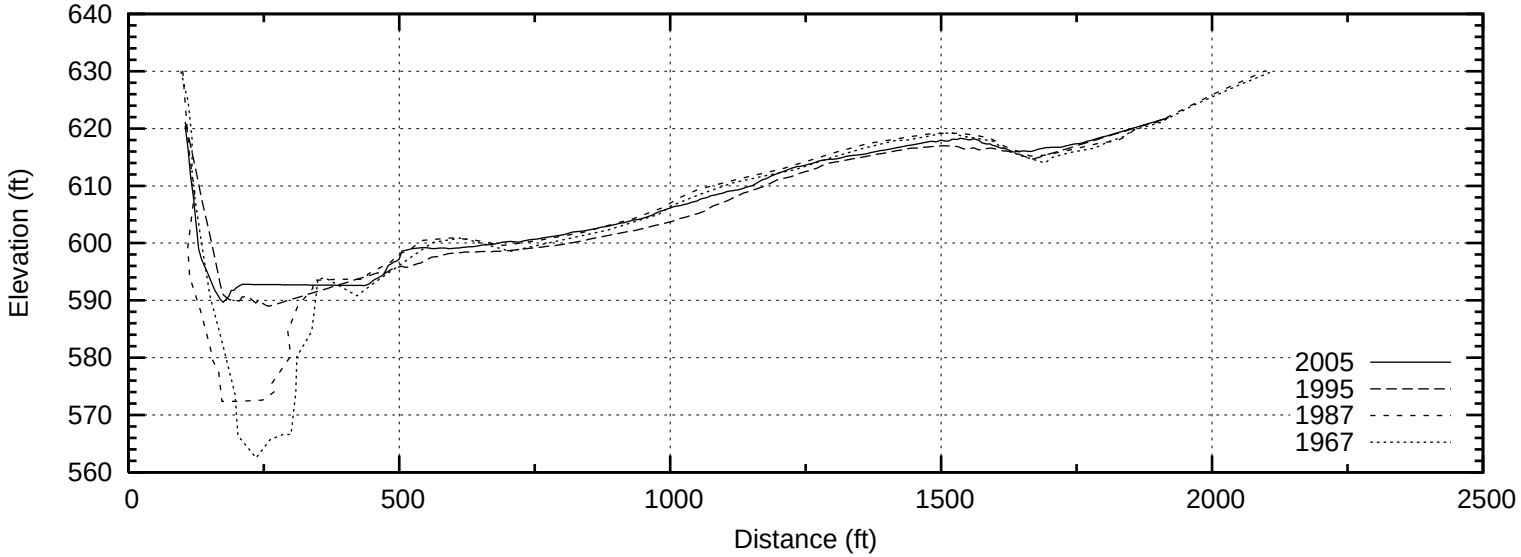


Stillhouse Hollow Lake

Range Line SR09

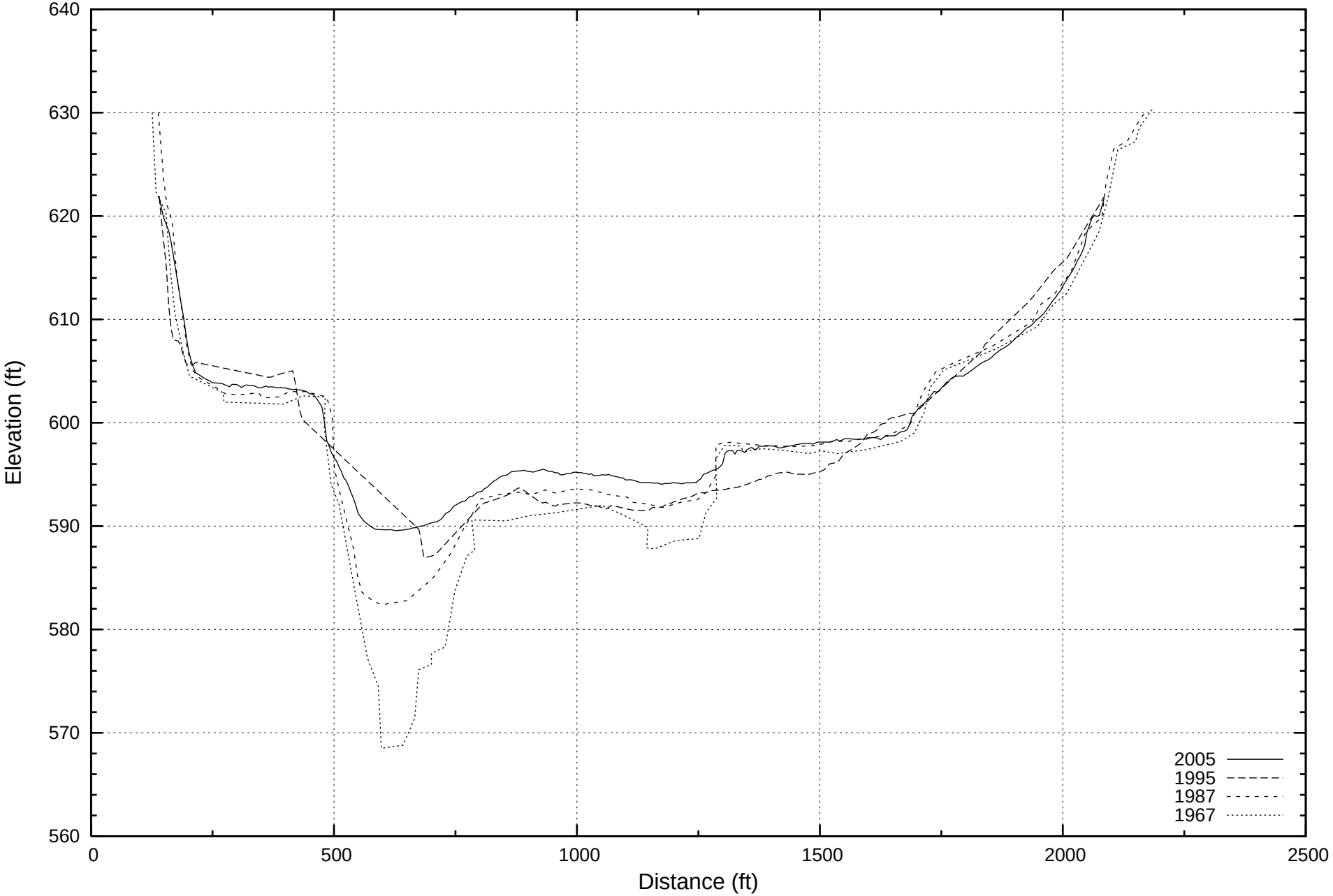


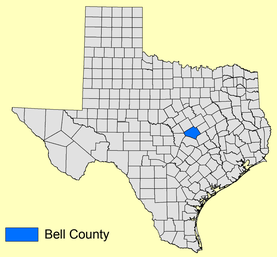
Figure 6

STILLHOUSE HOLLOW LAKE

10' Contour Map

CONTOURS

- 510
- 520
- 530
- 540
- 550
- 560
- 570
- 580
- 590
- 600
- 610
- 620

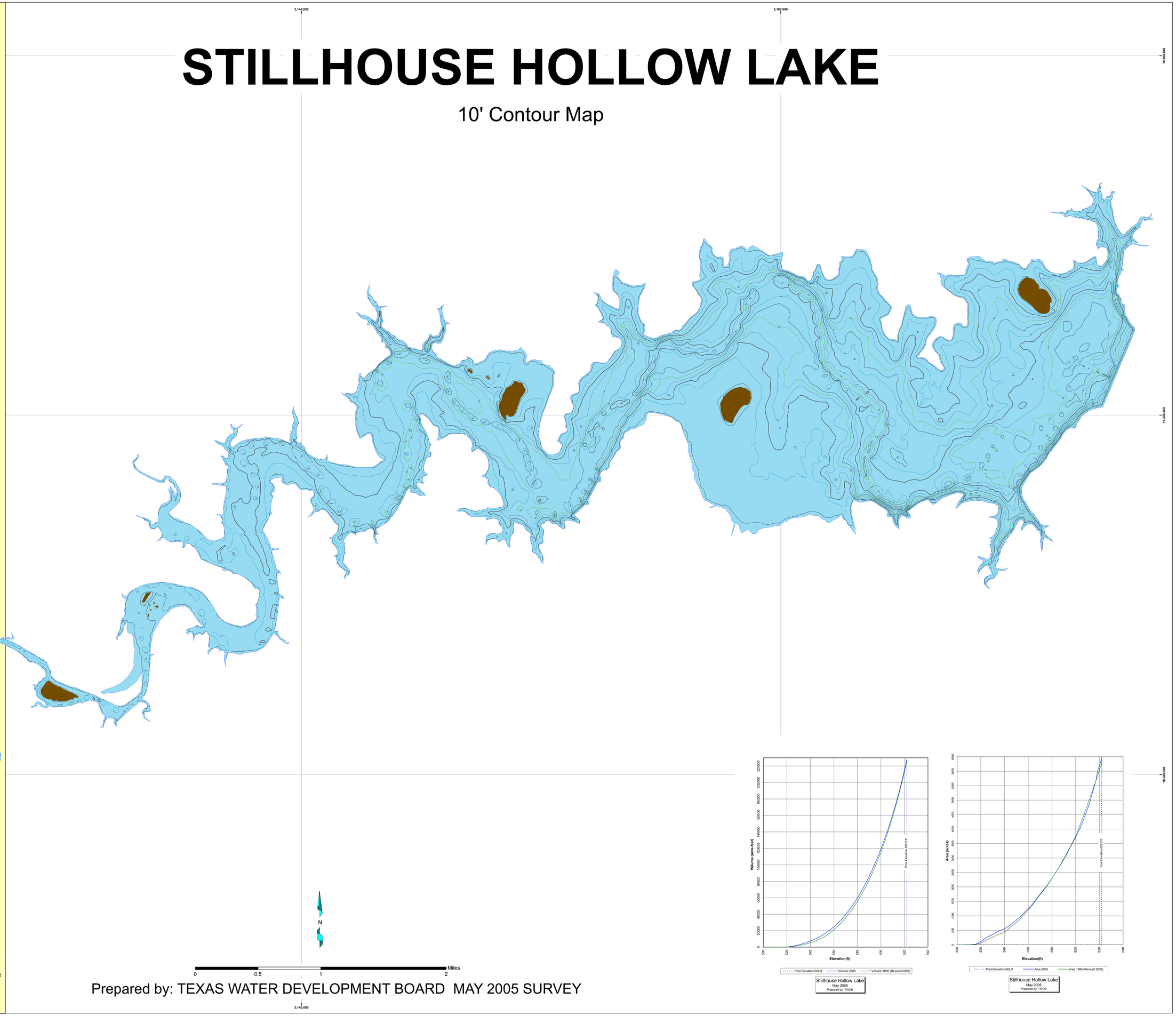


NAD83
State Plane
Texas Central Zone

Islands

Stillhouse Hollow Lake
Elevation 622.0 ft

This map is the product of a survey conducted by the Texas Water Development Board's Hydrographic Survey Program to determine the capacity of Stillhouse Hollow Lake. The Texas Water Development Board makes no representation or assumes any liability.



Stillhouse Hollow Lake
May 2005
Prepared by: TWDB

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May 2005
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Prepared by: TEXAS WATER DEVELOPMENT BOARD MAY 2005 SURVEY