3.0 EXISTING SURFACE WATER SUPPLIES

The existing surface water resources in the Sabine Basin include water supply reservoirs, recreational lakes, a canal distribution system, and the Sabine River and its tributaries. There are nine water supply reservoirs and four recreational lakes (the Wood County Lakes) in the Texas portion of the Sabine Basin. Two additional lakes are located in the Louisiana portion of the Basin. SRA owns and operates Lake Fork and Lake Tawakoni in the Upper Basin, and the jointly owns and operates Toledo Bend Reservoir with Sabine River Authority, State of Louisiana. These three reservoirs provide over 90 percent of the total permitted surface water supply in the Basin. SRA also owns and operates a canal system located in the Lower Basin. The locations of the existing reservoirs for the Upper and Lower Basins are shown on Figures 3.1 and 3.2, respectively.

3.1 Sedimentation

Sedimentation does not appear to be a serious problem throughout the Sabine Basin. The measured suspended sediment load indicated by the published records is relatively low. The total silt load, including bed load, at the Logansport gage station (in the middle of the Basin) averaged 0.20 acre-foot per square mile per year over a 34-year period. The low erosion throughout the Basin is associated with the East Texas Timberlands and Coastal Prairie soils within the Basin. Lake Tawakoni is the only reservoir located in the Blackland Prairie land resource area. This area typically has sediment production rates three to five times greater than those for the East Texas Timberlands or Coastal Prairie areas. Recent hydrographic studies conducted by TWDB for Lake Tawakoni and Lake Cherokee indicated average sedimentation rates of 1.72 and 0.97 acre-feet per year per square mile of watershed drainage area, respectively. When taking into account only the contributing land in the drainage area (excluding the lake area), the sedimentation rates are 1.86 and 1.01 acre-feet per year per square mile of drainage area. These rates are higher than previously published siltation rates for the reservoirs.

The disagreement between the predicted and measured rates of silt accumulation may be attributed to possible inaccuracies in calculating the original capacities of the lakes. The methodology used when the lakes were constructed was generally less exact than the system now used by the TWDB, and this could account for at least part of the difference. It is also possible that the siltation rates previously projected are low.

This uncertainty can be resolved through additional volumetric surveys with techniques comparable to those now being used by TWBD. For purposes of this study, the future capacities of Lake Tawakoni and Lake Cherokee were estimated based on the latest siltation rates. The capacities of the other lakes were based on the rates published in *Inventory and Use of Sedimentation Data in Texas* (Texas Board of Water Engineers, 1959). The average sedimentation

rates and estimated future capacities for the Sabine Basin reservoirs are presented in Table 3.1.

Table 3.1: Estimated Sedimentation Rates and Future Capacities of Reservoirs

Reservoir	Drainage Area (sq. miles)	Sedimentation Rate	Year Began Filling	Capacities (ac-ft)		
		(ac-ft/yr/sq. mi)		Initial	2000	2050
Lake Tawakoni	756	1.86	1960	936,200	884,200	819,200
Lake Fork	493	0.30	1979	675,800	673,000	666,300
Toledo Bend	7,178	0.12	1966	4,447,000	4,412,300	4,361,300
Wood Co. Lakes			1962			
Quitman	31	0.50		7,440	6,900	6,100
Holbrook	15	0.60		7,990	7,700	7,200
Hawkins	30	0.50		11,890	11,300	10,600
Winnsboro	27	0.50		8,100	7,600	7,000
Lake Gladewater	35	0.50	1952	6,950	6,100	5,300
Lake Cherokee	158	1.01	1948	49,295	40,800	32,700
Martin Lake	130	0.40	1974	77,500	76,200	73,800
Lake Murvaul	115	0.40	1957	45,840	44,000	41,800
Brandy Branch	4	1.00	1982	29,513	29,500	29,400
Lake Vernon	112	0.40	1963	57,000	55,400	52,200
Anacoco Lake	209	0.40	1951	24,000	22,100	20,200

3.2 Existing Lakes and Reservoirs

A review of existing water supply reservoirs was conducted, and their hydrologic characteristics are summarized in Table 3.2. The current and projected yields of most of the reservoirs were updated based on estimated or actual (if available) sedimentation. Contracted amounts for each reservoir were inventoried to assess potential available supply. A brief description of each reservoir follows.

3.2.1 SRA Reservoirs and Canal System

Lake Tawakoni

Lake Tawakoni, impounded by Iron Bridge Dam, is used for municipal water supply. It is located on the Sabine River in Rains, Van Zandt, and Hunt Counties, nine miles northeast of Wills Point, Texas. According to the 1997 TWDB hydrographic survey, the reservoir has a surface area of 37,879 acres and a capacity of 888,137 acre-feet at the conservation level of 437.5 feet mean seal level (msl). The SRA permit for Lake Tawakoni is for 238,100 acre-feet per year for municipal use. The City of Dallas is entitled to 80 percent of Tawakoni's yield. The remaining permitted amount is fully contracted by SRA to local municipal users. Although SRA has had several requests for additional supply from Lake Tawakoni, this reservoir does not have any water available for meeting

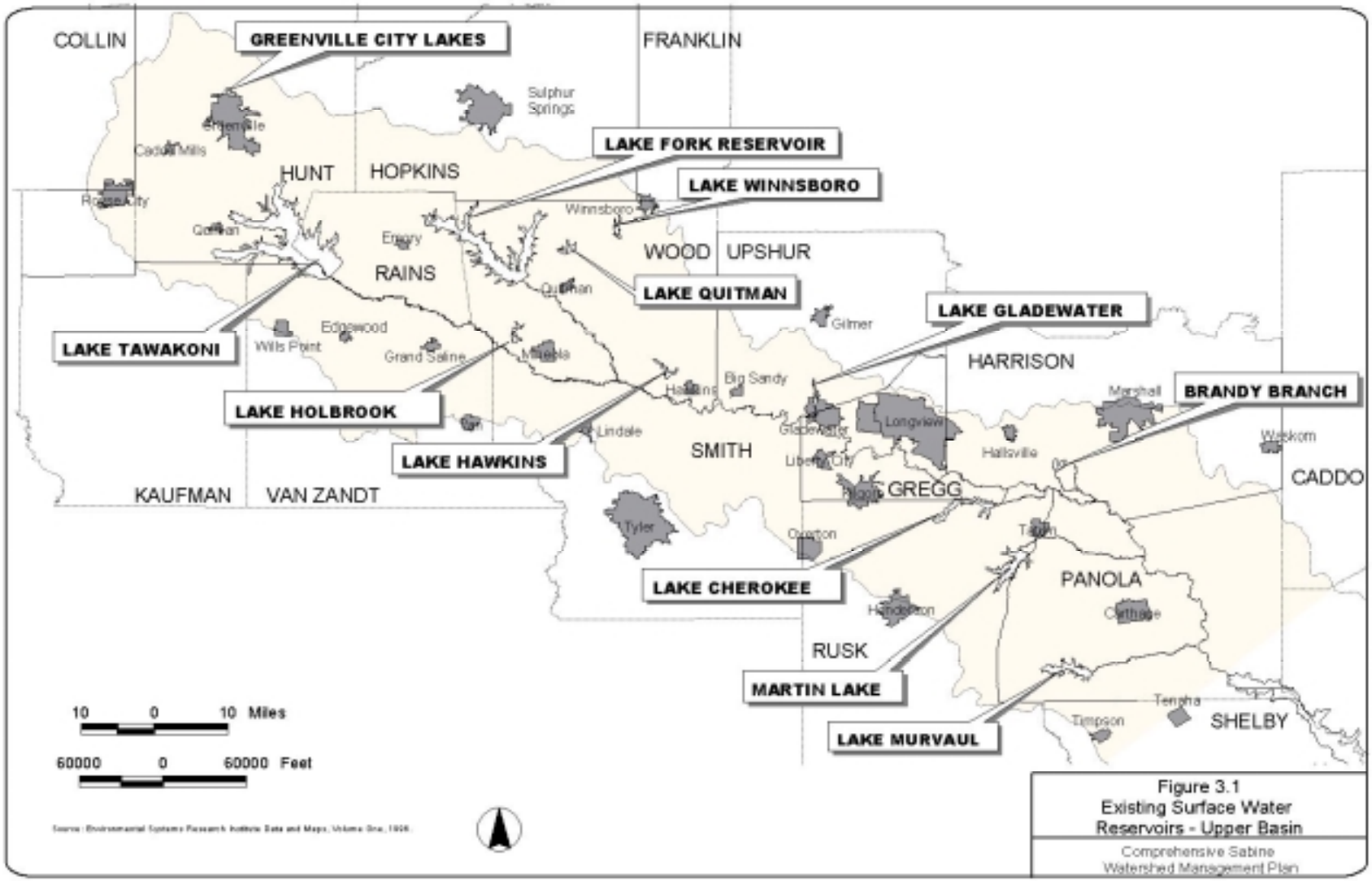

Figure 3.1
Existing Surface Water Reservoirs - Upper Basin

Comprehensive Sabine Watershed Management Plan

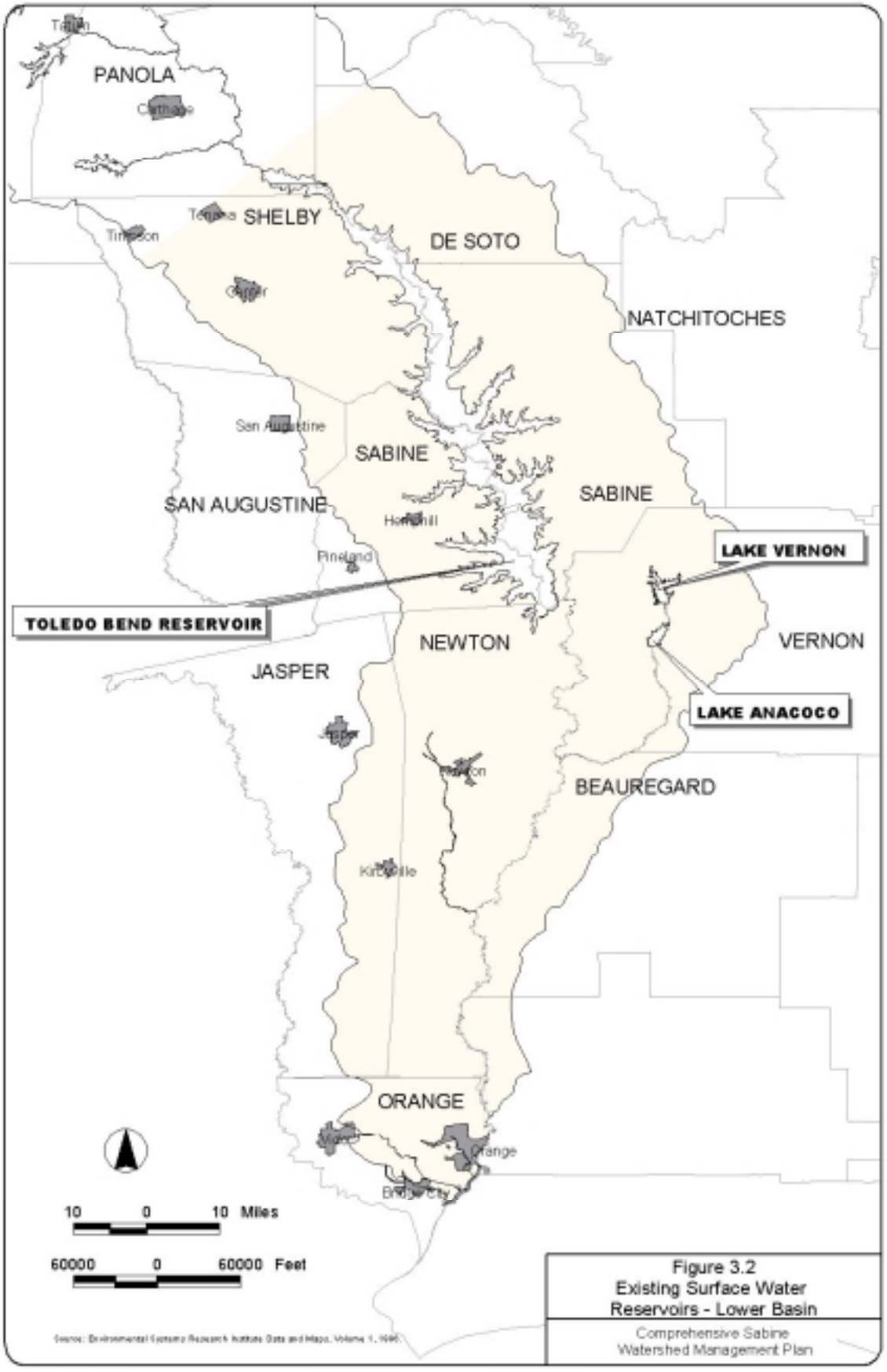

Figure 3.2
Existing Surface Water
Reservoirs - Lower Basin

Comprehensive Sabine
Watershed Management Plan

Table 3.2: Summary of Existing Reservoirs and Lakes in the Sabine Basin

Reservoir	Location (counties)	Stream	Drainage Area (SM)	Conservation Pool			Permitted Use (ac-ft/yr)	Yield Estimate (ac-ft/yr)	
				Surface Area (Acres)[1]	Capacity (ac-ft)[1]	Elev (msl)		1997	2050
Lake Tawakoni	Rains/Van Zandt/Hunt	Sabine River	756	37,879	888,137	437.5	238,100	230,891	221,459
Lake Fork	Wood/Rains/ Hopkins	Lake Fork Creek	493	27,690	675,800	403	188,600	187,962	187,031
Toledo Bend	Newton/ Shelby/Sabine	Sabine River	7,178	181,600	4,477,000	172.0	750,000	1,043,300[2]	1,043,300
Greenville City Lakes[3]	Hunt	Cowleech Fork	Not applicable	505	6,969	537	4,159	1,200 (2,800)	1,200 (2,800)
Quitman	Wood	Dry Creek	31	814	7,440	395.0	0	3,710	NA
Holbrook		Keys Creek	15	653	7,990	372.0	0	3,285	
Hawkins		Little Sandy	30	776	11,890	343.75	0	8,035	
Winnsboro		Big Sandy	27	806	8,100	419.0	0	5,760	
Lake Gladewater	Upshur	Glade Creek	35	800	6,950	300.0	1,679[4] (3,358)	6,900	NA
Lake Cherokee	Rusk/Gregg	Cherokee Bayou	158	3,083	41,506	280	62,400[5]	39,400	NA
Martin Lake	Rusk/Panola	Martin Creek	130	5,101	77,500	306	25,000	25,000[6]	25,000
Lake Murvaul	Panola	Murvaul Bayou	115	3,820	45,840	265.3	22,400	27,787	27,050
Brandy Branch	Harrison	Brandy Branch	4	1,242	29,513	340	11,000	11,000[7]	18,000[7]
Lake Vernon	Vernon Parish, LA	Anacoco Bayou	112	4,250	57,000	245	0	61,655	NA
Anacoco Lake	Vernon Parish, LA	Anacoco Bayou	209	2,600	24,000	194	0	28,025	NA

1. Area and capacity reported are original area and capacity, except for Lake Tawakoni and Lake Cherokee. For these two reservoirs the values are from the latest sediment survey.
2. Texas' portion of Toledo Bend's yield. Total yield from this reservoir is 2,086,600 ac-ft/yr.
3. Greenville City Lakes are a series of off-channel reservoirs that are used to impound diversions from Cowleech Fork Sabine River. Operational modifications could increase the firm yield to 2,800 ac-ft/yr.
4. Current permit amount. City of Gladewater has applied for an increase in their permit to 3,358 ac-ft/yr.
5. Permitted amount is based on the construction of two reservoirs. Only one reservoir was completed.
6. The firm yield is higher than this, but the reservoir cannot be operated at firm yield due to power plant operation requirements.
7. Natural yield is minimal. 11,000 ac-ft/yr is currently being imported from Cypress Basin. This amount may eventually increase to 18,000 ac-ft/yr.

the needs of new customers or the additional needs of existing customers. Based on results from the 1997 hydrographic survey, the firm yield of the lake is estimated to be 230,891 acre-feet per year.

In 1997, the Texas Water Development Board completed a volumetric survey of Lake Tawakoni for SRA, which provided updated area-capacity data and sedimentation rates. The reservoir yield was evaluated using the new area-capacity data, evaporation data from the 1985 Master Plan, and runoff data from the 1985 Master Plan that was adjusted for impacts of the full use of upstream water rights. Upstream return flows, which are not included in this yield analysis, are approximately 3,800 acre-feet per year. Based on this data, the current firm yield of Lake Tawakoni is estimated to be 230,891 acre-feet per year. When the 1997 area-capacity data was projected out at the historical rate of sedimentation, the 2050 yield is estimated at 221,459 acre-feet per year.

The SRA has a Joint Use Permit for Lake Tawakoni and Lake Fork which allows them to serve any of the customers from either of the lakes so long as use does not exceed the total permitted use amount. This allows customers who are closer to one lake, but have a contract to use the other, to use the closer lake for its supply and cut down on transmission costs. When actual use approaches the permitted amount, a pipeline connecting the two reservoirs will have to be constructed to maintain the current flexibility in operating the reservoirs jointly.

Lake Fork Reservoir

Lake Fork is located on the Lake Fork Creek in Wood, Rains, and Hopkins Counties, five miles west of Quitman, Texas. Lake Fork Reservoir has a surface area of 27,690 acres and a storage capacity of 675,800 acre-feet at the conservation level of 403 msl. The SRA holds a permit for 188,660 acre-feet per year for municipal and industrial water supply. The City of Dallas has a contract with SRA for 131,860 acre-feet per year, which is 70% of Lake Fork's permitted amount. However, 11,860 acre-feet per year of Dallas' contracted amount cannot be transferred out of the Sabine Basin. This water will be used to meet local demands when Dallas establishes a price under which SRA can sell this water. Almost the entire remaining amount in Lake Fork is committed through contracts or options. The current yield is estimated at 187,962 acre-feet per year. The 2050 yield is estimated at 187,031 acre-feet per year.

Toledo Bend Reservoir

Toledo Bend Reservoir is used for municipal, industrial, irrigation and hydropower purposes. The reservoir is located on the Sabine River in Sabine, Newton and Shelby Counties in Texas, and Sabine and Desoto Parishes, Louisiana. Toledo Bend Reservoir has a storage capacity of 4,477,000 acre-feet and a surface area of 181,600 acres at the conservation level of

172.0 feet msl. The SRA holds a water right for 750,000 acre-feet per year. Texas' full yield in the lake is 1,043,300 acre-feet per year, so there is an additional 293,300 acre-feet per year of unpermitted yield. SRA has attempted unsuccessfully to obtain a permit for this unpermitted yield. Currently SRA has contracted only 2,119 acre-feet per year to local municipal users and 17,922 acre-feet per year to an industrial customer. The rest of the right and additional yield is available for future. Over the past 29 years Hydropower operation at Toledo Bend Dam has provide an average of over 240,000 megawatt-hours per year. This renewable energy source has saved approximately 13 million barrels of oil, worth about $200 million.

SRA Canal Division

SRA has a right to divert 100,400 acre-feet per year for municipal and industrial purposes and 46,700 acre-feet per year for irrigation purposes through its SRA canal supply system. The water is diverted from the Sabine River in southern Orange County through an intake channel to the SRA pump station. From there it is lifted into the SRA Canal which travels through Orange County and delivers water to SRA's customers. A study conducted for SRA in 1995 showed that the conveyance limit of the canal system is 309 million gallons a day, or 346,000 acre-feet per year (Brown & Root, 1987). The canal has an average top width of 40 feet and average bottom width of 20 feet. The top of the canal is at 26 feet msl at the pumping station. SRA has a permit to divert 100,400 acre-feet per year for municipal and industrial use and 46,700 acre-feet per year for irrigation use. Out of its municipal and industrial permit, SRA has committed 60,000 acre-feet per year.

3.2.2 Other Sabine Basin Lakes and Reservoirs

Greenville City Lakes

The City of Greenville owns and operates six off-channel storage reservoirs for a portion of its municipal water supply. Presently only Reservoirs 4, 5 and 6 are used for water supply. Reservoirs 4 and 6 also serve as cooling water basins for the City's power plant. The City's diversion point is located on the Cowleech Fork Sabine River between U.S. Highway 69 and Sate Highway 34. The water flows by gravity from the diversion point into the interconnected reservoirs. The City's water right allows a total impoundment of 6,969 acre-feet and diversion and use of 4,159 acre-feet per year. Based on a recent evaluation of the Greenville Lakes by Freese and Nichols, the estimated firm yield of the reservoirs under current operating conditions is 1,200 acre-feet per year. Minor modifications to the operation of the system would increase the firm yield to 2,800 acre-feet per year. The reservoirs have a combined surface area of 505 acres.

Greenville has historically used most of their permitted use from these reservoirs each year, and the City is currently studying the options to increase the yield of its reservoirs, including the possibility of building an additional off-channel reservoir for additional supply.

Wood County Lakes (Quitman, Holbrook, Hawkins, and Winnsboro)

The four Wood County Lakes were built in 1962 by Wood County for the purposes of recreation and flood control. The reservoirs are owned and operated by Wood County. The capacities and surface areas of the reservoirs are listed in Table 3.2. Yield estimates were calculated for this study by updating the information from the 1985 Master Plan. The results indicate that as much as 20,000 acre-feet per year of firm yield may be available from these lakes for water supply if the permits were amended to include consumptive water use. It is unlikely that these recreational lakes would be operated at firm yield due to the decreased aesthetic and recreational benefits associated with significant lake level fluctuations. However, these reservoirs, if converted to water supply, could be very beneficial in meeting the local needs that cannot be met by Lake Fork.

Lake Gladewater

Lake Gladewater was completed in 1952 and is owned and operated by the City of Gladewater. It is located in the northwest part of the City of Gladewater in Upshur County. At the conservation level of 300 feet msl, it has a storage capacity of 6,950 acre-feet and an area of 800 acres. The City holds a water right for 1,679 acre-feet per year for municipal water use. Previous yield studies as well as the yield estimates done for this study, indicate the yield of the lake is around 6,900 acre-feet per year. The City has recently submitted an official request to TNRCC to increase their permitted amount to 3,358 acre-feet per year. If this increase is granted, approximately 3,500 acre-feet per year of firm yield would be unpermitted. However, it is unlikely that the City of Gladewater would allow the lake to be operated at its full yield because it would decrease the aesthetic value of the property around the lake, which the City leases to homeowners.

Lake Cherokee

Lake Cherokee is privately owned and operated by Cherokee Water Company, which is comprised of 1,500 stockholders, each of whom pay a yearly rental for one parcel of waterfront land. Many of the stockholders live on these waterfront parcels. The dam is located on Cherokee Bayou about six miles upstream of the mouth. The reservoir is in both Rusk and Gregg Counties and is 12 miles southeast of Longview. According to the 1997 hydrographic survey by TWDB, Lake Cherokee has a capacity of 41,506 acre-feet and an area of 3,083 acres

at the conservation level of 280 msl. The original water right permit was granted based on the construction of two reservoirs, but only one was actually built. Therefore the 62,400 acre-feet per year right far exceeds the actual yield of the existing lake. Cherokee Water Company has contracts totaling 18,000 acre-feet per year for municipal and industrial purposes.

In December 1997, HDR Engineering performed a study of Lake Cherokee using the 1997 TWDB volumetric survey. HDR determined the firm yield of the lake is 39,400 acre-feet per year. However, the firm yield is based on emptying the lake during a critical drought, and the owner of the lake, Cherokee Water Company, is opposed to any operational changes that would increase lake level fluctuations. Based on the company's preferred operating condition of limiting drawdown to 4.5 feet, HDR concluded there is no additional supply available from Lake Cherokee beyond the currently contracted amount of 18,000 acre-feet per year.

Martin Lake

Martin Lake was constructed in 1974 and is owned and operated by Texas Utilities Electric Company (TU Electric) for the purpose of cooling at a steam electric power plant. The reservoir is located in Rusk and Panola Counties on Martin Creek. It has a capacity of 77,500 acre-feet and an area of 5,101 acres at the conservation level of 306 feet msl. TU Electric holds the right to divert and consumptively use 6,250 acre-feet per year for each 750-megawatt power unit. At the time the permit was granted there were to be three power units installed with the fourth planned for some time in the future. At this time, it is unclear if or when the fourth will be built. TU is currently in the process of requesting a change to the permit that will give them the right to 25,000 acre-feet per year regardless of how many power units are present. Yield studies on Martin Lake indicate the firm yield is greater than the 25,000 acre-feet per year permit. However, TU must maintain a certain lake level for their pumps to operate, and cannot operate the lake at its firm yield. Due to these constraints, there would not be any additional supply available from Martin Lake for the needs of the Sabine Basin.

Brandy Branch

Brandy Branch Reservoir was built in 1982. It is owned and operated by Southwestern Electric Power Company (SWEPCO) to provide cooling for SWEPCO's Pirkey Power Plant. It is located on Brandy Branch in Harrison County about 10 miles southwest of Marshall, Texas. It has an area of 1,242 acres at the conservation elevation 340 feet msl. The reservoir has a very small drainage area (four square miles) and thus has very little natural inflow. The inflow to the reservoir is supplemented by the interbasin transfer of 11,000 acre-feet per year from the Cypress Basin. SWEPCO buys this water from Northeast Texas Municipal Water District out of Lake O' the Pines. The water right for Brandy Branch allows for the impoundment of a 29,513 acre-foot

reservoir and consumptive use of 11,000 acre-feet per year. There is an option to increase the interBasin transfer and the consumptive use to 18,000 acre-feet per year. All of this water would be used for solely for the power plant, therefore, no additional supply is available from Brandy Branch for the needs of the Sabine Basin.

Lake Murvaul

Lake Murvaul was completed in 1958 and is owned and operated by Panola County Fresh Water Supply District Number One, which has a water right to divert and use 22,400 acre-feet per year from the lake. The reservoir is located entirely in Panola County and is about 10 miles southeast of Carthage, Texas. Lake Murvaul has a capacity of 45,840 acre-feet and an area of 3,820 acres at the conservation level of 265.3 feet msl. The District has a contract with the City of Carthage that grants to the City the exclusive right to withdraw water from the lake. The District is prohibited from selling water to any other entity without express consent from the City, and then the water can be sold only to entities within Panola County. The City's contract allows them to withdraw 13,440 acre-feet per year. This amount will supply the projected peak-day needs of Carthage through year 2030. The remainder of the permitted amount (8,960 acre-feet per year) could be used to meet other needs within Panola County.

3.2.3 Louisiana Lakes and Reservoirs

The Sabine River Authority, State of Louisiana (SRA Louisiana) has jurisdiction over water resources in the Louisiana portion of the Sabine Basin. This includes the Louisiana share of Toledo Bend Reservoir, two additional reservoirs and a canal diversion system.

SRA Louisiana Canal Division

The Louisiana Sabine River Diversion Canal System provides water for local industries and irrigators in southwestern Louisiana. It is located about four miles south of Starks, Louisiana on the Old Sabine River. The system consists of approximately 40 miles of conveyance facilities. The diversion system's primary users are industries in the Lake Charles area and farms and private users along the canal route. In fiscal year 1995-1996, the Louisiana Canal System used a total of 52,309 acre-feet of water.

Lakes Vernon and Anacoco

Lake Vernon and Anacoco Lake are located in Vernon Parish on Anacoco Bayou, a tributary of the Sabine River. Lake Vernon is located upstream of Louisiana State Highway 8, and its outflow flows down Anacoco Bayou to Anacoco Lake. Currently, both lakes are managed by the Anacoco Prairie Game and Fish Commission and maintained by the Louisiana Department of Transportation and Development.

Lake Vernon was constructed in 1963 for recreation and industrial water supply. It has a capacity of 57,000 acre-feet and an area of 4,250 acres at the conservation level of 245 feet msl. The lake is used for boating, fishing, and hunting. There are no existing diversions from Lake Vernon, but new industrial development in Leesville may eventually require water from the lake.

Anacoco Lake is downstream of the mouth of Prairie Creek on Anacoco Bayou and has a drainage area of 209 square miles. The Louisiana Department of Wildlife and Fisheries built this lake in 1951 for recreational use. The lake has a storage capacity of 24,000 acre-feet and an area of 2,600 acres at the conservation level of 194 feet msl. Anacoco Lake remains a recreational lake with fishing and boating activities. Historically, during low flows in the Sabine River, a local industry has withdrawn water from Anacoco Lake. Currently there are no diversions from the lake and none planned.

3.3 Committed Supplies

As shown on Table 3.3, the surface water supplies located in the Upper Basin are nearly fully committed, while there is ample supply available in the Lower Basin. Of the two reservoirs operated by SRA in the Upper Basin (Lake Tawakoni and Lake Fork), there is only a small amount of uncommitted supply, and this does not account for reduced yields in the lakes due to sedimentation. If the sedimentation rate continues as projected, by year 2050 the yield of the Lake Tawakoni-Lake Fork system may actually be 18,100 acre-feet per year less than the current contracted amount. The only other reservoir in the Upper Basin with available supply within its existing permit is Lake Murvaul. All of the yield from Lake Murvaul is committed to the needs of Panola County and cannot be used for needs in other areas. Lake Gladewater has some available supply based on its yield calculation. However, the City of Gladewater will probably not allow use of the full reservoir yield if it adversely affects lake property owners. A possible future water supply source is the Wood County Lakes. If these lakes were to be converted to water supply reservoirs, there is a potential supply of 20,000 acre-feet per year. Due to the recreational nature of these lakes it is unlikely that Wood County would agree to operate the lakes at full yield for water supply purposes.

In the Lower Basin there is an abundant supply. Toledo Bend Reservoir alone has over 747,000 acre-feet per year of uncommitted supply within its existing permit. There is an additional 293,300 acre-feet per year of potential supply available through the unpermitted yield of the reservoir. The SRA Canal system also provides a source of additional supply in the Lower Basin.

Table 3.3: Committed Surface Water Supply - Texas Sabine Basin

Existing Water Supply	Permitted Amt (ac-ft/yr)	Total Committed Amount (ac-ft/yr)	1997 Available Supply (ac-ft/yr)	
			Permit	Additional Yield
Upper Basin:				
Lake Tawakoni	238,100	238,402	0	0
Lake Fork Reservoir	188,660	188,190	169[1]	0
Greenville Lakes	4,159	4,159	0	0
Wood Co. Lakes	0	0	0	20,790
Lake Gladewater	3,358[2]	3,358	0	3,542
Lake Cherokee	62,400[3]	18,000	0	0
Martin Lake	25,000	25,000	0	NA
Brandy Branch	11,000	11,000	0	0[4]
Lake Murvaul	22,400	13,440	8,960[5]	4,650[5]
Run of River				
Longview	20,547	20,547	0	NA
Eastman Chemical	134,500	134,500	0	NA
Other	13,374	13,374	0	NA
Total (Upper Basin)	723,438	669,410	9,129	28,982
Lower Basin:				
Toledo Bend	750,000	20,041	729,959	293,300[6]
SRA Canal System	147,100	59,532	87,568	0
Total (Lower Basin)	897,100	79,573	817,527	293,300

1. This is the available supply above the joint permit with Lake Tawakoni, but does not include 11,860 acre-feet from Dallas' contracted amount.
2. Gladewater currently has a permit for 1,680 ac-ft/yr. They have applied for an increase in their permit to 3,358 ac-ft/yr.
3. The permitted amount was based on the construction of two reservoirs. Lake Cherokee has an estimated yield of 39,400 ac-ft/yr. Operators of Lake Cherokee indicate there is no additional supply above the contracted 18,000 ac-ft/yr.
4. SWEPCO has a contract with NTMWD to increase the amount of water imported from Lake O' the Pines to 18,000 ac-ft/yr, if needed. However, this water is solely for the power plant operation and will not be used for water supply purposes.
5. Water from Lake Murvaul must remain in Panola County and is not available for needs outside the county.
6. SRA has been unsuccessful in previous attempts to obtain a permit for this additional yield.

3.4 Contracting Issues

Historical records of water use in the Upper Basin indicate there are several currently underutilized water rights in this area. Generally, this water is being reserved for the future use of the right holders and cannot be considered as available supply. While there may be special situations where the right holder may no longer need the full amount of their existing water right and would release a portion for other uses, the present water rights system used in Texas encourages water users to secure contracts or options for all possible future needs. Releasing some water contracts may jeopardize the holder's ability to re-contract for this water at a later date.

The standard procedure for contracting water is to set an amount that the customer will take on an annual basis. If the reservoir is a customer's secondary source of supply, then generally the contracted amount is not needed every year. A change in this procedure could allow the customer to designate how much it would need over a period of several years. This approach will generally lead to a smaller allocation of firm yield under the terms of the agreement, leaving as much as possible of the yield available for other uses. This concept would work only in cases where SRA reservoirs were a customer's secondary source of supply. This method of contracting is not consistent with the current way TNRCC normally operates, and may take considerable time and effort to work out with TNRCC.

Another option to make water available would be for SRA to renegotiate a contract before its expiration date if the customer requests it, is not using the water, and does not plan to use the water in the future. Any water released through this means could be available to other entities that have already made requests for the water.

A more questionable option for making more water available is similar to TNRCC's short-term permits. The idea is to make water available that is contracted but not currently being used. This unused water could be "subcontracted" to other entities for use in the short-term until the time when the first entity needs the water. Many of the entities who have contracts with SRA from Lake Fork or Tawakoni Reservoir have intended that water for future use as far as 20 years from now. That water could be used by other entities in the interim period. SRA could facilitate this "subcontracting", and all parties would have to agree to the terms of the contracts. One important consideration for this option would be the ability to terminate these short-term contracts at the end of their terms. If an entity is completely dependent upon the source of supply, it would be difficult for the SRA to terminate the supply to that entity and return it to the original contracted customer, even though the contract was specified as a short-term contract.