# 10

# Implementation and funding of the 2017 State Water Plan



*Photo courtesy of Tarrant Regional Water District*

# QUICK FACTS

Regional water planning groups reported that 477, or 43 percent, of the water management strategies recommended in the 2017 State Water Plan that do not require a capital project were either partially or fully implemented.

Planning groups reported that 979 projects in the 2017 State Water Plan were either partially or fully implemented. This represents nearly 39 percent of the approximately 2,500 recommended projects.

Of the total estimated $63 billion in project costs in the 2017 State Water Plan, approximately $6.5 billion was funded through the TWDB's financial assistance programs and is associated with 61 projects.

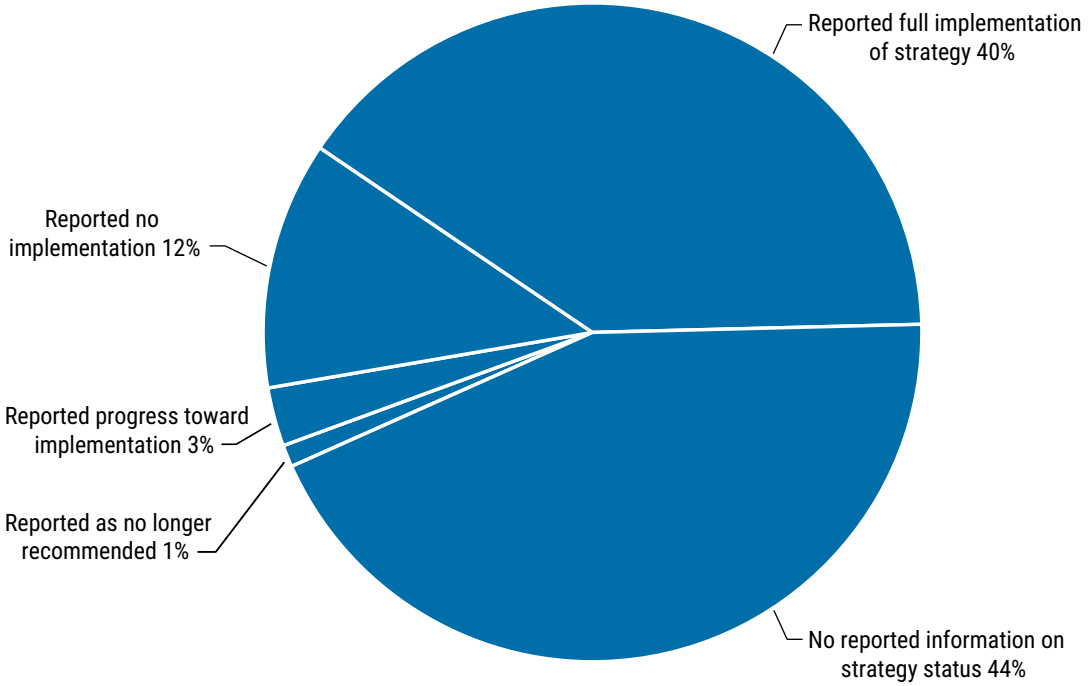
Regional water planning groups assist in evaluating the state's progress in meeting future water needs by assessing the previously recommended water management strategies implemented during the five-year planning cycle. The state water plan also includes information on state water plan projects funded since adoption of the previous state water plan. In 2017, the Texas Legislature passed Senate Bill 1511, which requires an assessment of project implementation in the decade in which projects were needed as well as an analysis of any project implementation impediments. This requirement applies to projects in the previous state water plan that the TWDB prioritized for SWIFT funding. The 2022 State Water Plan is the first plan required to incorporate information on implementation impediments.

## 10.1 Implementation of the 2017 State Water Plan

Water management *strategies* in the state water plan may or may not require new infrastructure—referred to as water management strategy *projects*—to be developed. The 2017 State Water Plan was the first to clearly differentiate between strategies and infrastructure projects. Not every strategy requires a project, but every project is tied to an associated strategy. Planning groups reported on the implementation of water management strategies and projects from the 2017 State Water Plan in their 2021 regional water plans. To do this, the planning groups surveyed the project sponsors and reported on the extent to which water infrastructure projects had progressed toward planning, design, or construction phases. They also gathered information on strategies that do not require new infrastructure development. Examples include demand reduction strategies (conservation and drought management) and other supply development strategies, such as utilization of unallocated supplies, contract purchases, and voluntary redistributions or transfers that use existing infrastructure. Because water management strategies, particularly those involving infrastructure projects, can require several years to fully implement, strategy (and project) progress was categorized in two ways:

1. Implemented: when a strategy is fully capable of meeting water needs in the manner planned
2. Progress toward implementation: includes any type of implementation step (including start of project construction or pre-implementation

*Figure 10-1. Reported implementation of recommended water management strategies not associated with a project from the 2017 State Water Plan by share of total number of strategies not associated with a project*




activity, such as negotiating contracts, applying for and securing financing or state and federal permits, or conducting preliminary engineering studies) or achieving a portion of the total anticipated conservation savings from a strategy

Statewide implementation progress is presented as

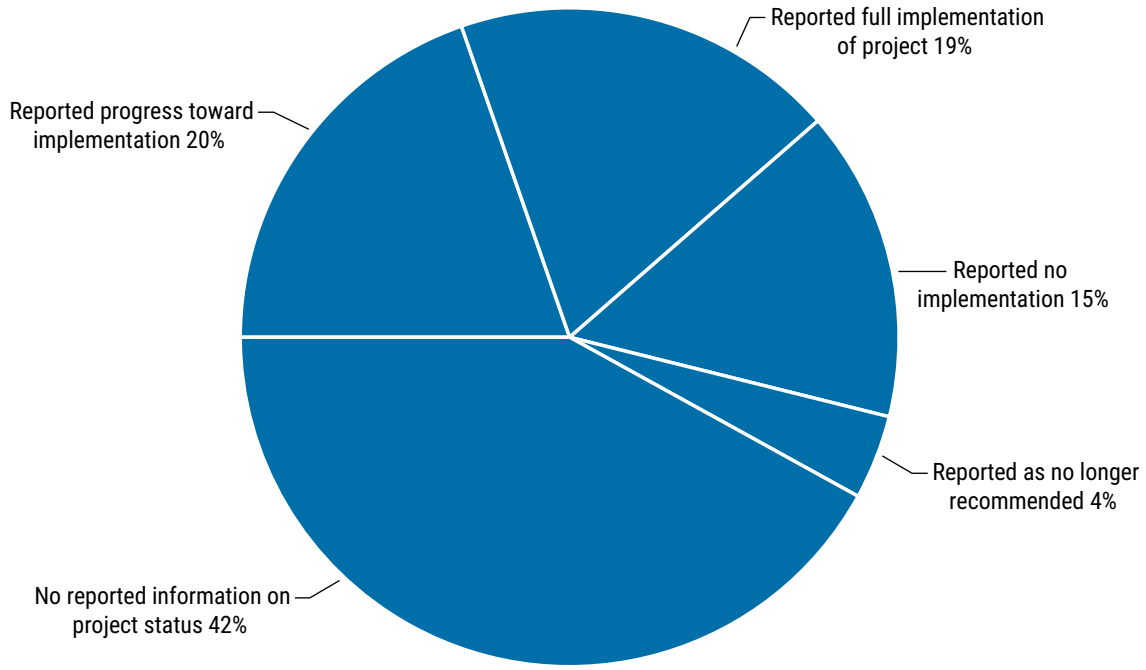
- the relative count of strategies not associated with a project compared to the total number of recommended strategies not associated with a project (approximately 1,100) in the 2017 State Water Plan[22] (Figure 10-1); and
- the relative count of projects compared to the total number of recommended projects (approximately 2,500) in the 2017 State Water Plan (Figure 10-2).

The planning groups reported implementation survey information regarding 624 strategies not associated with a project. Of these, about 71 percent were fully implemented and another 5 percent reported some form of implementation progress. Strategies reported as fully implemented represent about 40 percent of the total number of recommended water management strategies without an associated project in the 2017 State Water Plan. The water supplies associated with these fully implemented strategies now appear as existing supply on the supply side of the planning equation in this current water plan. Strategies reported as only partially implemented represent almost 3 percent of the total number of strategies without associated projects in the 2017 State Water Plan.

Planning groups also reported, separately from strategies, implementation status information for the approximately 1,500 projects in the 2017 State Water Plan. Of the approximately 40 percent of projects that were reported on, about half of those were reported as being fully implemented

[22] The count of water management strategies and the capital cost of projects associated with the 2017 State Water Plan include amendments to the plan.

*Figure 10-2. Reported implementation of all recommended water management strategy projects from the 2017 State Water Plan by share of total number of projects*




with the other half of those reporting some degree of implementation progress. Fully implemented projects, as reported, represent $3.8 billion, or 6 percent, of the $63 billion in total capital costs associated with the 2017 State Water Plan; the partially implemented projects, as reported, represent $36.6 billion, or 58 percent, of the total capital costs.

New to this round of planning was a requirement from House Bill 807, 86th Legislative Session, directing the regional planning groups to assess their progress in encouraging cooperation between water user groups to develop strategies that achieve economies of scale and benefit the entire region. This assessment is included in Chapter 11 of the 2021 regional water plans. To meet this requirement, some planning groups highlighted the roles of regional water providers, provided examples of water management strategies and projects that involve multiple sponsors or benefit multiple water user groups, or described how the regional water planning process has encouraged cooperation in the region.

Several planning groups noted that regional scale projects are not necessarily practical in areas where needs are already being met or in sparsely populated areas where the costs of transmission may outweigh the cost savings from economies of scale. Planning groups reported that 29 projects recommended in the 2017 State Water Plan to serve multiple water user groups have been fully implemented.

## 10.2 Impediments to implementation of the 2017 State Water Plan

Because the project evaluations in each five-year planning cycle are expected to consider current, updated conditions and reflect changed circumstances since the previous plan, they are inherently adaptive in reflecting the associated project implementation timelines. In addition to being survey based, which results in limited responses, tracking implementation of all projects across multiple planning cycles is difficult, especially for phased projects. However, certain larger and

clearly and consistently defined projects, such as the construction of new reservoirs, that have longer development timelines and more reliable survey responses are easier to consistently track across water plans and are, therefore, more easily assessed over time.

To better understand why some water management strategy projects are not implemented in the decade in which they are needed, the planning groups are required to collect information regarding impediments to implementation and do so via surveys sent to the project sponsors. This is the first time the planning groups have had to address this legislative requirement to identify impediments; the 2020 decade is the only decade for which definitive passage of an identified online decade would have occurred.

Planning groups mentioned several categories of impediments to implementation, including access to funding, the anticipated online date of the project is further in the future, and the permitting process being the most common. Other identified impediments included lack of a project sponsor, land acquisition, and water availability constraints. Because even technically and economically feasible projects, especially large ones, require significant effort to implement, the impediments reported by planning groups do not necessarily indicate a project will not be implemented. Rather, the identified impediments indicate that implementation will take longer than previously anticipated and potentially delay the online date. Right-of-way acquisition is a good example of a process that can create significant delays, even for relatively straightforward projects that simply require conveyance pipelines.

The TWDB is limited in its ability to provide one-to-one assessments of the extent to which projects in the previous plan were not implemented in the decade needed, especially beyond the first decade in the planning cycle. During each planning cycle, the planning groups update their water management strategies, including the names, configuration, beneficiaries, capacity, and when the projects are anticipated to be needed and fully operational. Due to these changes, including schedule updates, the regional and state water plans will rarely reflect a project not being implemented in time for the recommended decade and would only measurably apply to projects due to be online in 2020 but that were not online then. Planning groups reported the implementation status of nearly 1,600 of the approximately 2,700 water management strategies and projects in the 2017 State Water Plan that were due to be online in 2020. Of these, about 55 percent were reported as fully implemented, just over 21 percent as partially implemented, 20 percent as not implemented, and almost 4 percent as no longer recommended.

Of the 2017 State Water Plan projects prioritized for funding through the SWIFT program, no impediments were noted in their implementation. Approximately 53 percent of the projects funded through SWIFT indicated 2020 as the decade of need and received funding for project phases including construction. The remaining 47 percent of the projects received funding prior to their decades of need as reported in the 2017 State Water Plan, with the vast majority having an online decade of 2030.

## 10.3 Funding of the 2017 State Water Plan

Since adopting the 2017 State Water Plan, the TWDB has closed[23] on approximately $8.8 billion in additional financial assistance and delivered to project sponsors more than $6.5 billion toward the implementation of state water plan projects (Table 10-1). In addition to the SWIFT program, the TWDB also funded recommended water management strategies through several other funding programs, including the Board Participation Program,

[23] The TWDB first approves a commitment for financial assistance. After all appropriate reviews and requirements are met, funds are released at closing.

*Table 10-1. 2017 State Water Plan projects funded by the TWDB by project sponsor – continued on next page*

| Map reference | Region | Project[a] | Entity | Financial assistance features | | | Closed funding amount | Associated annual water supply (acre-feet per year)[b] |
|---|---|---|---|---|---|---|---|---|
| | | | | State water plan funding | Board participation | Other state and federal funding programs | | |
| 1 | C | Main Street Water Line Replacement | Azle | x | | | $1,350,000 | 1 |
| 2 | | Conservation, Water Loss Control - Boyd | Boyd | | | x | $720,000 | 332 |
| 3 | | Conservation, Water Loss Control - Dallas | Dallas | | | x | $132,000,000 | 5,500 |
| 4 | | Conservation, Water Loss Control - Everman | Everman | | | x | $3,000,000 | 1 |
| 5 | | Krum New Wells in Trinity Aquifer | Greater Texoma Utility Authority | | | x | $1,225,000 | 202 |
| 6 | | Gunter New Well in Trinity Aquifer (2020) | Greater Texoma Utility Authority | | | x | $3,415,000 | 320 |
| 7 | | Conservation, Water Loss Control - Lake Kiowa Special Utility District | Greater Texoma Utility Authority | | | x | $2,125,000 | 4 |
| 8 | | Grayson County Water Supply Project - Additional Texoma Supply from Greater Texoma Utility Authority | Greater Texoma Utility Authority | | | x | $7,155,000 | 97 |
| 9 | | Enhanced Water Loss Control and Conservation Program | Justin | x | | | $4,800,000 | 35 |
| 10 | | Keller Enhanced Water Loss Control and Conservation Program | Keller | x | | | $8,120,000 | 514 |
| 11 | | Conservation, Water Loss Control - Ladonia | Ladonia | | | x | $3,110,000 | 1 |
| 12 | | Conservation, Water Loss Control - Grayson County | Lake Texoma VFW Post 7873 | | | x | $200,000 | 15 |
| 13 | | Lower Bois d'Arc Creek Reservoir and Drinking Water Treatment Plant | North Texas Municipal Water District | x | | | $1,476,980,000 | 120,665 |
| 14 | | Conservation, Water Loss Control - River Oaks | River Oaks | | | x | $8,000,000 | 750 |
| 15 | | Springtown New Wells in Trinity Aquifer | Springtown | x | | | $1,390,000 | 81 |
| 16 | | Increase Delivery Infrastructure from Fort Worth | Trophy Club Municipal Utility District No. 1 | x | | | $4,635,000 | 7,398 |
| 17 | | Lake Ralph Hall Reservoir | Upper Trinity Regional Water District | x | x | | $209,680,000 | 33,604 |
| 18 | | Parallel Pipeline Taylor Regional Water Treatment Plant to Stonehill Pump Station | Upper Trinity Regional Water District | x | | | $42,070,000 | 49,846 |
| 19 | | Increase Delivery Infrastructure from Fort Worth | Westlake | x | | | $2,100,000 | 6,497 |
| 20 | D | Riverbend Strategy (Texarkana) | Annona | | | x | $300,000 | 94 |
| 21 | | Riverbend Strategy (Texarkana) | Riverbend Water Resources District | | | x | $18,000,000 | 67,209 |
| 22 | E | Town of Anthony - Arsenic Treatment System | Anthony | | | x | $980,000 | 435 |
| 23 | | Bone Spring - Victorio Peak Aquifer Land and Water Rights Acquisition | El Paso Public Service Board | x | | | $200,000,000 | 20,000 |

[a] *Project name may vary from 2017 State Water Plan project name.*

[b] *Water volumes may also be associated with other projects.*

*Table 10-1. 2017 State Water Plan projects funded by the TWDB by project sponsor – continued on next page*

| Map reference | Region | Project[a] | Entity | Financial assistance features | | | Closed funding amount | Associated annual water supply (acre-feet per year)[b] |
|---|---|---|---|---|---|---|---|---|
| | | | | State water plan funding | Board participation | Other state and federal funding programs | | |
| 24 | F | Voluntary Transfer from Clyde - Fort Phantom Hill Supplies | Ballinger | | | x | $3,393,435 | 1,250 |
| 25 | | Advanced Groundwater Treatment - Brady | Brady | | | x | $28,905,000 | 3,500 |
| 26 | | Additional Treatment - Mason | Mason | | | x | $2,659,200 | 2,242 |
| 27 | | Hickory Well Field Expansion in McCulloch County - San Angelo | San Angelo | | | x | $56,075,000 | 3,000 |
| 28 | G | Brushy Creek Regional Utility Authority Water Treatment and Distribution Project | Brushy Creek Regional Utility Authority | x | | | $32,735,000 | 14,562 |
| 29 | | Aquifer Storage and Recovery (Carrizo-Wilcox) | Bryan | x | | | $2,345,000 | 11,900 |
| 30 | | Reuse - Cleburne | Cleburne | | | x | $42,000,000 | 4,480 |
| 31 | | East Williamson County Water Project | Lone Star Regional Water Authority | | | x | $1,500,000 | 11,762 |
| 32 | | Water Conservation | Waco | x | | | $12,000,000 | 1,462 |
| 33 | H | Central Harris County Regional Water Authority Transmission and Distribution Expansion | Central Harris County Regional Water Authority | x | | | $12,585,000 | 5,470 |
| 34 | | Houston - Northeast Water Purification Plant Expansion | Central Harris County Regional Water Authority | x | | | $35,140,000 | 358,447 |
| | | | Houston | x | | | $294,455,000 | |
| | | | North Fort Bend Water Authority | x | | | $350,780,000 | |
| | | | North Harris County Regional Water Authority | x | | | $727,060,000 | |
| | | | West Harris County Regional Water Authority | x | | | $395,810,000 | |
| 35 | | Houston - Second Source Phase I | Central Harris County Regional Water Authority | x | | | $12,365,000 | 189,396 |
| | | | Houston | x | | | $192,825,000 | |
| | | | North Harris County Regional Water Authority | x | | | $339,990,000 | |
| 36 | | Luce Bayou Interbasin Transfer | Central Harris County Regional Water Authority | x | | | $1,500,000 | 358,447 |

[a] *Project name may vary from 2017 State Water Plan project name.*

[b] *Water volumes may also be associated with other projects.*

*Table 10-1. 2017 State Water Plan projects funded by the TWDB by project sponsor – continued on next page*

| Map reference | Region | Project[a] | Entity | Financial assistance features | | | Closed funding amount | Associated annual water supply (acre-feet per year)[b] |
|---|---|---|---|---|---|---|---|---|
| | | | | State water plan funding | Board participation | Other state and federal funding programs | | |
| 37 | H | Groveton Well Development | Groveton | | | x | $2,164,161 | 241 |
| 38 | | Municipal Conservation, County-Other, Austin County | New Ulm Water Supply Corporation | | | x | $97,060 | 5 |
| 39 | | Internal Distribution Expansion | North Fort Bend Water Authority | x | | | $15,110,000 | 76,730 |
| 40 | | Wastewater Reclamation for Municipal Irrigation | North Fort Bend Water Authority | | | x | $2,421,800 | 504 |
| 41 | | West Harris County Regional Water Authority - Second Source Transmission | North Fort Bend Water Authority | x | | | $414,485,000 | 176,736 |
| | | | West Harris County Regional Water Authority | x | | | $345,320,000 | |
| 42 | | North Harris County Regional Water Authority Internal 2020 Distribution | North Harris County Regional Water Authority | x | | | $242,980,000 | 143,360 |
| 43 | | Pearland Surface Water Treatment Plant Development | Pearland | | | x | $159,500,000 | 11,202 |
| 44 | | Municipal Conservation, Shoreacres | Shoreacres | | | x | $4,500,000 | 3 |
| 45 | | Water User Group Infrastructure Expansion | Spring Valley Village | x | | | $2,500,000 | 2,190 |
| 46 | I | Sabine River Authority Pump Station | Sabine River Authority | x | | | $75,000,000 | 254,395 |
| 47 | K | Conservation Strategy - Smart Meters (Advanced Meter Infrastructure) | Austin | x | | | $26,195,000 | 6,105 |
| 48 | | Direct Reuse Strategy | Austin | x | | | $65,605,000 | 38,429 |
| 49 | | Urgent Water Loss Reduction - Creedmoor-Maha Water Supply Corporation | Creedmoor-Maha Water Supply Corporation | | | x | $4,667,500 | 134 |
| 50 | L | Hays-Caldwell Groundwater Project - Phase 1B | Alliance Regional Water Authority | x | | | $240,410,000 | 35,690 |
| 51 | | Local Carrizo Aquifer Development - Cotulla | Cotulla | | | x | $8,155,000 | 450 |
| 52 | | Carrizo Groundwater Supply Project | Guadalupe-Blanco River Authority | x | x | | $140,705,000 | 15,000 |
| 53 | | Reuse - San Marcos | San Marcos | | | x | $5,445,839 | 1,932 |
| 54 | | Expanded Carrizo for Schertz-Seguin Local Government Corporation | Schertz-Seguin Local Government Corporation | x | x | | $66,500,000 | 6,500 |

[a] *Project name may vary from 2017 State Water Plan project name.*

[b] *Water volumes may also be associated with other projects.*

*Table 10-1. 2017 State Water Plan projects funded by the TWDB by project sponsor – continued*

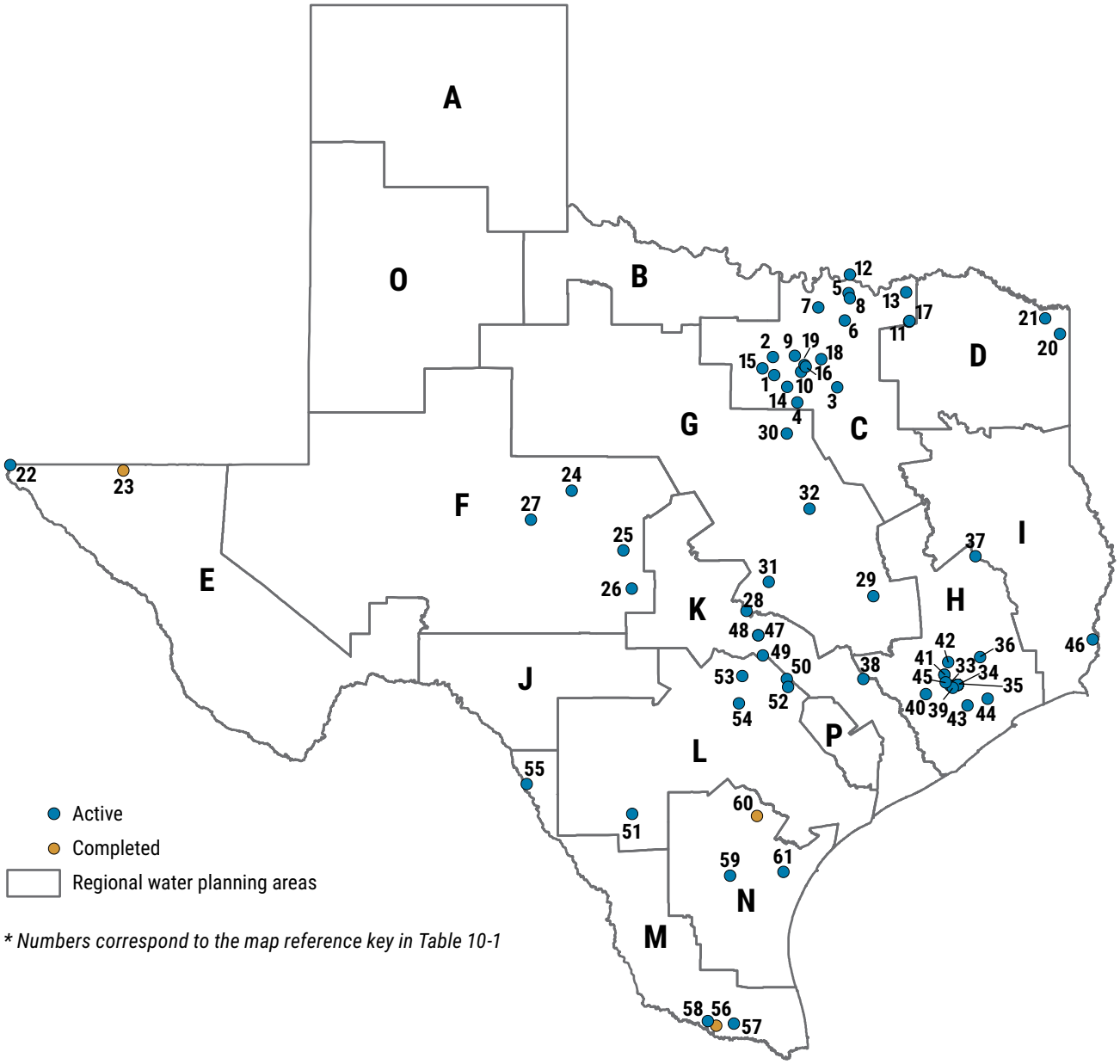
| Map reference | Region | Project[a] | Entity | Financial assistance features | | | Closed funding amount | Associated annual water supply (acre-feet per year)[b] |
|---|---|---|---|---|---|---|---|---|
| | | | | State water plan funding | Board participation | Other state and federal funding programs | | |
| 55 | M | Advanced Municipal Conservation - Eagle Pass | Eagle Pass | | | x | $26,975,000 | 208 |
| 56 | | Water Rights Acquisition | McAllen | x | | | $6,900,000 | 3,000 |
| 57 | | Delta Area Reverse Osmosis Water Treatment Plant Expansion | North Alamo Water Supply Corporation | | | x | $6,976,373 | 1,410 |
| 58 | | Off-Channel Storage Facility | United Irrigation District | x | | | $8,100,000 | 2,000 |
| 59 | N | Brackish Groundwater Development - Alice | Alice | | | x | $5,499,000 | 1,120 |
| 60 | | Chase Field Project | Beeville | x | | | $4,500,000 | 1,491 |
| 61 | | Seawater Desalination | Corpus Christi | x | | | $14,175,000 | 22,420 |

[a] *Project name may vary from 2017 State Water Plan project name.*

[b] *Water volumes may also be associated with other projects.*

*Intake structure at Bois d'Arc Lake; photo courtesy of North Texas Municipal Water District*

*Figure 10-3. Locations of 2017 State Water Plan projects funded by the TWDB by project sponsor**




* Numbers correspond to the map reference key in Table 10-1

Texas Water Development Fund, Economically Distressed Areas Program, and the Clean and Drinking Water State Revolving Funds.

A wide variety of water management strategies have received commitments for TWDB funding since the adoption of the 2017 State Water Plan, including seawater desalination, transmission line expansions, new water meters, acquisition of water rights, new groundwater wells, and aquifer storage and recovery projects. Funding commitments, which may be larger than the estimated costs of those projects in the state water plan, were associated with several different project sponsors throughout Texas, including cities and regional water providers (Figure 10-3).