# APPENDIX I

## TEXAS WATER DEVELOPMENT BOARD TABLE 4
## WATER SUPPLY AVAILABLE TO REGION C

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**TEXAS WATER DEVELOPMENT BOARD TABLE 4**
**WATER SUPPLY AVAILABLE TO REGION C**

Texas Water Development Board Table 4 is attached at the end of this appendix. The rest of the appendix summarizes the sources of the data in the table. The table represents the reliable supply currently available to the region. The table is based on:

- Existing water rights
- Firm yields for reservoirs
- Reliable supplies from reservoir systems
- Renewable supplies from groundwater
- Estimated reliable local supplies for irrigation, mining, and livestock
- Existing and permitted reuse projects

Limits to water supply due to current water transmission facilities and wells are not considered in the development of TWDB Table 4. Actual 1996 use in TWDB Table 4 is based on data from the Texas Water Development Board [9] and the Texas Natural Resource Conservation Service [13].

## Water Supply Systems

The water supply systems listed are operated as physical systems – the water they provide cannot easily be separated by individual source. The supply available from each system is limited to the current Texas Natural Resource Conservation Commission (TNRCC) water rights or the firm yield, whichever is less. Specific sources of information and more detailed discussions on water supply available for each system are given below.

**North Texas Municipal Water District System.** The North Texas Municipal Water District system includes four sources – Lake Lavon, Lake Texoma, Chapman Lake in the Sulphur Basin, and permitted reuse of treated wastewater returned to the Lake Lavon

watershed from the Wilson Creek Wastewater Treatment Plant. Table I-1 shows the supply available to the system from each source.

- The supply available from Lavon is taken from previous TWDB analyses [37].
- The supply available from Texoma is from the TNRCC water right, which is based on firm yield for the storage controlled by NTMWD. North Texas Municipal Water District's water right allows a diversion of 84,000 acre-feet per year from Lake Texoma. However, due to channel losses in delivery to Lake Lavon where the water is used, only 77,300 acre-feet per year can be used for water supply in Region C. (Note that supplies for other users from Lake Texoma are included in the section on reservoirs in Region C.)
- The supply available from Chapman is NTMWD's share of the estimated firm yield of the project. The derivation of the firm yield for Lake Chapman is discussed in the section of this appendix on imports. (Note that supplies from Lake Chapman for other Region C users are included in the section on imports.)
- The supply available from reuse is based on the fact that the North Texas Municipal Water District currently has a water right to reuse up to 35,943 acre-feet per year of the discharge from its Wilson Creek wastewater treatment plant upstream from Lake Lavon [12].

**Lost Creek/Jacksboro System (Jacksboro).** The supply is from the TNRCC permit [12]. HDR's original analysis for the project indicates that this is the yield of the project if releases are made for prior downstream water rights in Lake Bridgeport [14].

**West Fork less Bridgeport Local System (Tarrant Regional Water District).** The supply is from firm yield studies for the reservoirs conducted by Freese and Nichols for

**Table I-1**

**Supply Available from the North Texas Municipal Water District System by Source**

| Source | 1996 Use/ (Ac-Ft) | Available Supply in Acre-Feet Per Year | | | | | |
|---|---|---|---|---|---|---|---|
| | | 2000 | 2010 | 2020 | 2030 | 2040 | 2050 |
| Lavon | 126,063 | 103,900 | 102,200 | 100,600 | 98,800 | 97,000 | 95,200 |
| Texoma | 35,284 | 77,300 | 77,300 | 77,300 | 77,300 | 77,300 | 77,300 |
| Chapman | 1,256 | 53,600 | 53,200 | 52,800 | 52,400 | 52,000 | 51,600 |
| Reuse | 23,345 | 35,943 | 35,943 | 35,943 | 35,943 | 35,943 | 35,943 |
| TOTAL | 185,948 | 270,743 | 268,643 | 266,643 | 264,443 | 262,243 | 260,043 |

this project. Table I-2 shows the firm yield by reservoir. (Note that a part of the yield available from Lake Bridgeport is reserved for use around the lake. This supply is listed separately in the section on reservoirs in Region C and is not available to the system.)

Under current conditions, this system provides somewhat less supply than shown. With existing facilities, it is not possible to divert water from Lake Worth when the lake is drawn down more than four feet, which makes some of the water stored in Lake Worth unavailable. In addition, the Tarrant Regional Water District operates its water supplies on a safe yield basis, which provides a smaller supply than the firm yield numbers shown. (In safe yield operation, the user takes less than the firm yield in order to leave a reserve supply in the reservoir in case a drought worse than any historical drought occurs.) Table I-2 also shows the safe yield available from this system for comparison with the firm yield.

**Cedar Creek/Richland-Chambers System (Tarrant Regional Water District).** The supply is limited by TNRCC water rights [12] until 2050. (Previous yield studies by Freese and Nichols [39, 40] and HDR [41] indicate that the yield for each reservoir exceeds the water right until 2050.) As of 2050, the estimated firm yield after sedimentation for Richland-Chambers Lake is slightly less than the permitted diversion. Table I-3 shows the supply available from this system by source. Both Cedar Creek Lake and Richland-Chambers Lake have a firm yield in excess of their permit. The unpermitted yield of each lake is discussed in the section on unpermitted yields. (Note that Corsicana also has a diversion from Richland-Chambers Lake. This diversion is included in the section on reservoirs in Region C.)

**Ray Hubbard/Tawakoni System (Dallas).** Table I-4 gives the supply for this system by source. (Note that the Lake Tawakoni yield in this system is only for Dallas' share of the yield. Terrell's share is included in the section on imports. The remainder of the reservoir's yield is not used in Region C.) The supplies for Lake Ray Hubbard and

**Table I-2**

**Supply Available from the West Fork Less Bridgeport Local System**

| Source | 1996 Use/ (Ac-Ft) | Water Supply Available in Acre-Feet Per Year | | | | | |
|---|---|---|---|---|---|---|---|
| | | 2000 | 2010 | 2020 | 2030 | 2040 | 2050 |
| Bridgeport | -- | 73,500 | 73,200 | 72,900 | 72,600 | 72,400 | 72,200 |
| Reserved for Local Use | -- | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 |
| Bridgeport in System | -- | 58,500 | 58,200 | 57,900 | 57,600 | 57,400 | 57,200 |
| Eagle Mountain | -- | 27,100 | 26,400 | 25,700 | 25,000 | 24,200 | 23,500 |
| Worth | -- | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| Total System (firm yield) | 75,350 | 86,600 | 85,600 | 84,600 | 83,600 | 82,600 | 81,700 |
| Safe Yield System Supply* | | 72,000 | 70,000 | 68,000 | 66,000 | 64,000 | 62,000 |

*Safe yield system supply is based on previous analyses by Freese and Nichols [14]

**Table I-3**

**Supply Available from the Cedar Creek/Richland-Chambers System**

| Source | 1996 Use/ (Ac-Ft) | Water Supply Available in Acre-Feet Per Year | | | | | |
|---|---|---|---|---|---|---|---|
| | | 2000 | 2010 | 2020 | 2030 | 2040 | 2050 |
| Cedar Creek | -- | 175,000 | 175,000 | 175,000 | 175,000 | 175,000 | 175,000 |
| Richland-Chambers | -- | 210,000 | 210,000 | 210,000 | 210,000 | 210,000 | 207,700 |
| Total | 162,313 | 385,000 | 385,000 | 385,000 | 385,000 | 385,000 | 382,700 |

**Table I-4**

**Supply Available from the Ray Hubbard/Tawakoni System**

| Source | 1996 Use/ (Ac-Ft) | Water Supply Available in Acre-Feet Per Year | | | | | |
|---|---|---|---|---|---|---|---|
| | | 2000 | 2010 | 2020 | 2030 | 2040 | 2050 |
| Ray Hubbard | 80,535 | 59,500 | 59,100 | 58,700 | 58,400 | 58,000 | 57,600 |
| Tawakoni | 119,327 | 181,800 | 181,300 | 180,800 | 180,200 | 179,700 | 179,100 |
| Additional Dry-Year Supply from System Operation | | 8,925 | 8,865 | 8,805 | 8,760 | 8,700 | 8,640 |
| Total | 199,862 | 250,225 | 249,265 | 248,305 | 247,360 | 246,400 | 245,340 |

Lake Tawakoni are based on yield studies conducted by Chiang, Patel, and Yerby [42] for Dallas. (Freese and Nichols' yield studies for Lake Tawakoni in the *Comprehensive Sabine Basin Management Plan* for the Sabine River Authority [43] are consistent with the Chiang, Patel and Yerby yields.) The additional dry-year supply from system operation represents 15% overdraft of Lake Ray Hubbard in the highest use year. This would be compensated by underdrafting Lake Ray Hubbard in other years of an extended drought.

**Elm Fork/Lake Grapevine System (Dallas).** Table I-5 gives the supplies for this system by source. (Note that the supplies given are only for Dallas' share of each lake. Supplies for other users are given in the section on reservoirs in Region C.) The supplies for Lake Ray Roberts, Lake Lewisville, and the Elm Fork channel dams are based on yield studies for Dallas conducted by Chiang, Patel, and Yerby [42]. Water rights in Lake Grapevine are currently in dispute among Dallas County Park Cities Municipal Utility District Number One, Dallas, and Grapevine. For this study, each user was given the minimum yield proposed for them by any party in the dispute [44]. The remaining firm yield of the reservoir (4,100 acre-feet per year) is not allocated to any specific party. The additional dry-year supply from system operation represents 15 percent overdrafting of Lake Ray Roberts, Lake Lewisville, and Lake Grapevine in the highest use year. This would be compensated by underdrafting these sources in the other years of an extended drought.

## Reservoirs in Region C

All major reservoirs in Region C not included in water supply systems are listed, as are some smaller reservoirs used for municipal supply. In general, the supply available is limited to the current Texas Natural Resource Conservation Commission (TNRCC) water right or the firm yield, whichever is less. If the firm yield of the reservoir exceeds the water right, the extra yield is discussed in the section on unpermitted reservoir yield. Specific sources of information on water supply available for each reservoir are discussed below.

**Table I-5**

**Supply Available from the Elm Fork/Lake Grapevine System**

| Source | 1996 Use/ (Ac-Ft) | Water Supply Available in Acre-Feet Per Year | | | | | |
|---|---|---|---|---|---|---|---|
| | | 2000 | 2010 | 2020 | 2030 | 2040 | 2050 |
| Ray Roberts/Lewisville | 188,042 | 164,300 | 163,100 | 161,800 | 160,600 | 159,300 | 158,100 |
| Elm Fork Channel Dams | 17,957 | 11,200 | 11,200 | 11,200 | 11,200 | 11,200 | 11,200 |
| Lake Grapevine | 32,709 | 6,400 | 6,400 | 6,400 | 6,400 | 6,400 | 6,400 |
| Permit | | 10,000 | 10,000 | 0 | 0 | 0 | 0 |
| TXU Industrial Permit | | 2,915 | 2,915 | 2,915 | 2,915 | 2,915 | 2,915 |
| Additional Dry-Tear Supply from System Operation | | 25,605 | 25,425 | 25,230 | 25,050 | 24,855 | 24,675 |
| Total | 238,708 | 220,420 | 219,040 | 207,545 | 206,165 | 204,670 | 203,290 |

**Moss.** The supply is limited by the water right [12]. Freese and Nichols' 1961 yield study for the reservoir [45] and previous TWDB work show that the firm yield is substantially in excess of 4,500 acre-feet per year, and the excess is discussed in the section on unpermitted reservoir yields.

**Muenster.** The reservoir is not yet built and thus has no supply. The previous Texas Water Development Board study shows a yield of 500 acre-feet per year once the reservoir is built [37], which matches the TNRCC water right [12].

**Texoma (Texas' Share).** The supply for each user with a permit in Lake Texoma is based on the user's TNRCC water right [12]. TNRCC water rights are based on firm yield. (North Texas MWD's yield is included in the NTMWD system.) Most of the conservation storage in Lake Texoma is currently dedicated to hydropower generation. As a result, there is considerable unpermitted yield in Lake Texoma, and this unpermitted yield is discussed in the section on unpermitted reservoir yields below.

**Randell.** The supply is taken from previous TWDB analyses [37].Valley. This reservoir has no reliable supply without diversions from Lake Texoma, which are shown under TXU's Lake Texoma water right.

**Bonham.** The supply is based on the TNRCC water right [12]. Previous TWDB analyses show a yield greater than the permitted diversion[37]. The firm yield in excess of the water right is discussed in the section on unpermitted reservoir yields.

**Coffee Mill.** This is a recreation reservoir with no diversion permitted [12].

**Kiowa.** This is a recreation reservoir with no diversion permitted [12].

**Ray Roberts (Denton).** The initial supply is from the raw water supply contract between Dallas and Denton [46]. The reduction over time is proportional to the estimated reduction in yield for Dallas' supply in the Lake Ray Roberts/Lewisville system as determined by studies for Dallas by Chiang, Patel, and Yerby [42].

**Lewisville (Denton).** The initial yield is from the raw water supply contract between Dallas and Denton [46]. The reduction over time is proportional to the estimated reduction in yield for Dallas' supply in the Lake Ray Roberts/Lewisville system as determined by studies for Dallas by Chiang, Patel, and Yerby [42].

**Bridgeport Local.** The supply is from the TNRCC permit [12]. (This water can be made available downstream if not fully utilized around the lake.)

**Benbrook.** The supply is limited by the TNRCC water right [12] until 2010. Values after 2010 are based on yield studies by Freese and Nichols [39].

**Weatherford.** The supply is taken from previous TWDB analyses [37].

**Grapevine.** Water rights in Lake Grapevine are currently in dispute among Dallas County Park Cities Municipal Utility District Number One, Dallas, and Grapevine. For this study, each user was given the minimum yield proposed for them by any party in the dispute [44]. The remaining firm yield of the reservoir (4,100 acre-feet per year) is not allocated to any specific party. Dallas' share of the yield is included in their Elm Fork/Lake Grapevine system.

**Arlington.** The year 2000 yield for Lake Arlington is based on analyses by Freese and Nichols. The reduction in yield over time is based on previous TWDB work [37]. As currently operated for terminal storage with a minimum elevation to allow power plant use, Lake Arlington has essentially no reliable supply in a drought year.

**Joe Pool.** The supply is taken from previous TWDB analyses [37].

**Mountain Creek.** The supply is taken from previous TWDB analyses [37] and includes the impact of releases from Joe Pool Lake.

**North Lake.** This reservoir has no reliable supply without purchases from Dallas.

**White Rock.** The supply is limited to the TNRCC water right for irrigation [12] since the reservoir is currently used only for irrigation purposes.

**Terrell.** The supply is taken from previous TWDB analyses [37].

**Clark.** Based on discussions with the City Manager of Ennis, this reservoir (which is not currently used for water supply) is assumed to have no reliable supply in a drought year.

**Bardwell.** The supply is based on yield studies that incorporate area-capacity data based on the recent Texas Water Development Board sedimentation survey [47]. For the next few years, Bardwell has yield in excess of its water right, and the additional yield is discussed in the section on unpermitted reservoir yield.

**Waxahachie.** The supply is taken from previous TWDB analyses [37].

**Forest Grove.** In 1974, Freese and Nichols conducted some analyses for Texas Utilities (predecessor of TXU) that showed an average supply of 3,700 acre-feet per year during the critical period in excess of water purchased from Cedar Creek Lake [72].

**Trinidad City Lake.** The yield is equal to the permitted diversion under the TNRCC water rights.[12]

**Trinidad.** The supply is taken from previous TWDB analyses [37] and includes the impact of diversions from the Trinity River into the lake under TXU Electric's water right permit.

**Navarro Mills.** The supply is limited by the TNRCC water right [12] until 2050. (Previous TWDB analyses [37] show that the yield exceeds the water right until 2050.) The 2050 supply is based on the previous TWDB analyses [37]. The yield in excess of the current water right is discussed in the section on unpermitted reservoir yield.

**Halbert.** The supply is taken from previous TWDB analyses [37].

**Fairfield.** The supply is from a 1968 Forrest and Cotton study [48] with a maximum allowable drawdown of 10 feet to allow the power plant to operate. (The remaining reliable supply from Lake Fairfield is based on diversions from the Trinity River of water purchased from the Trinity River Authority and charged against the Lake Livingston water right. This supply is shown as an import to the region in this table.)

**Bryson.** The available supply is assumed to equal the TNRCC water right [12]. Recent diversions have been nearly that amount.

**Mineral Wells.** The supply is taken from previous TWDB analyses [37].

**Wortham Lake.** This lake has no reliable supply.

**Teague Lake.** This lake has no reliable supply.

## Groundwater

Groundwater availability by county and basin was taken from previous TWDB analyses of aquifers in Region C [38]. No additional groundwater studies have been made for this project. The only changes from previous TWDB groundwater availability figures were:

- The addition of 2,919 acre-feet per year of available water in Fannin County from the "other/undifferentiated" aquifer in the Red River Basin. Historically, this water has been pumped from the Red River alluvium for irrigation use [15], and the amount available is based on historical use. Such diversions should be available as a reliable water supply in the future.
- The 2050 availability for the Trinity Aquifer was set equal to the estimated annual recharge. (Previous TWDB analyses had the availability equal to the average annual recharge for 2030 and 2040 and somewhat less than the average annual recharge for 2050.)

The large groundwater availability shown for the Carrizo-Wilcox Aquifer in Freestone County may not be of great practical significance. Demand in Freestone County is much less than the

availability shown and is unlikely to increase to the level of the availability. In addition, some of the Freestone County water suppliers using the Carrizo-Wilcox have expressed interest in converting to a surface water supply due to concerns over quality and reliability even at the current low use levels.

## Irrigation Local Supply

The local irrigation availability is based on existing surface water rights for irrigation not associated with major reservoirs [10]. The TNRCC is currently developing Water Availability Models to determine the reliable supply available for existing water rights in Texas. However, the Water Availability Models for Region C basins are not yet available. The local irrigation values for Region C counties in Table 4 represent estimated reliable supplies. They were developed using the following approach:

- Irrigation water rights on major streams were assumed to be reliable.
- Irrigation water rights on minor streams were assumed to be reliable if they have authorized storage equal to or greater than one-half the authorized diversion.
- Irrigation water rights on minor streams were assumed not to be reliable if they have authorized storage less that one-half the authorized diversion.

In some cases, the estimated supply from surface water for irrigation exceeds the projected irrigation demand for the county.

## Mining Local Supply

Projected mining uses from TWDB represent the projected diversion of water, which may be much greater than the consumptive use of water in some cases. As a result, a water right permit with a small consumptive use can sometimes provide a large mining diversion. Also, local supplies which may not be state water (such as quarries and gravel pits filled by groundwater) may provide substantial supplies for non-consumptive mining use. The maximum historical use from these small local sources (according to TWDB records) is assumed to be available in the future.

## Livestock Local Supply

Most surface water used for livestock is taken from unpermitted stock ponds or directly from streams. The maximum historical use from these sources (according to TWDB records) is assumed to be available in the future.

## Reuse

The reuse listed in TWDB Table 4 is limited to currently permitted and operating reuse projects and existing direct reuse for irrigation or industrial purposes. The values for reuse in Region C given in TWDB Table 4 are based on the following analyses:

**Trinity River Authority/Los Colinas.** The Trinity River Authority (TRA) has a contract with Dallas County Utility and Reclamation District to supply water for irrigation use in Los Colinas in Irving. The contract allows use of 8,000 acre-feet per year or more, but actual use to date has been 2,400 acre-feet per year [9, 49]. The future amount available is assumed to be 8,000 acre-feet per year.

**Trinity River Authority/Waxahachie.** The TRA has a water right to reuse up to 5,129 acre-feet per year of the discharge from Waxahachie's wastewater treatment plant [12]. The supply is based on 7% channel losses and 65% return flow from Waxahachie's projected municipal water use, limited to the 5,129 acre-feet per year permit.

The Trinity River Authority also has a water right to reuse up to 3,626 acre-feet per year of return flows of the discharge from Ennis' wastewater treatment plant after the discharge location is moved to the Lake Bardwell watershed [12]. Since development of this supply will require moving the discharge for Ennis' wastewater treatment plant, it is not included as a currently available water supply.

**Jacksboro.** The City of Jacksboro has a water right to reuse up to 200 acre-feet per year of its wastewater effluent for irrigation [12].

**Lake Worth for Cooling.** Texas Water Development Board projections of manufacturing demand represent diversions of water rather than consumptive use. In many cases the water is not returned to the source, and the diversions are the same as the consumptive use. However, diversions of raw water to cool industrial plants are sometimes returned to the source, and consumptive use in such cases can be much less than the amount diverted. In order for TWDB projections of manufacturing demand to balance properly with the supply available, it is necessary to show return flows from such diversions as a source of supply. The only major historical diversion of this sort in Region C has been Lockheed's diversion of cooling water from Lake Worth. These diversions have been as high as 39,231 acre-feet (in 1989). They were 14,053 acre-feet in 1996 and 16,067 acre-feet in 1997. The diversions are used for once-through cooling, and most of the water diverted is returned to the lake. The consumptive use is only a small fraction of the water diverted. It is assumed that cooling water diversions for Lockheed-Martin are a portion of the projected industrial demands for Tarrant County, and that most of the water diverted will continue to be returned for the lake and available for reuse by Lockheed or others. A return flow of 40,000 acre-feet per year from this source is assumed to be available for reuse in 2000 reducing to 25,000 acre-feet per year by 2030. (In effect, this supply offsets the portion of projected manufacturing use from Tarrant County that has historically been a non-consumptive diversion.)

In addition to the specific water rights for reuse described above, a number of entities have received authorizations from the TNRCC for direct reuse of treated wastewater effluent, primarily for irrigation of golf courses and other landscapes [(50)]. Reuse by The Colony, Trophy Club, Denton, Denison, Crandall, and Azle is assumed to remain at historical levels reported by the TWDB [(49)]. Reuse for a golf course in Kaufman is assumed to increase from less than 100 acre-feet per year to 100 acre-feet per year.

Fort Worth is currently selling treated wastewater to the Water Chase Golf Course in Tarrant County, and the existing facilities will supply up to 2,240 acre-feet per year. The North Texas Municipal Water District has facilities to sell up to 1,120 acre-feet per year to a golf course in Rockwall County.

Grapevine and Upper Trinity Regional Municipal Water District have recently received authorization for direct reuse projects that are not yet developed. Since the facilities to implement these projects are not yet built, they are not included as currently available supplies.

It is likely that reuse will increase dramatically in Region C over the next 50 years, but proposed and potential direct reuse projects are not included in TWDB Table 4. In particular, Grapevine, the Trinity River Authority, and Tarrant Regional Water District all have applications pending with TNRCC that would allow indirect reuse of significant quantities of treated wastewater. Other applications and additional direct reuse are likely to come in the future.

## Imports

The supply available from imports in TWDB Table 4 is limited to current Texas Natural Resource Conservation Commission (TNRCC) water rights [12] or the firm yield, whichever is less. Specific sources for imports are listed below:

**Chapman.** North Texas Municipal Water District, the City of Irving, and the Sulphur River Water District hold water rights in Lake Chapman totaling 146,520 acre-feet per year. Of this total, 127,320 acre-feet per year can be exported for use in Region C – 57,214 acre-feet per year for North Texas Municipal Water District, 54,000 acre-feet per year for Irving, and 16,106 acre-feet per year for the Upper Trinity Regional Water District. The recently completed Water Availability Model for the Sulphur Basin [51] indicated that the firm yield of Lake Chapman is less than 146,520 acre-feet per year. According to the R.J. Brandes Company, the study showed a shortage of 30,315 acre-feet in a 3 year, 8 month critical period [52]. Based on that information, the initial firm yield of Lake Chapman is about 138,250 acre-feet per year.

According to the U.S. Corps of Engineers [53], sedimentation in Lake Chapman is expected to be 37,000 acre-feet over 100 years, and this sedimentation would gradually reduce the reservoir's yield. The values in TWDB Table 4 show Lake Chapman's computed firm yield divided proportionally among the Region C water suppliers with a share of the water. (North Texas MWD's share of the firm yield is included in the NTMWD system supply.) The water supply for Upper Trinity Regional Water District could reduce by 25% in 2050 because the City

of Commerce has the option to reclaim a portion of the water it has sold to UTRWD after 2040. However, based on future water projections for the City of Commerce, it is expected that Commerce may not need to exercise the option, thereby letting the water remain available to UTRWD.

**Tawakoni (Terrell).** The supply is based on Terrell's contract for water from Lake Tawakoni, with the amount available reduced by the same percent as Dallas' supply from Lake Tawakoni.

**Lake Fork (Dallas).** The supply is based on Dallas' right for interbasin transfer from the Neches River Basin, confirmed by updated yield studies by Chiang, Patel, and Yerby [42] and by the *Comprehensive Sabine Basin Management Plan* [43].

**Palestine (Dallas).** The supply is based on updated yield studies for Dallas by Chiang, Patel, and Yerby [42].

**Athens (Athens).** The yield of Lake Athens is based on the Neches Basin Water Availability Model, with inflows based on drainage area ratio with Lake Palestine [54]. The yield from the WAM study is reduced by 100 acre-feet per year every two decades to account for sedimentation. This reduction for sedimentation is consistent with previous TWDB analyses [37].

**Livingston (TXU-Fairfield).** TXU has a contract with the Trinity River Authority to divert up to 20,000 acre-feet per year from the Trinity River into Lake Fairfield under TRA's Lake Livingston water right. The contract limits diversions to a maximum of 48,000 acre-feet in any three years. The average allowable diversion of 16,000 acre-feet per year was used as the available supply.

**Vulcan Materials (from BRA).** Vulcan Materials has a contract to purchase 35 acre-feet per year of water originating in Possum Kingdom Lake from the Brazos River Authority for mining use. (Possum Kingdom Lake is in Region G.) Vulcan Materials has requested to purchase additional water from BRA, and BRA is currently considering that request.

**Parker County.** A portion of Mineral Wells is in Parker County in Region C, and Mineral Wells also sells water to Millsap Water Supply Corporation and Parker County Water Supply Corporation in Parker County. All of Mineral Wells' water supply currently comes from Lake Palo Pinto in Region G. (Mineral Wells has a water right in Lake Mineral Wells in Parker County but has no plans to use that source for water supply.) In 1997, Mineral Wells sold 66 acre-feet to Millsap WSC and 176 acre-feet to Parker County WSC. We assume that the supply available from this source will be as follows:

- All projected City of Mineral Wells demand in Parker County
- 300 acre-feet per year in 2000 for the two water supply corporations, changing over time in proportion to projected changes in Parker County Other municipal demand until 2030. (After 2030, the importation to these two water supply corporations is assumed to remain constant as projected County Other water use for Parker County decreases.)

## Unpermitted Reservoir Yields

The Texas Water Development Board requirements for Senate Bill One planning indicate that the list of current water supply sources in TWDB Table 4 must be based on firm yield for existing reservoirs. However, some reservoirs in Region C do not have a TNRCC water right permit that allows use of the full firm yield of the project. For those reservoirs, the unpermitted reservoir yield is listed separately at the end of TWDB Table 4. In our opinion, this unpermitted yield is not currently available to users in Region C. It is a potential water supply source if appropriate water right permits can be obtained, but permitting additional diversions would be very difficult for most of these reservoirs. The text below discusses the derivation of the unpermitted reservoir yields for Region C:

**Moss.** The yield for Moss Lake was obtained from previous TWDB analyses [37]. The permitted diversions were subtracted from the firm yield to determine the unpermitted yield.

**Texoma (Texas' Share).** Most of the conservation storage of Lake Texoma is dedicated for hydropower generation and is not available for water supply. The firm yield was computed assuming that all conservation storage was converted to water supply use, and half of the firm

yield was assumed to be available to Texas. (Hydrologic data for the firm yield analysis was obtained from a Corps of Engineers report [55].) The currently permitted diversions from Lake Texoma in Texas were subtracted from the firm yield to determine the unpermitted yield.

**Bonham.** The yield for Bonham Lake was obtained from previous TWDB analyses [37]. The permitted diversions were subtracted from the firm yield to determine the unpermitted yield.

**Cedar Creek.** Freese and Nichols determined the yield for Cedar Creek Lake using hydrologic data developed in previous studies [39, 40, 41] and area-capacity data based on a recent Texas Water Development Board volumetric survey. The currently permitted diversions from Cedar Creek Lake were subtracted from the firm yield to determine the unpermitted yield.

**Richland-Chambers.** Freese and Nichols determined the yield for Richland-Chambers Lake using hydrologic data developed in previous studies [39, 40, 41] and area-capacity data based on a recent Texas Water Development Board volumetric survey. The currently permitted diversions from Richland-Chambers Lake were subtracted from the firm yield to determine the unpermitted yield.

**Bardwell.** Freese and Nichols determined the yield for Lake Bardwell using hydrologic data developed in previous studies and area-capacity data based on a recent Texas Water Development Board volumetric survey. The currently permitted diversions from Lake Bardwell were subtracted from the firm yield to determine the unpermitted yield.

**Navarro Mills.** The yield for Navarro Mills Lake was obtained from previous TWDB analyses [37]. The permitted diversions were subtracted from the firm yield to determine the unpermitted yield.

## Identification Codes for TWDB Table 4

The TWDB has developed a source identification code for each source of water within the State of Texas. In Region C, the sources assigned identification codes are classified as water

supply systems, reservoirs in Region C, groundwater, local irrigation supplies, other local supply (for mining purposes), livestock local supply, reuse, and imports. The TWDB provided a code for each supply source or system. The identification code for reservoirs (both in Region C and imports) consists of a two-digit basin number followed by 3 to 4 digits designating each reservoir, as determined by the TWDB. The groundwater is encoded with the first 3 digits representing the TWDB county number associated with the county name and the last 2 digits representing the TWDB aquifer code associated with specific aquifers. The irrigation local supply identification source code is based on the TWDB county number followed by the TWDB code "996" representing irrigation local supply. The identification code for other local supply includes the TWDB county number followed by the TWDB code "999". The livestock local supply code consists of the TWDB basin number and the TWDB code "997" representing water used for livestock purposes. The TWDB provided the source identification codes for all of the reuse projects. The TWDB identification codes are used for identification purposes to aid the TWDB in sorting through the data for all of the regions.

### *Water Supply Systems*

The TWDB provided these identification numbers for the Region C water supply systems:

| | |
|---|---|
| 020B0 | North Texas MWD |
| 08290 | Lost Creek/Jacksboro |
| 086C0 | West Fork less Bridgeport Local |
| 086E0 | Cedar Creek/Richland-Chambers |
| 086F0 | Ray Hubbard/Tawakoni System |
| 086D0 | Elm Fork/Lake Grapevine |

### *Reservoirs in Region C*

The first two digits represent the TWDB basin code for the basin in which the reservoir is located:

02 Red River Basin

05 Sabine River Basin

08 Trinity River Basin

12 Brazos River Basin

The last 3 (sometimes 4) digits and letters of the reservoir codes were provided by the TWDB and are as follows:

| | |
|---|---|
| 02220 | Moss |
| 08380 | Muenster |
| 02230P | Texoma (GTUA) |
| 02230P | Texoma (Denison) |
| 02230P | Texoma (TXU) |
| 02230P | Texoma (RRA) |
| 02240 | Randell |
| 02250 | Valley |
| 02270 | Bonham |
| 02280 | Coffee Mill |
| 08090 | Kiowa |
| 08100P | Ray Roberts (Denton) |
| 08110P | Lewisville (Denton) |
| 08010P | Bridgeport Local |
| 08060 | Benbrook |
| 08240P | Richland-Chambers (Corsicana) |
| 08050 | Weatherford |
| 0807A | Grapevine (PCMUD) |
| 0807A | Grapevine (Grapevine) |
| 0807A | Grapevine (in dispute) |
| 08120 | Arlington |
| 08130 | Joe Pool |
| 08140 | Mountain Creek |
| 08080 | North |

08150 White Rock
08180 Terrell
08640 Clark
08210 Bardwell
08200 Waxahachie
08410 Forest Grove
A08195 Trinidad City Lake
08390 Trinidad
08230 Navarro Mills
08220 Halbert
08420 Fairfield
12148 Bryson
12170 Mineral Wells
08265 Wortham Lake
12375 Teague City Lake

### *Groundwater*

For the groundwater source identification code, the first three digits represent the county in which the aquifer is located. The Region C TWDB county numbers are:

043 Collin County
049 Cooke County
057 Dallas County
061 Denton County
070 Ellis County
074 Fannin County
081 Freestone County
091 Grayson County
107 Henderson County
119 Jack County

129 Kaufman County

175 Navarro County

184 Parker County

199 Rockwall County

220 Tarrant County

249 Wise County

The last two digits in the groundwater identification code represent the aquifer name. The Region C aquifer identification codes and their corresponding names are as follows:

10 Carrizo Wilcox Aquifer

20 Nacatoch Aquifer

22 Other Aquifer

28 Trinity Aquifer

29 Woodbine Aquifer

The specific identification codes for Region C groundwater sources include:

04328 Trinity-Collin

04329 Woodbine-Collin

04922 Other-Cooke

04928 Trinity-Cooke

04928 Trinity

04929 Woodbine-Cooke

05722 Other-Dallas

05728 Trinity-Dallas

05729 Woodbine-Dallas

06128 Trinity-Denton

06129 Woodbine-Denton

07028 Trinity-Ellis

07029 Woodbine-Ellis

07428 Trinity-Fannin

07429 Woodbine-Fannin

07422 Other-Fannin

08110 Carrizo-Wilcox-Freestone

08124 Queen City-Freestone

09122 Other-Freestone

09128 Trinity-Grayson

09129 Woodbine-Grayson

10710 Carrizo-Wilcox-Henderson

10720 Nacatoch-Henderson

10722 Other-Henderson

10724 Queen City-Henderson

11922 Other-Jack

11928 Trinity-Jack

12920 Nacatoch-Kaufman

12928 Trinity-Kaufman

12929 Woodbine\Kaufman

17510 Carrizo-Wilcox-Navarro

17520 Nacatoch-Navarro

17522 Other-Navarro

17528 Trinity-Navarro

17529 Woodbine-Navarro

18422 Other-Parker

18428 Trinity-Parker

19920 Nacatoch-Rockwall

19928 Trinity-Rockwall

19929 Woodbine-Rockwall

22028 Trinity-Tarrant

22029 Woodbine-Tarrant

24928 Trinity-Wise

### *Local Irrigation Supplies from Surface Water*

The local irrigation supply identification codes begin with the first three digits representing the TWDB county number.

043 Collin County
049 Cooke County
057 Dallas County
061 Denton County
070 Ellis County
074 Fannin County
081 Freestone County
091 Grayson County
107 Henderson County
119 Jack County
129 Kaufman County
175 Navarro County
184 Parker County
199 Rockwall County
220 Tarrant County
249 Wise County

The "996" is the TWDB code referring to local irrigation supplies from surface water and are listed below. Thus 04996 is local irrigation supply in Cooke County, for example.

### *Mining Local Supply*

The first two digits in the code for mining local supply represent the basin number.

02 Red River Basin
05 Sabine River Basin

08 Trinity River Basin

12 Brazos River Basin

The "999" is the TWDB code to represent other local surface water supply for mining purposes. Thus 08999 is mining local supply in the Trinity Basin, etc.

### *Livestock Local Supply*

The first two digits in the livestock local supply code represent the basin number.

02 Red River Basin

05 Sabine River Basin

08 Trinity River Basin

12 Brazos River Basin

The "997" is the TWDB code representing surface water used for livestock purposes. Thus 05997 is surface water used for livestock in the Sabine Basin, etc.

### *Reuse*

The source identification codes for reuse projects in Region C were provided by the TWDB. The following list contains the reuse projects and the codes assigned per the TWDB:

3508C1 Trinity River Authority/Los Colinas

3508C1 Trinity River Authority/Waxahachie

3508C1 Jacksboro (irrigation)

36147 Lake Worth for Cooling

36132 The Colony (golf)

36132 Trophy Club (golf)

36132 Denton (Power Plant)

36132 UTRWD

36135 Denison (golf)

36142 Country Club Water Supply (golf)

36142 Crandall (golf)

36147 Azle (golf)

Water Chase Golf Course

Buffalo Creek Golf Course

### *Imports*

The Region C imports are all surface water supply sources and are assigned codes to their names as explained above in "Reservoirs in Region C". The imported waters are identified below:

03010P Chapman (Irving)

03010P Chapman (Upper Trinity RWD)

05010P Tawakoni (Terrell)

05040 Fork (Dallas)

06020 Palestine (Dallas)

06010 Athens (Athens)

08400 Livingston (TXU-Fairfield)

12150 Vulcan Materials (from BRA)

12160 Parker County (from Mineral Wells)

### *Unpermitted Reservoir Yield*

The source identification codes for unpermitted reservoir yields are based on the same methodology as explained in "Reservoirs in Region C" above. The unpermitted reservoir yield identification codes are as follows:

02220 Moss

02230 Texoma

02270 Bonham

086E0 Cedar Creek

08240 Richland Chambers

08210 Bardwell

08230 Navarro Mills

# TWDB Table 4
# Current Water Supply Sources

| A | B | C | D | | | E | | F | | G | H | I | J | K | L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Name of Specific Source** | **Type of Water Supply** | **Regional Water Planning Group Letter** | **County Number for Supply Source** | User | County Name of Supply Source | **Basin Number for Supply Source** | Basin Name for Supply Source | **Specific Source Indentifier Number** | Estimated 1996 Use | **Value for Year 2000 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2010 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2020 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2030 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2040 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2050 of Total Supply from Source During Drought of Record Conditions** | Comments |
| **WATER SUPPLY SYSTEMS** | | | | | | | | | | | | | | | | |
| Lake Lavon/Reuse | 02 | C | 43 | NTMWD | Collin | 8 | Trinity | 080C0 | 149,408 | 139,843 | 138,143 | 136,543 | 134,743 | 132,943 | 131,143 | Includes Lavon and permitted reuse. |
| Lost Creek/Jacksboro System | 02 | C | 119 | Jacksboro | Jack | 8 | Trinity | 08290 | 589 | 1,397 | 1,397 | 1,397 | 1,397 | 1,397 | 1,397 | Permitted amount equal to firm yield. |
| West Fork less Bridgeport Local | 02 | C | 220 | TRWD | Tarrant | 8 | Trinity | 086C0 | 75,350 | 86,600 | 85,600 | 84,600 | 83,600 | 82,600 | 81,700 | Includes Eagle Mountain, Worth, and part of Bridgeport. |
| Cedar Creek/Richland-Chambers System | 02 | C | | TRWD | Henderson (Kaufman)/ Freestone (Navarro) | 8 | Trinity | 086E0 | 162,313 | 385,000 | 385,000 | 385,000 | 385,000 | 385,000 | 382,700 | Limited to permit or firm yield, whichever is less. Unpermitted yield shown below. |
| Elm Fork/Lake Grapevine System | 02 | C | 61 | Dallas | Dallas (Tarrant, Denton) | 8 | Trinity | 086D0 | 238,708 | 220,420 | 219,040 | 207,545 | 206,165 | 204,670 | 203,290 | Includes diversions under CF-75 and Dallas' share of Ray Roberts, Lewisville, and Grapevine. Also, 10,000 AF/Y through 2010 for #5414 and 2915 AF/Y for TXU Industrial use through 2050. 15% Overdraft of Ray Roberts and Lake Grapevine. |
| **Total for Systems** | | | | | | | | | 626,368 | 833,260 | 829,180 | 815,085 | 810,905 | 806,610 | 800,230 | |
| - Portion from Region C Reservoirs | | | | | | | | | 603,023 | 797,317 | 793,237 | 779,142 | 774,962 | 770,667 | 764,287 | |
| - Portion from Reuse | | | | | | | | | 23,345 | 35,943 | 35,943 | 35,943 | 35,943 | 35,943 | 35,943 | NTMWD Lake Lavon |
| **RESERVOIRS IN REGION C** | | | | | | | | | | | | | | | | |
| Moss | 00 | C | 49 | Gainesville | Cooke | 2 | Red | 02220 | 0 | 4,500 | 4,500 | 4,500 | 4,500 | 4,500 | 4,500 | Limited by permit. Unpermitted yield shown below. |
| Lake Texoma (Texas' Share - NTMWD) | 02 | C | 91 | NTMWD | Grayson | 2 | Red | 020C0 | 35,284 | 77,300 | 77,300 | 77,300 | 77,300 | 77,300 | 77,300 | NTMWD share of Lake Texoma. |
| Lake Texoma (Texas' Share - GTUA) | 00 | C | 91 | GTUA | Grayson | 2 | Red | 02230P | 6,165 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 | P-4301. Unpermitted yield for Texoma listed below. |
| Lake Texoma (Texas' Share - Denison) | 00 | C | 91 | Denison | Grayson | 2 | Red | 02230P | 156 | 24,400 | 24,400 | 24,400 | 24,400 | 24,400 | 24,400 | CA-4901. Unpermitted yield for Texoma listed below. |
| LakeTexoma (Texas' Share - TXU) | 00 | C | 91 | TXU | Grayson | 2 | Red | 02230P | 2,322 | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | CA-4900. Unpermitted yield for Texoma listed below. |
| Lake Texoma (Texas' Share - RRA) | 00 | C | 91 | RRA | Grayson | 2 | Red | 02230P | 234 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | CA-4898. Unpermitted yield for Texoma listed below. |
| Randell | 00 | C | 91 | Denison | Grayson | 2 | Red | 02240 | 5,350 | 5,280 | 5,280 | 5,280 | 5,280 | 5,280 | 5,280 | Yields from TWDB data (CA-4901). |
| Valley | 00 | C | 74 | TXU | Fannin (Grayson) | 2 | Red | 02250 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Reliable yield depends on Texoma contract. Forced evaporation was 2,735 acre-feet in 1996. |

| A | B | C | D | | | E | | F | | G | H | I | J | K | L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Name of Specific Source** | **Type of Water Supply** | **Regional Water Planning Group Letter** | **County Number for Supply Source** | User | County Name of Supply Source | **Basin Number for Supply Source** | Basin Name for Supply Source | **Specific Source Indentifier Number** | Estimated 1996 Use | **Value for Year 2000 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2010 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2020 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2030 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2040 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2050 of Total Supply from Source During Drought of Record Conditions** | Comments |
| Bonham | 00 | C | 74 | Bonham | Fannin | 2 | Red | 02270 | 1,577 | 5,340 | 5,340 | 5,340 | 5,340 | 4,850 | 4,250 | Limited to permit or firm yield, whichever is less. Unpermitted yield shown below. |
| Coffee Mill | 00 | C | 74 | TPWD | Fannin | 2 | Red | 02280 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | No diversion (recreation, CA-4915) |
| Kiowa | 00 | C | 49 | Homeowners | Cooke | 8 | Trinity | 08090 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | No diversion (recreation. CA-2334A) |
| Ray Roberts (Denton) | 00 | C | 61 | Denton | Denton (Cooke, Grayson) | 8 | Trinity | 08100P | 11,150 | 22,150 | 22,000 | 21,800 | 21,600 | 21,450 | 21,300 | Dallas/Denton Contract |
| Lewisville (Denton) | 00 | C | 61 | Denton | Denton | 8 | Trinity | 08110P | 4,875 | 4,870 | 4,830 | 4,790 | 4,760 | 4,720 | 4,680 | Dallas/Denton Contract |
| Bridgeport Local | 00 | C | 249 | TRWD | Wise (Jack) | 8 | Trinity | 08010P | 3,019 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | Limited by permit. Remainder of yield in West Fork less Bridgeport Local system. |
| Benbrook | 00 | C | 220 | TRWD | Tarrant | 8 | Trinity | 08060 | 4,650 | 6,833 | 6,833 | 6,600 | 6,400 | 6,200 | 6,000 | TRWD 1990 study by Freese and Nichols. 1996 use from TNRCC files. |
| Richland-Chambers (Corsicana) | 00 | C | 81 | Corsicana | Freestone (Navarro) | 8 | Trinity | 08240P | 0 | 13,650 | 13,650 | 13,650 | 13,650 | 13,650 | 13,650 | CA-5030. Unpermitted yield for Richland-Chambers is given below. |
| Weatherford | 00 | C | 184 | Weatherford | Parker | 8 | Trinity | 08050 | 2,845 | 2,000 | 1,850 | 1,730 | 1,600 | 1,470 | 1,350 | Yields from TWDB data. |
| Grapevine (PCMUD) | 00 | C | 61 | PCMUD | Tarrant (Denton) | 8 | Trinity | 08070 | 9,983 | 10,800 | 10,800 | 10,800 | 10,800 | 10,800 | 10,800 | Rights in dispute. This is minimum proposed by any party in the dispute. |
| Grapevine (Grapevine) | 00 | C | 61 | Grapevine | Tarrant (Denton) | 8 | Trinity | 08070 | 4,332 | 1,800 | 1,800 | 1,800 | 1,800 | 1,800 | 1,800 | Rights in dispute. This is minimum proposed by any party in the dispute. |
| Grapevine (in dispute) | 00 | C | 61 | Unknown | Tarrant (Denton) | 8 | Trinity | 08070 | 0 | 4,100 | 4,100 | 4,100 | 4,100 | 4,100 | 4,100 | Rights in dispute. This is the amount claimed by more than one party. |
| Arlington | 00 | C | 220 | Arlington, TXU | Tarrant | 8 | Trinity | 08120 | 13,000 | 6,450 | 6,400 | 6,350 | 6,300 | 6,250 | 6,200 | Yield from F&N operation study (1999). Lose 50 ac-ft/yr per decade per TWDB. |
| Joe Pool | 00 | C | 57 | TRA | Dallas (Tarrant, Ellis) | 8 | Trinity | 08130 | 6,860 | 16,900 | 16,800 | 16,600 | 16,500 | 16,400 | 16,300 | Yields from TWDB data. |
| Mountain Creek | 00 | C | 57 | TXU | Dallas | 8 | Trinity | 08140 | 4,577 | 6,400 | 6,400 | 6,400 | 6,400 | 6,400 | 6,400 | Yields from TWDB data. Yield includes required releases from Joe Pool Lake. |
| North | 00 | C | 57 | TXU | Dallas | 8 | Trinity | 08080 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Reliable supply depends on purchase from Dallas. Forced evaporation was 1,796 acre-feet in 1996. |
| Lake Ray Hubbard (Dallas) | 02 | C | 57 | Dallas | Dallas | 08 | Trinity | 08170 | 80,535 | 68,425 | 67,965 | 67,505 | 67,160 | 66,700 | 66,240 | Includes 15% overdraft of Ray Hubbard. |
| White Rock | 00 | C | 57 | Dallas | Dallas | 8 | Trinity | 08150 | 0 | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 | Current irrigation authorization (CA-2461). |
| Terrell | 00 | C | 129 | Terrell | Kaufman | 8 | Trinity | 08180 | 3,594 | 1,650 | 1,634 | 1,617 | 1,600 | 1,580 | 1,560 | Yields from TWDB data. |
| Clark | 00 | C | 70 | Ennis | Ellis | 8 | Trinity | 08640 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Assumed no yield. |

| A | B | C | D | | | E | | F | | G | H | I | J | K | L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Name of Specific Source** | **Type of Water Supply** | **Regional Water Planning Group Letter** | **County Number for Supply Source** | User | County Name of Supply Source | **Basin Number for Supply Source** | Basin Name for Supply Source | **Specific Source Indentifier Number** | Estimated 1996 Use | **Value for Year 2000 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2010 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2020 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2030 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2040 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2050 of Total Supply from Source During Drought of Record Conditions** | Comments |
| Bardwell | 00 | C | 70 | TRA | Ellis | 8 | Trinity | 08210 | 4,976 | 9,600 | 9,600 | 9,500 | 9,000 | 8,600 | 8,100 | Yields from yield study, limited to permit. Unpermitted yield is shown below. |
| Waxahachie | 00 | C | 70 | Waxahachie | Ellis | 8 | Trinity | 08200 | 1,757 | 2,400 | 2,400 | 2,400 | 2,400 | 2,400 | 2,400 | Yields from TWDB data. |
| Forest Grove | 00 | C | 107 | TXU | Henderson | 8 | Trinity | 08410 | 805 | 3,700 | 3,700 | 3,700 | 3,700 | 3,700 | 3,700 | Freese and Nichols 1974 study for TXU. 1996 release was for Lake Trinidad. |
| Trinidad City Lake | 00 | C | 107 | Trinidad | Henderson | 8 | Trinity | A08195 | 166 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | CA-4984. |
| Trinidad | 00 | C | 107 | TXU | Henderson | 8 | Trinity | 08390 | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 | Yields from TWDB data (including diversions from Trinity). |
| Navarro Mills | 00 | C | 175 | TRA | Navarro | 8 | Trinity | 08230 | 6,236 | 19,400 | 19,400 | 19,400 | 19,400 | 19,400 | 19,130 | Yields from TWDB, limited to permit. Unpermitted yield is shown below. |
| Halbert | 00 | C | 175 | Corsicana | Navarro | 8 | Trinity | 08220 | 2,238 | 600 | 600 | 600 | 600 | 600 | 600 | Yields from TWDB data. |
| Fairfield | 00 | C | 81 | TXU | Freestone | 8 | Trinity | 08420 | 0 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | Yields with maximum allowable drawdown (Forrest and Cotton, 1968). Additional supply depends on purchase from TRA. Forced evaporation was 6,916 acre-feet in 1996. |
| Bryson | 00 | C | 119 | Bryson | Jack | 12 | Brazos | 12870 | 67 | 90 | 90 | 90 | 90 | 90 | 90 | Has supplied up to 74 acre-feet. |
| Mineral Wells | 00 | C | 182 | Mineral Wells | Parker | 12 | Brazos | 12170 | 0 | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 | Yields from TWDB data. |
| Wortham Lake | 00 | C | 81 | Wortham | Freestone | 8 | Trinity | 08700 | 101 | 0 | 0 | 0 | 0 | 0 | 0 | Not a reliable supply. |
| Teague City Lake | 00 | C | 81 | Teague | Freestone | 12 | Brazos | 12860 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Not a reliable supply. |
| **GROUNDWATER** | | | | | | | | | | | | | | | | |
| Other | 01 | C | 43 | | Collin | 5 | Sabine | 04322 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | |
| Other | 01 | C | 43 | | Collin | 8 | Trinity | 04322 | 107 | 134 | 134 | 134 | 134 | 134 | 134 | |
| Trinity | 01 | C | 43 | | Collin | 5 | Sabine | 04328 | Incl. Below | 125 | 125 | 125 | 125 | 125 | 125 | |
| Trinity | 01 | C | 43 | | Collin | 8 | Trinity | 04328 | 1,124 | 5,496 | 5,496 | 5,496 | 4,567 | 4,567 | 4,567 | 279 AF Other-Undif. In 1996 |
| Woodbine | 01 | C | 43 | | Collin | 5 | Sabine | 04329 | Incl. Below | 94 | 94 | 94 | 94 | 94 | 94 | |
| Woodbine | 01 | C | 43 | | Collin | 8 | Trinity | 04329 | 1,106 | 1,738 | 1,738 | 1,738 | 1,738 | 1,738 | 1,738 | |
| Other | 01 | C | 49 | | Cooke | 2 | Red | 04922 | 0 | 316 | 203 | 158 | 130 | 112 | 117 | |
| Other | 01 | C | 49 | | Cooke | 8 | Trinity | 04922 | 0 | 309 | 0 | 0 | 0 | 0 | 0 | |
| Trinity | 01 | C | 49 | | Cooke | 2 | Red | 04928 | Incl. Below | 669 | 669 | 669 | 554 | 554 | 554 | |
| Trinity | 01 | C | 49 | | Cooke | 8 | Trinity | 04928 | 6,809 | 3,860 | 3,860 | 3,860 | 3,199 | 3,199 | 3,199 | |
| Woodbine | 01 | C | 49 | | Cooke | 2 | Red | 04929 | 0 | 140 | 140 | 140 | 140 | 140 | 140 | |
| Woodbine | 01 | C | 49 | | Cooke | 8 | Trinity | 04929 | 0 | 300 | 300 | 300 | 300 | 300 | 300 | |
| Other | 01 | C | 57 | | Dallas | 8 | Trinity | 05722 | 526 | 591 | 591 | 591 | 591 | 591 | 591 | |
| Trinity | 01 | C | 57 | | Dallas | 8 | Trinity | 05728 | 4,221 | 4,964 | 4,964 | 4,964 | 4,964 | 4,964 | 4,964 | |
| Woodbine | 01 | C | 57 | | Dallas | 8 | Trinity | 05729 | 805 | 1,440 | 1,440 | 1,440 | 1,444 | 1,444 | 1,444 | |
| Other | 01 | C | 61 | | Denton | 8 | Trinity | 06122 | 9 | 5 | 5 | 5 | 4 | 4 | 4 | |
| Trinity | 01 | C | 61 | | Denton | 8 | Trinity | 06128 | 10,006 | 6,109 | 6,109 | 6,109 | 5,119 | 5,119 | 5,119 | |

| A | B | C | D | | | E | | F | | G | H | I | J | K | L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Name of Specific Source** | **Type of Water Supply** | **Regional Water Planning Group Letter** | **County Number for Supply Source** | User | County Name of Supply Source | **Basin Number for Supply Source** | Basin Name for Supply Source | **Specific Source Indentifier Number** | Estimated 1996 Use | **Value for Year 2000 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2010 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2020 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2030 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2040 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2050 of Total Supply from Source During Drought of Record Conditions** | Comments |
| Woodbine | 01 | C | 61 | | Denton | 8 | Trinity | 06129 | 1,845 | 1,010 | 1,010 | 1,010 | 1,010 | 1,010 | 1,010 | |
| Other | 01 | C | 70 | | Ellis | 8 | Trinity | 07022 | 155 | 105 | 105 | 105 | 88 | 88 | 88 | |
| Trinity | 01 | C | 70 | | Ellis | 8 | Trinity | 07028 | 3,776 | 5,629 | 5,629 | 5,629 | 4,717 | 4,717 | 4,717 | |
| Woodbine | 01 | C | 70 | | Ellis | 8 | Trinity | 07029 | 2,656 | 1,832 | 1,832 | 1,832 | 1,832 | 1,832 | 1,832 | |
| Trinity | 01 | C | 74 | | Fannin | 2 | Red | 07428 | 614 | 1,749 | 1,749 | 1,749 | 1,368 | 1,368 | 1,368 | |
| Trinity | 01 | C | 74 | | Fannin | 3 | Sulphur | 07428 | Incl. Above | 224 | 224 | 224 | 224 | 224 | 224 | |
| Trinity | 01 | C | 74 | | Fannin | 8 | Trinity | 07428 | Incl. Above | 89 | 89 | 89 | 89 | 89 | 89 | |
| Woodbine | 01 | C | 74 | | Fannin | 2 | Red | 07429 | 2,288 | 3,439 | 3,439 | 3,439 | 3,439 | 3,439 | 3,439 | |
| Woodbine | 01 | C | 74 | | Fannin | 3 | Sulpnur | 07429 | Inc. Above | 1,546 | 1,546 | 1,546 | 1,546 | 1,546 | 1,546 | |
| Woodbine | 01 | C | 74 | | Fannin | 8 | Trinity | 07429 | Incl. Above | 888 | 888 | 888 | 888 | 888 | 888 | |
| Other | 01 | C | 74 | | Fannin | 2 | Red | 07422 | 2,458 | 2,919 | 2,919 | 2,919 | 2,919 | 2,919 | 2,919 | Based on maximum historical |
| Carrizo-Wilcox | 01 | C | 81 | | Freestone | 8 | Trinity | 08110 | 2,382 | 82,511 | 82,511 | 82,511 | 82,511 | 82,511 | 82,511 | 46 AF Other-Undif. In 1996 |
| Carrizo-Wilcox | 01 | C | 81 | | Freestone | 12 | Brazos | 08110 | Incl. Above | 10,946 | 10,946 | 10,946 | 10,946 | 10,946 | 10,946 | |
| Other | 01 | C | 81 | | Freestone | 8 | Trinity | 08122 | 28 | 35 | 35 | 35 | 35 | 35 | 35 | |
| Other | 01 | C | 81 | | Freestone | 12 | Brazos | 08122 | 17 | 21 | 21 | 21 | 21 | 21 | 21 | |
| Queen City | 01 | C | 81 | | Freestone | 8 | Trinity | 08124 | 37 | 345 | 345 | 345 | 345 | 345 | 345 | |
| Queen City | 01 | C | 81 | | Freestone | 12 | Brazos | 08124 | 38 | 48 | 48 | 48 | 48 | 48 | 48 | |
| Other | 01 | C | 91 | | Grayson | 2 | Red | 09122 | 29 | 25 | 25 | 25 | 25 | 25 | 25 | |
| Other | 01 | C | 91 | | Grayson | 8 | Trinity | 09122 | 18 | 10 | 10 | 10 | 9 | 9 | 9 | |
| Trinity | 01 | C | 91 | | Grayson | 2 | Red | 09128 | Incl. Below | 1,295 | 1,295 | 1,295 | 1,165 | 1,165 | 1,165 | |
| Trinity | 01 | C | 91 | | Grayson | 8 | Trinity | 09128 | 9,325 | 2,129 | 2,129 | 2,129 | 1,914 | 1,914 | 1,914 | |
| Woodbine | 01 | C | 91 | | Grayson | 2 | Red | 09129 | 5,954 | 4,900 | 4,900 | 4,900 | 4,900 | 4,900 | 4,900 | |
| Woodbine | 01 | C | 91 | | Grayson | 8 | Trinity | 09129 | Incl. Above | 810 | 810 | 810 | 810 | 810 | 810 | |
| Carrizo-Wilcox | 01 | C | 107 | | Henderson | 8 | Trinity | 10710 | 3,243 | 4,258 | 4,258 | 4,258 | 4,258 | 4,258 | 4,258 | |
| Nacatoch | 01 | C | 107 | | Henderson | 8 | Trinity | 10720 | 0 | 10 | 10 | 10 | 10 | 10 | 10 | |
| Other | 01 | C | 107 | | Henderson | 8 | Trinity | 10722 | 162 | 167 | 167 | 167 | 167 | 167 | 167 | |
| Queen City | 01 | C | 107 | | Henderson | 8 | Trinity | 10724 | 39 | 480 | 480 | 480 | 480 | 480 | 480 | |
| Other | 01 | C | 119 | | Jack | 12 | Brazos | 11922 | Incl. Below | 284 | 284 | 234 | 216 | 204 | 234 | |
| Other | 01 | C | 119 | | Jack | 8 | Trinity | 11922 | 640 | 650 | 650 | 600 | 600 | 630 | 600 | |
| Trinity | 01 | C | 119 | | Jack | 8 | Trinity | 11928 | Incl. Below | 398 | 322 | 436 | 315 | 315 | 304 | |
| Trinity | 01 | C | 119 | | Jack | 12 | Brazos | 11928 | 5 | 450 | 450 | 400 | 380 | 370 | 400 | |
| Nacatoch | 01 | C | 129 | | Kaufman | 5 | Sabine | 12920 | Incl. Below | 7 | 7 | 7 | 7 | 7 | 7 | |
| Nacatoch | 01 | C | 129 | | Kaufman | 8 | Trinity | 12920 | 249 | 53 | 53 | 53 | 53 | 53 | 53 | |
| Other | 01 | C | 129 | | Kaufman | 5 | Sabine | 12922 | 187 | 124 | 124 | 124 | 124 | 124 | 124 | |
| Other | 01 | C | 129 | | Kaufman | 8 | Trinity | 12922 | 73 | 87 | 87 | 87 | 87 | 87 | 87 | |
| Trinity | 01 | C | 129 | | Kaufman | 8 | Trinity | 12928 | 0 | 1,184 | 1,184 | 1,184 | 992 | 992 | 992 | |
| Woodbine | 01 | C | 129 | | Kaufman | 8 | Trinity | 12929 | 113 | 135 | 135 | 135 | 135 | 135 | 135 | |
| Carrizo-Wilcox | 01 | C | 175 | | Navarro | 8 | Trinity | 17510 | 73 | 9,172 | 9,172 | 9,172 | 9,172 | 9,172 | 9,172 | |

| A | B | C | D | | | E | | F | | G | H | I | J | K | L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Name of Specific Source** | **Type of Water Supply** | **Regional Water Planning Group Letter** | **County Number for Supply Source** | User | County Name of Supply Source | **Basin Number for Supply Source** | Basin Name for Supply Source | **Specific Source Indentifier Number** | Estimated 1996 Use | **Value for Year 2000 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2010 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2020 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2030 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2040 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2050 of Total Supply from Source During Drought of Record Conditions** | Comments |
| Nacatoch | 01 | C | 175 | | Navarro | 8 | Trinity | 17520 | 67 | 229 | 229 | 229 | 229 | 229 | 229 | |
| Other | 01 | C | 175 | | Navarro | 8 | Trinity | 17522 | 155 | 104 | 110 | 121 | 132 | 143 | 155 | |
| Trinity | 01 | C | 175 | | Navarro | 8 | Trinity | 17528 | 0 | 1,873 | 1,873 | 1,873 | 1,570 | 1,570 | 1,570 | |
| Woodbine | 01 | C | 175 | | Navarro | 8 | Trinity | 17529 | 81 | 499 | 499 | 499 | 499 | 499 | 499 | |
| Other | 01 | C | 184 | | Parker | 8 | Trinity | 18422 | Inc. Below | 156 | 156 | 156 | 129 | 129 | 129 | |
| Other | 01 | C | 184 | | Parker | 12 | Brazos | 18422 | 31 | 1,812 | 1,993 | 2,212 | 2,503 | 2,740 | 2,926 | |
| Trinity | 01 | C | 184 | | Parker | 8 | Trinity | 18428 | 5,500 | 2,473 | 2,473 | 2,473 | 2,040 | 2,040 | 2,040 | |
| Trinity | 01 | C | 184 | | Parker | 12 | Brazos | 18428 | 0 | 1,258 | 1,258 | 1,258 | 1,038 | 1,038 | 1,038 | |
| Woodbine | 01 | C | 184 | | Parker | 8 | Trinity | 18429 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | |
| Woodbine | 01 | C | 184 | | Parker | 12 | Brazos | 18429 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | |
| Nacatoch | 01 | C | 199 | | Rockwall | 8 | Trinity | 19920 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 158 AF Other-Undif. In 1996 |
| Other | 01 | C | 199 | | Rockwall | 5 | Sabine | 19922 | 150 | 188 | 188 | 188 | 188 | 188 | 188 | |
| Other | 01 | C | 199 | | Rockwall | 8 | Trinity | 19922 | 15 | 19 | 19 | 19 | 19 | 19 | 19 | |
| Trinity | 01 | C | 199 | | Rockwall | 5 | Sabine | 19928 | 0 | 211 | 211 | 211 | 169 | 169 | 169 | |
| Trinity | 01 | C | 199 | | Rockwall | 8 | Trinity | 19928 | 0 | 747 | 747 | 747 | 665 | 665 | 665 | |
| Woodbine | 01 | C | 199 | | Rockwall | 8 | Trinity | 19929 | 0 | 144 | 144 | 144 | 144 | 144 | 144 | |
| Other | 01 | C | 220 | | Tarrant | | Trinity | 22022 | 673 | 207 | 207 | 207 | 207 | 207 | 207 | |
| Trinity | 01 | C | 220 | | Tarrant | 8 | Trinity | 22028 | 14,616 | 4,789 | 4,789 | 4,789 | 4,789 | 4,789 | 4,789 | |
| Woodbine | 01 | C | 220 | | Tarrant | 8 | Trinity | 22029 | 0 | 766 | 766 | 766 | 766 | 766 | 766 | |
| Other | 01 | C | 249 | | Wise | | Trinity | 24922 | 115 | 106 | 106 | 106 | 89 | 89 | 89 | |
| Trinity | 01 | C | 249 | | Wise | 8 | Trinity | 24928 | 4,592 | 4,862 | 4,862 | 4,862 | 4,074 | 4,074 | 4,074 | 15 AF Other-Undif. In 1996 |
| **LOCAL IRRIGATION SUPPLIES FROM SURFACE WATER** | | | | | | | | | | | | | | | | |
| Irrigation Local Supply:BaZoCo2 -3 -49 | 00 | C | 49 | | Cooke | 2 | Red | 049996 | N/A | 23 | 23 | 23 | 23 | 23 | 23 | |
| Irrigation Local Supply:BaZoCo2 -3 -74 | 00 | C | 74 | | Fannin | 2 | Red | 074996 | N/A | 12,728 | 12,728 | 12,728 | 12,728 | 12,728 | 12,728 | |
| Irrigation Local Supply:BaZoCo2 -3 -91 | 00 | C | 91 | | Grayson | 2 | Red | 091996 | N/A | 996 | 996 | 996 | 996 | 996 | 996 | |
| Irrigation Local Supply:BaZoCo3 -1 -74 | 00 | C | 74 | | Fannin | 3 | Sulphur | 074996 | N/A | 0 | 0 | 0 | 0 | 0 | 0 | |
| Irrigation Local Supply:BaZoCo5 -1 -43 | 00 | C | 43 | | Collin | 5 | Sabine | 043996 | N/A | 0 | 0 | 0 | 0 | 0 | 0 | |
| Irrigation Local Supply:BaZoCo5 -1 -129 | 00 | C | 129 | | Kaufman | 5 | Sabine | 129996 | N/A | 0 | 0 | 0 | 0 | 0 | 0 | |
| Irrigation Local Supply:BaZoCo5 -1 -199 | 00 | C | 199 | | Rockwall | 5 | Sabine | 199996 | N/A | 0 | 0 | 0 | 0 | 0 | 0 | |
| Irrigation Local Supply:BaZoCo8 -1 -43 | 00 | C | 43 | | Collin | 8 | Trinity | 043996 | N/A | 1,017 | 1,017 | 1,017 | 1,017 | 1,017 | 1,017 | |
| Irrigation Local Supply:BaZoCo8 -1 -49 | 00 | C | 49 | | Cooke | 8 | Trinity | 049996 | N/A | 70 | 70 | 70 | 70 | 70 | 70 | |
| Irrigation Local Supply:BaZoCo8 -1 -57 | 00 | C | 57 | | Dallas | 8 | Trinity | 057996 | N/A | 3,387 | 2,719 | 2,719 | 2,719 | 2,719 | 2,719 | |
| Irrigation Local Supply:BaZoCo8 -1 -61 | 00 | C | 61 | | Denton | 8 | Trinity | 061996 | N/A | 634 | 634 | 634 | 634 | 634 | 634 | |
| Irrigation Local Supply:BaZoCo8 -1 -70 | 00 | C | 70 | | Ellis | 8 | Trinity | 070996 | N/A | 508 | 508 | 508 | 508 | 508 | 508 | |
| Irrigation Local Supply:BaZoCo8 -1 -74 | 00 | C | 74 | | Fannin | 8 | Trinity | 074996 | N/A | 0 | 0 | 0 | 0 | 0 | 0 | |
| Irrigation Local Supply:BaZoCo8 -1 -91 | 00 | C | 91 | | Grayson | 8 | Trinity | 091996 | N/A | 0 | 0 | 0 | 0 | 0 | 0 | |
| Irrigation Local Supply:BaZoCo8 -1 -107 | 00 | C | 107 | | Henderson | 8 | Trinity | 107996 | N/A | 2,382 | 2,382 | 2,382 | 2,382 | 2,382 | 2,382 | |
| Irrigation Local Supply:BaZoCo8 -1 -119 | 00 | C | 119 | | Jack | 8 | Trinity | 119996 | N/A | 110 | 110 | 110 | 110 | 110 | 110 | |
| Irrigation Local Supply:BaZoCo8 -1 -129 | 00 | C | 129 | | Kaufman | 8 | Trinity | 129996 | N/A | 347 | 347 | 347 | 347 | 347 | 347 | |
| Irrigation Local Supply:BaZoCo8 -1 -175 | 00 | C | 175 | | Navarro | 8 | Trinity | 175996 | N/A | 2,901 | 2,841 | 2,841 | 2,841 | 2,841 | 2,841 | |
| Irrigation Local Supply:BaZoCo8 -1 -184 | 00 | C | 184 | | Parker | 8 | Trinity | 184996 | N/A | 472 | 472 | 472 | 472 | 472 | 472 | |
| Irrigation Local Supply:BaZoCo8 -1 -199 | 00 | C | 199 | | Rockwall | 8 | Trinity | 199996 | N/A | 0 | 0 | 0 | 0 | 0 | 0 | |

| A | B | C | D | | | E | | F | | G | H | I | J | K | L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Name of Specific Source** | **Type of Water Supply** | **Regional Water Planning Group Letter** | **County Number for Supply Source** | User | County Name of Supply Source | **Basin Number for Supply Source** | Basin Name for Supply Source | **Specific Source Indentifier Number** | Estimated 1996 Use | **Value for Year 2000 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2010 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2020 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2030 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2040 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2050 of Total Supply from Source During Drought of Record Conditions** | Comments |
| rrigation Local Supply:BaZoCo8 -1 -220 | 00 | C | 220 | | Tarrant | 8 | Trinity | 220996 | N/A | 5,326 | 4,386 | 4,386 | 4,386 | 4,386 | 4,386 | |
| rrigation Local Supply:BaZoCo8 -1 -249 | 00 | C | 249 | | Wise | 8 | Trinity | 249996 | N/A | 714 | 714 | 714 | 714 | 714 | 714 | |
| rrigation Local Supply:BaZoCo8 -2 -81 | 00 | C | 81 | | Freestone | 8 | Trinity | 081996 | N/A | 353 | 353 | 353 | 353 | 353 | 353 | |
| rrigation Local Supply:BaZoCo12 -3 -119 | 00 | C | 119 | | Jack | 12 | Brazos | 119996 | N/A | 15 | 15 | 15 | 15 | 15 | 15 | |
| rrigation Local Supply:BaZoCo12 -3 -184 | 00 | C | 184 | | Parker | 12 | Brazos | 184996 | N/A | 1,317 | 1,317 | 1,317 | 1,317 | 1,317 | 1,317 | |
| rrigation Local Supply:BaZoCo12 -5 -81 | 00 | C | 81 | | Freestone | 12 | Brazos | 081996 | N/A | 0 | 0 | 0 | 0 | 0 | 0 | |
| **OTHER LOCAL SUPPLY** | | | | | | | | | | | | | | | | |
| Other Local Supply | 00 | C | 43 | Mining | Collin | 8 | Trinity | 08999 | 341 | 349 | 349 | 349 | 349 | 349 | 349 | Based on maximum historical use (1992) |
| Other Local Supply | 00 | C | 49 | Mining | Cooke | 8 | Trinity | 08999 | 237 | 237 | 237 | 237 | 237 | 237 | 237 | Based on maximum historical use (1997) |
| Other Local Supply | 00 | C | 57 | Mining | Dallas | 8 | Trinity | 08999 | 1,521 | 1,525 | 1,525 | 1,525 | 1,525 | 1,525 | 1,525 | Based on maximum historical use (1997) |
| Other Local Supply | 00 | C | 61 | Mining | Denton | 8 | Trinity | 08999 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | Based on maximum historical use (1997) |
| Other Local Supply | 00 | C | 74 | Mining | Fannin | 2 | Red | 02999 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | Based on maximum historical use (1996) |
| Other Local Supply | 00 | C | 81 | Mining | Freestone | 8 | Trinity | 08999 | 170 | 236 | 236 | 236 | 236 | 236 | 236 | Based on maximum historical use (1994) |
| Other Local Supply | 00 | C | 107 | Mining | Henderson | 8 | Trinity | 08999 | 13 | 29 | 29 | 29 | 29 | 29 | 29 | Based on maximum historical use (1997) |
| Other Local Supply | 00 | C | 119 | Mining | Jack | 8 | Trinity | 08999 | 370 | 370 | 370 | 370 | 370 | 370 | 370 | Based on maximum historical use (1997) |
| Other Local Supply | 00 | C | 129 | Mining | Kaufman | 8 | Trinity | 08999 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | Based on maximum historical use (1997) |
| Other Local Supply | 00 | C | 184 | Mining | Parker | 12 | Brazos | 12999 | 242 | 242 | 242 | 242 | 242 | 242 | 242 | Based on maximum historical use (1997) |
| Other Local Supply | 00 | C | 199 | Mining | Rockwall | 5 | Sabine | 05999 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | Based on maximum historical use (1997) |
| Other Local Supply | 00 | C | 220 | Mining | Tarrant | 8 | Trinity | 08999 | 103 | 103 | 103 | 103 | 103 | 103 | 105 | Based on maximum historical use (1997). Year 2050 increased to meet demand. |
| Other Local Supply | 00 | C | 249 | Manufacturing | Wise | 8 | Trinity | 08999 | | 8,000 | 8,000 | 8,000 | 8,000 | 8,000 | 8,000 | Based on maximum historical use (1997) |
| Other Local Supply | 00 | C | 249 | Mining | Wise | 8 | Trinity | 08999 | 15,470 | 8,084 | 8,084 | 8,084 | 8,084 | 8,084 | 8,084 | Based on maximum historical use (1997) |
| **LIVESTOCK LOCAL SUPPLY** | | | | | | | | | | | | | | | | |
| Livestock Local Supply | 00 | C | 43 | Livestock | Collin | 5 | Sabine | 05997 | 27 | 35 | 35 | 35 | 35 | 35 | 35 | Based on maximum historical use (1991) |
| Livestock Local Supply | 00 | C | 43 | Livestock | Collin | 8 | Trinity | 08997 | 757 | 967 | 967 | 967 | 967 | 967 | 967 | Based on maximum historical use (1991) |
| Livestock Local Supply | 00 | C | 49 | Livestock | Cooke | 2 | Red | 02997 | 337 | 377 | 377 | 377 | 377 | 377 | 377 | Based on maximum historical use (1994) |
| Livestock Local Supply | 00 | C | 49 | Livestock | Cooke | 8 | Trinity | 08997 | 722 | 810 | 810 | 810 | 810 | 810 | 810 | Based on maximum historical use (1994) |
| Livestock Local Supply | 00 | C | 57 | Livestock | Dallas | 8 | Trinity | 08997 | 462 | 712 | 712 | 712 | 712 | 712 | 712 | Based on maximum historical use (1993) |
| Livestock Local Supply | 00 | C | 61 | Livestock | Denton | 8 | Trinity | 08997 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | Based on maximum historical use (1996) |
| Livestock Local Supply | 00 | C | 70 | Livestock | Ellis | 8 | Trinity | 08997 | 1,688 | 1,688 | 1,688 | 1,688 | 1,688 | 1,688 | 1,688 | Based on maximum historical use (1996) |
| Livestock Local Supply | 00 | C | 74 | Livestock | Fannin | 2 | Red | 02997 | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 | Based on maximum historical use (1996) |
| Livestock Local Supply | 00 | C | 74 | Livestock | Fannin | 3 | Sulphur | 03997 | 367 | 367 | 367 | 367 | 367 | 367 | 367 | Based on maximum historical use (1996) |
| Livestock Local Supply | 00 | C | 74 | Livestock | Fannin | 8 | Trinity | 08997 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | Based on maximum historical use (1996) |
| Livestock Local Supply | 00 | C | 81 | Livestock | Freestone | 8 | Trinity | 08997 | 961 | 961 | 961 | 961 | 961 | 961 | 961 | Based on maximum historical use (1996) |
| Livestock Local Supply | 00 | C | 81 | Livestock | Freestone | 12 | Brazos | 12997 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | Based on maximum historical use (1996) |
| Livestock Local Supply | 00 | C | 91 | Livestock | Grayson | 2 | Red | 02997 | 1,079 | 1,079 | 1,079 | 1,079 | 1,079 | 1,079 | 1,079 | Based on maximum historical use (1996) |
| Livestock Local Supply | 00 | C | 91 | Livestock | Grayson | 8 | Trinity | 08997 | 604 | 604 | 604 | 604 | 604 | 604 | 604 | Based on maximum historical use (1996) |
| Livestock Local Supply | 00 | C | 107 | Livestock | Henderson | 8 | Trinity | 08997 | 429 | 475 | 475 | 475 | 475 | 475 | 475 | Based on maximum historical use (1991) |
| Livestock Local Supply | 00 | C | 119 | Livestock | Jack | 8 | Trinity | 08997 | 1,214 | 1,214 | 1,214 | 1,214 | 1,214 | 1,214 | 1,214 | Based on maximum historical use (1996) |
| Livestock Local Supply | 00 | C | 119 | Livestock | Jack | 12 | Brazos | 12997 | 451 | 451 | 451 | 451 | 451 | 451 | 451 | Based on maximum historical use (1996) |
| Livestock Local Supply | 00 | C | 129 | Livestock | Kaufman | 5 | Sabine | 05997 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | Based on maximum historical use (1996) |
| Livestock Local Supply | 00 | C | 129 | Livestock | Kaufman | 8 | Trinity | 08997 | 1,531 | 1,531 | 1,531 | 1,531 | 1,531 | 1,531 | 1,531 | Based on maximum historical use (1996) |

| A | B | C | D | | | E | | F | | G | H | I | J | K | L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Name of Specific Source** | **Type of Water Supply** | **Regional Water Planning Group Letter** | **County Number for Supply Source** | User | County Name of Supply Source | **Basin Number for Supply Source** | Basin Name for Supply Source | **Specific Source Indentifier Number** | Estimated 1996 Use | **Value for Year 2000 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2010 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2020 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2030 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2040 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2050 of Total Supply from Source During Drought of Record Conditions** | Comments |
| Livestock Local Supply | 00 | C | 175 | Livestock | Navarro | 8 | Trinity | 08997 | 1,603 | 1,603 | 1,603 | 1,603 | 1,603 | 1,603 | 1,603 | Based on maximum historical use (1996) |
| Livestock Local Supply | 00 | C | 184 | Livestock | Parker | 8 | Trinity | 08997 | 1,026 | 1,026 | 1,026 | 1,026 | 1,026 | 1,026 | 1,026 | Based on maximum historical use (1996) |
| Livestock Local Supply | 00 | C | 184 | Livestock | Parker | 12 | Brazos | 12997 | 896 | 896 | 896 | 896 | 896 | 896 | 896 | Based on maximum historical use (1996) |
| Livestock Local Supply | 00 | C | 199 | Livestock | Rockwall | 5 | Sabine | 05997 | 20 | 32 | 32 | 32 | 32 | 32 | 32 | Based on maximum historical use (1991) |
| Livestock Local Supply | 00 | C | 199 | Livestock | Rockwall | 8 | Trinity | 08997 | 86 | 136 | 136 | 136 | 136 | 136 | 136 | Based on maximum historical use (1991) |
| Livestock Local Supply | 00 | C | 220 | Livestock | Tarrant | 8 | Trinity | 08997 | 360 | 438 | 438 | 438 | 438 | 438 | 438 | Based on maximum historical use (1993) |
| Livestock Local Supply | 00 | C | 249 | Livestock | Wise | 8 | Trinity | 08997 | 1,117 | 1,117 | 1,117 | 1,117 | 1,117 | 1,117 | 1,117 | Based on maximum historical use (1996) |
| **REUSE (CURRENTLY PERMITTED OR UNDERWAY)** | | | | | | | | | | | | | | | | |
| Trinity River Authority/Las Colinas Indirect Reuse | 00 | C | 57 | TRA | Dallas | 8 | Trinity | 35081 | 2,433 | 8,000 | 8,000 | 8,000 | 8,000 | 8,000 | 8,000 | Contract allows for 8,000 AF/Y or more. |
| Trinity River Authority/Waxahachie Indirect Reuse | 00 | C | 70 | TRA | Ellis | 8 | Trinity | 35081 | 0 | 3,400 | 3,800 | 3,900 | 4,400 | 4,900 | 5,129 | 93% of 65% of projected use, limited to permit. |
| Jacksboro Indirect Reuse (irrigation) | 00 | C | 119 | Jacksboro | Jack | 8 | Trinity | 35081 | 0 | 0 | 200 | 200 | 200 | 200 | 200 | |
| Lake Worth Indirect Reuse for Cooling | 00 | C | 220 | Lockheed | Tarrant | 8 | Trinity | 35081 | 14,053 | 40,000 | 35,000 | 30,000 | 25,000 | 25,000 | 25,000 | Return flow from non-consumptive cooling use. Based on highest recent use. |
| The Colony (golf - direct reuse) | 00 | C | 61 | The Colony | Denton | 8 | Trinity | 36132 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Trophy Club (golf - direct reuse) | 00 | C | 61 | Trophy Club | Denton | 8 | Trinity | 36132 | 601 | 600 | 600 | 600 | 600 | 600 | 600 | |
| Denton (Power Plant - direct reuse) | 00 | C | 61 | Denton | Denton | 8 | Trinity | 36132 | 135 | 500 | 500 | 500 | 500 | 500 | 500 | |
| UTRWD Direct Reuse | 00 | C | 61 | Denton Co. FWSD #1 | Denton | 8 | Trinity | 36132 | 0 | 2,240 | 2,240 | 2,240 | 2,240 | 2,240 | 2,240 | |
| Denison (golf - direct reuse) | 00 | C | 91 | Denison | Grayson | 2 | Red | 36055 | 0 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Country Club Water Supply (golf - direct reuse) | 00 | C | 129 | Country Club | Kaufman | 8 | Trinity | 36142 | 18 | 0 | 100 | 100 | 100 | 100 | 100 | |
| Crandall (golf - direct reuse) | 00 | C | 129 | Crandall | Kaufman | 8 | Trinity | 36142 | 153 | 200 | 200 | 200 | 200 | 200 | 200 | |
| Azle (golf - direct reuse) | 00 | C | 220 | Azle | Tarrant | 8 | Trinity | 36147 | 123 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Water Chase Golf Course Direct Reuse | 00 | C | 220 | Golf Course | Tarrant | 8 | Trinity | 36146 | 0 | 2,240 | 2,240 | 2,240 | 2,240 | 2,240 | 2,240 | Buys from Fort Worth |
| North Texas MWD Buffalo Creek Direct Reuse | 00 | C | 199 | Golf Course | Rockwall | 8 | Trinity | 36147 | 0 | 1,120 | 1,120 | 1,120 | 1,120 | 1,120 | 1,120 | Buys from NTMWD |
| **IMPORTS** | | | | | | | | | | | | | | | | |
| Chapman (NTMWD) | 02 | D | 60 | NTMWD | Delta (Hopkins) | 3 | Sulphur | 030C0 | 1,256 | 53,600 | 53,200 | 52,800 | 52,400 | 52,000 | 51,600 | NTMWD share of Lake Chapman. |
| Chapman (Irving) | 00 | D | 60 | Irving | Delta (Hopkins) | 3 | Sulphur | 03010 | 0 | 50,600 | 50,200 | 49,900 | 49,500 | 49,100 | 48,800 | |

| A | B | C | D | | | E | | F | | G | H | I | J | K | L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Name of Specific Source** | **Type of Water Supply** | **Regional Water Planning Group Letter** | **County Number for Supply Source** | User | County Name of Supply Source | **Basin Number for Supply Source** | Basin Name for Supply Source | **Specific Source Indentifier Number** | Estimated 1996 Use | **Value for Year 2000 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2010 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2020 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2030 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2040 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2050 of Total Supply from Source During Drought of Record Conditions** | Comments |
| Chapman (Upper Trinity MWD) | 00 | D | 60 | UTRWD | Delta (Hopkins) | 3 | Sulphur | 03010 | 0 | 15,100 | 15,000 | 14,900 | 14,800 | 14,700 | 10,900 | |
| Tawakoni (Terrell) | 00 | D | 190 | Terrell | Rains (Van Zandt, Hunt) | 5 | Sabine | 05010 | 1 | 9,937 | 9,910 | 9,877 | 9,850 | 9,822 | 9,789 | |
| Tawakoni (Dallas) | 02 | D | 190 | Dallas | Rains (Van Zandt, Hunt) | 02 | Sabine | 05010 | 119,327 | 181,800 | 181,300 | 180,800 | 180,200 | 179,700 | 179,100 | Lake Tawakoni |
| Fork (Dallas) | 00 | D | 250 | Dallas | Wood (Rains) | 5 | Sabine | 05040 | 0 | 120,000 | 120,000 | 120,000 | 120,000 | 120,000 | 120,000 | Exportation to Region C limited by trans-basin diversion permit. |
| Palestine (Dallas) | 00 | I | 1 | Dallas | Anderson (Cherokee, Smith, Henderson) | 6 | Neches | 06020 | 0 | 112,700 | 112,100 | 111,500 | 110,900 | 110,200 | 109,600 | |
| Athens (Athens) | 00 | I | 107 | Athens | Henderson | 6 | Neches | 06010 | 1,640 | 6,300 | 6,200 | 6,200 | 6,100 | 6,100 | 6,000 | |
| Livingston (TXU-Fairfield) | 00 | H | | TXU Electric | | 8 | Trinity | 08400 | 12,682 | 16,000 | 16,000 | 16,000 | 16,000 | 16,000 | 16,000 | |
| Vulcan Materials (from BRA-Possum Kingdom) | 00 | G | 182 | Vulcan Materials (Mining) | Palo Pinto | 12 | Brazos | 12150 | 15 | 35 | 35 | 35 | 35 | 35 | 35 | Contract with BRA |
| Parker County (from Mineral Wells-Lake Palo Pinto) | 00 | G | 182 | Mineral Wells, County Other | Palo Pinto | 12 | Brazos | 12160 | 230 | 398 | 532 | 554 | 622 | 632 | 644 | Supply from Lake Palo Pinto. |
| **SUMMARY** | | | | | | | | | | | | | | | | |
| **Reservoirs in Region C** | | | | | | | | | 823,877 | 1,179,455 | 1,174,409 | 1,158,894 | 1,153,142 | 1,146,807 | 1,137,917 | 56.26% |
| **Groundwater** | | | | | | | | | 87,122 | 186,710 | 186,399 | 186,548 | 180,210 | 180,448 | 180,670 | 8.93% |
| **Local Irrigation** | | | | | | | | | Not Avail. | 33,300 | 31,632 | 31,632 | 31,632 | 31,632 | 31,632 | 1.56% |
| **Other Local Supply** | | | | | | | | | 18,826 | 19,534 | 19,534 | 19,534 | 19,534 | 19,534 | 19,536 | 0.97% |
| **Livestock Local Supply** | | | | | | | | | 18,061 | 18,843 | 18,843 | 18,843 | 18,843 | 18,843 | 18,843 | 0.93% |
| **Reuse** | | | | | | | | | 40,862 | 94,543 | 90,243 | 85,343 | 80,843 | 81,343 | 81,572 | 4.03% |
| **Imports** | | | | | | | | | 135,151 | 566,470 | 564,477 | 562,566 | 560,407 | 558,289 | 552,468 | 27.31% |
| **REGION C TOTAL** | | | | | | | | | 1,123,899 | 2,098,855 | 2,085,537 | 2,063,360 | 2,044,611 | 2,036,896 | 2,022,638 | 100.00% |
| | | | | | | | | | | | | | | | | |
| **UNPERMITTED RESERVOIR YIELD** | | | | | | | | | | | | | | | | |
| Moss | 00 | C | 49 | | Cooke | 2 | Red | 02220 | | 1,800 | 1,600 | 1,400 | 1,200 | 1,000 | 800 | TWDB yield in excess of permitted 4,500 acre-feet per year. |

| A | B | C | D | | | E | | F | | G | H | I | J | K | L | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Name of Specific Source** | **Type of Water Supply** | **Regional Water Planning Group Letter** | **County Number for Supply Source** | User | County Name of Supply Source | **Basin Number for Supply Source** | Basin Name for Supply Source | **Specific Source Indentifier Number** | Estimated 1996 Use | **Value for Year 2000 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2010 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2020 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2030 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2040 of Total Supply from Source During Drought of Record Conditions** | **Value for Year 2050 of Total Supply from Source During Drought of Record Conditions** | Comments |
| Texoma (Texas' Share) | 00 | C | 91 | | Grayson | 2 | Red | 02230 | | 787,550 | 759,800 | 732,050 | 704,300 | 676,550 | 648,700 | Texas share of yield from yield study in excess of permitted diversion of 145,400 acre-feet per year. |
| Bonham | 00 | C | 74 | | Fannin | 2 | Red | 02270 | | 1,900 | 1,300 | 700 | 100 | 0 | 0 | TWDB yield in excess of permitted 5,340 acre-feet per year. |
| Cedar Creek | 00 | C | 107 | | Henderson | 8 | Trinity | 08190P | | 47,900 | 44,500 | 41,100 | 37,700 | 34,300 | 31,000 | Freese and Nichols computed yield in excess of permitted 175,000 acre-feet/year. |
| Richland-Chambers | 00 | C | 81 | | Freestone | 8 | Trinity | 08240 | | 28,200 | 22,100 | 16,000 | 9,900 | 3,800 | 0 | Freese and Nichols computed yield in excess of permitted 210,000 acre-feet/year. |
| Bardwell | 00 | C | 70 | | Ellis | 8 | Trinity | 08210 | | 900 | 400 | 0 | 0 | 0 | 0 | Yields from yield study in excess of permitted 9,600 acre-feet per year. |
| Navarro Mills | 00 | C | 175 | | Navarro | 8 | Trinity | 08230 | | 3,500 | 2,100 | 700 | 0 | 0 | 0 | TWDB yield in excess of permited 19,400 acre-feet per year. |
| **TOTAL UNPERMITTED YIELD** | | | | | | | | | | 871,750 | 831,800 | 791,950 | 753,200 | 715,650 | 680,500 | |

**NOTE:** Column titles in bold print are columns required by the Texas Water Development Board. The non-bolded columns are provided as additional information.