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The State Water Plan & The Coastal Bend Water Crisis

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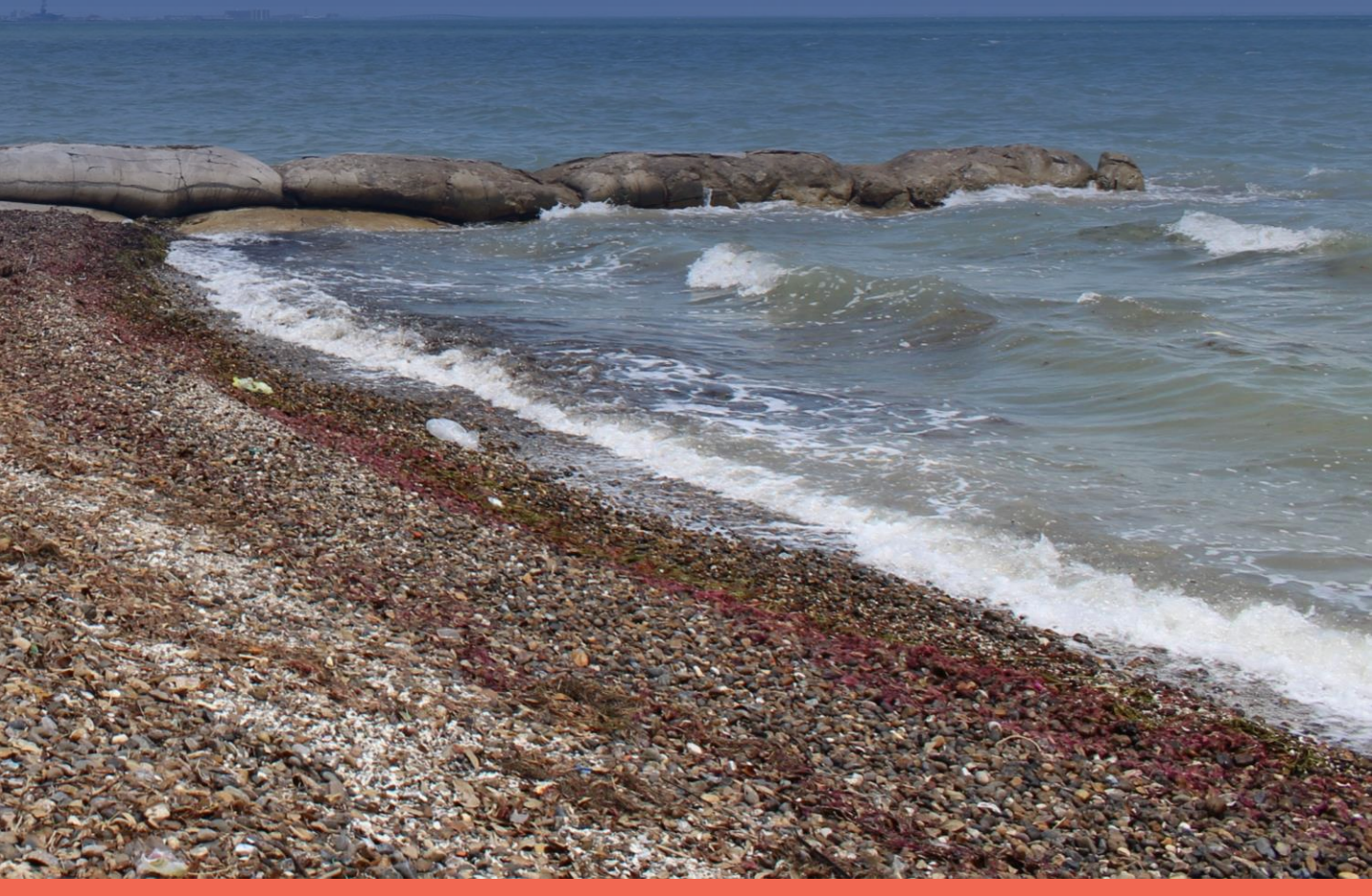

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Executive Summary

The State Water Plan & The Coastal Bend Water Crisis

In the mid-2020s, Texas' Coastal Bend entered a severe water crisis. A long, severe drought drained Choke Canyon Reservoir and Lake Corpus Christi, the reservoir system serving Corpus Christi and many surrounding communities. By April 2026, combined storage within the reservoirs dropped below 8% lower than the reserve the region had set aside for a worst-case drought. Cities imposed restrictions, scrambled for new supplies, and fought one another over access to groundwater. Corpus Christi's credit rating was downgraded. Gov. Greg Abbott raised the possibility of a state takeover of the city.

Choke Canyon Reservoir, May, 2026. Photo by Meagan Falcon.

The State of Texas established a water planning process to prevent exactly this. In 1997, the Legislature approved Senate Bill 1, creating a state and regional water planning process culminating in the state water plan. As part of this process, planners are required to identify, decades in advance, the water supply projects Texas would need to withstand the challenges attributable to drought and growth.

This report asks two simple questions nearly 30 years after SB 1's passage. First, did the state and regional water plans see the Coastal Bend water crisis coming? And second, did the plans prompt action to prevent it?

They did not.

Across 25 years and five planning cycles, no state or regional water plan ever projected a water shortage for Corpus Christi.

Nor did any plans project shortages for Alice, Rockport, Aransas Pass, Port Aransas, Ingleside, Mathis, Portland, or Beeville either — the other cities that were at the center of the Coastal Bend's water crisis. The very plans meant to warn these communities, and to give them time to develop water supply projects, never identified the problem.

This was not the fault of any single plan or planner. The Texas Water Development Board and the Coastal Bend planning group followed the state's rules and used the drought assumptions those rules required. But the rules, and the data beneath them, were not equal to the task. Consequently, the failure was in the planning process itself, which never sent a steady signal.

The first two planning cycles projected no water shortages in the Coastal Bend during the 2020s. Then the 2011/12 cycle projected one. The 2016/17 cycle reversed that projection with an anticipated water supply surplus. Plans from the 2021/22 cycle, the last before the crisis, projected the largest regional shortfall of any plan, but tied most of that water deficit to groundwater and treatment plant limits rather than a shortage of raw water. Again, these plans indicated that Corpus Christi and surrounding communities would not face a water shortage. A community reading these plans in sequence had no stable warning signal to act on.

By the time the signal was the strongest in the 2021/22 planning cycle, too little time remained to build the large, drought-resilient supplies the region needed. Of the projects the last pre-crisis plans recommended for the 2020s, only one — a brackish groundwater desalination plant in Alice — had been built by 2025.

The answer is not to abandon the process SB 1 created. To the contrary, it remains the right policy foundation for Texas' water future. Rather, the lesson is that significant changes are needed for the SB 1 framework to live up to its promise and prevent crises like this from happening again. Getting these plans right matters now more than ever.

Voters have committed up to $1 billion per year to the new Texas Water Fund, and the new 2027 State Water Plan — the most expensive in state history at $174 billion — will guide how much of that money is spent. A planning process that could not see the Coastal Bend water crisis coming should not, unchanged, direct that investment.

This report recommends several practical fixes.

- Before each planning cycle begins, Texas should verify the drought and hydrologic data on which its plan depends.
- Plans should be organized into an actionable, stable blueprint that consistently identify the strategies needed for drought resilience and growth.
- They should include firm accounting and performance measures of the water strategy implementation progress made across planning cycles.
- Communities identified as at risk should be formally notified, and their progress toward achieving solutions measured.
- Plans should be stress-tested against worsening droughts.
- And lastly, the Legislature should consider different timeframes, including for when plans are produced and the planning horizon, for the state and regional planning process.

A water plan that does not work as a consistent blueprint, or meaningfully track implementation progress, risks becoming a road map to the next crisis. The Coastal Bend paid for these lessons. The rest of Texas should learn from them.

Introduction

A New Texas Water Crisis

In the years preceding 2026, severe drought conditions decimated the water supplies within Choke Canyon Reservoir and Lake Corpus Christi. For decades, these reservoirs supplied water — lifeblood, really — to the City of Corpus Christi, surrounding communities, and regional industries within the Coastal Bend. Regional civic and policy leaders undoubtedly watched in horror as the reservoirs plunged from half-full toward nearly empty. First, the boat ramps went dry, then public lakefront beaches grew longer, and soon the calls for water conservation grew more urgent.

Corpus Christi Stage 3 water restrictions, May, 2026. Photo by Meagan Falcon.

Timelines emerged on when the City of Corpus Christi would run out of water. Phrases like “dead pool” and “Day Zero” entered the local lexicon. As the city council continued its heated and fraught deliberations over a seawater desalination plant, the City imposed stricter water use restrictions as reservoir levels continued their decline. Other cities in the region, including Rockport, Alice and Beeville, did the same, while joining the rapid pursuit of alternative water supplies, mostly in the form of more groundwater pumping. Local conflicts among cities soon emerged over access to this groundwater.[1]

[1] Alejandra Martinez, “Corpus Christi water emergency may be just two months away, city leaders say,” Texas Tribune, March 17, 2026.

Regional industries quickly joined the quest for other water sources. Hospital administrators paused their focus on healthcare to develop new water supplies. Petrochemical refineries were advised that their water access could be terminated if they did not reduce their water consumption by 25%.[2] In turn, plant operators searched for alternative water sources, including wastewater effluent.[3] The Corpus Christi Independent School District sought permits to drill groundwater wells on school properties.[4]

Choke Canyon Reservoir, May, 2026. Photo by Meagan Falcon.

In late 2025 and early 2026, national headlines appeared that indicated Corpus Christi and other cities in the Coastal Bend region were about to run out of water.[5] At the start of 2026, the combined storage in these reservoirs was just above 10%. By mid-April, it declined to 7.7%, with just 70,527 acre-feet of available water.[6] This was lower than the emergency reserves set aside for a worst-case scenario drought.

[2] Shelby Webb, "Parched Corpus Christi threatens to cut off water to refineries," E&E News, May 13, 2026.

[3] Paul Cobler and Carlos Nogueras Ramos, "Corpus Christi's crucial refineries look for alternate water supplies amid looming water crisis," The Texas Tribune, March 20, 2026.

[4] Dylan Baddour, Neena Satija, Emily Salazar, "Corpus Christi plans to declare a 'water emergency.' What does that Mean?," Inside Climate News, April 23, 2026.

[5] Benoît Morenne, "This Texas Town is an Energy Powerhouse. It's Running Out of Water," Wall Street Journal, October 12, 2025; Lauren McGaughy, "A Texas City Bet Big on Industry. Now It's Running Out of Water," The New York Times, May 13, 2026.

[6] Texas Water Development Board, Daily Historical Data for Coastal Bend Planning Region Reservoirs, Water Data for Texas, updated June 16, 2026, waterdatafortexas.org/reservoirs/region/coastal- bend-1year.csv, accessed June 16, 2026.

State leaders noticed. In early 2026, Gov. Abbott renewed the drought disaster proclamation for all Coastal Bend counties.[7] Shortly thereafter, the Governor suspended state regulations to allow for expedited water permitting for the area and even directed a neighboring river authority to delay water delivery curtailments to the region.[8] Soon frustrated by Corpus Christi's actions, Gov. Abbott announced the possibility of a state takeover of the city.[9]

Wall Street also noticed. Each of the three credit ratings agencies, Fitch Ratings, Moody's, and S&P Global Ratings, downgraded Corpus Christi's credit rating due to the water crisis. In May 2026, S&P Global Ratings assigned a negative outlook to Corpus Christi's rating, noting that the "ongoing drought and resulting water supply stress presents both a short-term and long-term risk to the city's economic activity and growth, which in turn could pressure the city's budgetary performance."[10]

To outside observers, the Coastal Bend water crisis appeared tense and disorderly. Patchwork solutions were rushed forward by overlapping and sometimes competing interests to secure interim water supplies as the prospect of drought-fueled scarcity worsened. The region's response seemed fragmented rather than planned as the prospects for future growth within the region dimmed.

In 1997, the State of Texas adopted a policy strategy to prevent crises like this. SB 1 inaugurated a long-term planning process founded on regional input that would identify the water supply projects and strategies needed for a growing, and frequently drought-prone, state. The product from this process, the state water plan, was prescribed as the state's blueprint for the orderly development of water resources and protection against the challenges attributable to drought and continued growth.

The crisis unfolding within the Coastal Bend region invites several questions about the state water plan and the planning process.

- First, did the water plans ever anticipate this crisis?
- Specifically, did the state and regional water plans forecast water supply deficits — including shortages for cities and industries within the region — as severe as those observed in the Coastal Bend in 2026?
- If shortages were projected for the 2020s, what water supply strategies were recommended to answer these demands?
- And of these strategies, which were delivered in time to improve the region's resilience to drought?
- In other words, did the state water plan and the planning process initiated by SB 1 work?

7. Office of the Texas Governor, Governor Abbot Amends, Renews Drought Disaster Proclamation in March 2026, March 18, 2026.
8. Rachel Denny Clow, "Abbott waives regulations, directs state agencies to protect Corpus Christi water supply," KRIS News, March 17, 2026.
9. Alejandra Martinez, "Governor Blasts Corpus Christi leaders over looming water shortage, threatens a state takeover," The Texas Tribune, March 10, 2026.
10. S&P Global Ratings, Corpus Christi, TX Debt Rating Outlook Revised to Negative, May 20, 2026, https://www.spglobal.com/ratings/en/regulatory/article/-/view/type/HTML/id/3566020, accessed June 28, 2026.

This report examines each state water plan and regional water plan published since 1997 (starting in 2001) to answer these questions. This analysis assesses the regional water supply deficits projected within each plan, when those deficits would occur, those user groups with anticipated shortages, and the water supply projects and strategies recommended to cure those shortages by the 2020s. Put another way, this analysis examines each plan within a given planning cycle as its own blueprint, instructing readers on the architecture of a water supply portfolio needed for sustained economic activity, growth and drought resilience.

The chapters that follow reveal a consistent and troubling pattern. Across the five planning cycles examined in Chapters 3 through 7, the state and regional water plans never sent a clear, sustained signal that the Coastal Bend needed to substantively expand its water supply portfolio before the 2020s.

The 2001/02 and 2006/07 cycles (Chapters 3 and 4) projected regional surpluses and forecast no shortage until the 2030s or later.

The 2011/12 cycle (Chapter 5) produced the first projection of a regional deficit for the 2020s, but that warning was reversed by the 2016/17 cycle (Chapter 6), which again projected a surplus after crediting the region with greater surface water and groundwater availability.

Only the 2021/22 cycle (Chapter 7), published on the eve of the crisis, projected the largest 2020s shortage of any plan. Even then, the deficit was attributed largely to groundwater-dependent users and treatment-capacity constraints, while the cities at the center of the 2026 crisis, including Corpus Christi, were repeatedly shown as having no projected shortages.

In every cycle, the recommended strategies leaned heavily on additional groundwater pumping, conservation and treatment-plant expansions rather than the large, diversified, drought-resilient supply projects that a worsening drought would ultimately demand.

The fact that the state water plan serves as the central organizing document for Texas' water policy invites this critical assessment. Since approving SB 1 in 1997, the Legislature has crafted policies for infrastructure funding, resource regulation and other planning functions on the foundations of the water plan and planning process. This salience warrants closer scrutiny of how both performed when tested by the Coastal Bend's water crisis.

Moreover, two new developments in Texas water policy also invite this closer examination. The first involves the recent expansion of the state's financial strategy for funding water infrastructure projects. In 2023, both the Legislature and state voters approved Proposition 6 creating a new fund, the Texas Water Fund, to help pay for Texas' long-term water infrastructure needs, including water supply projects.

Two years later, in 2025, voters approved Proposition 4 establishing a dedicated revenue stream of up to $1 billion per year to the Texas Water Fund for the next 20 years.

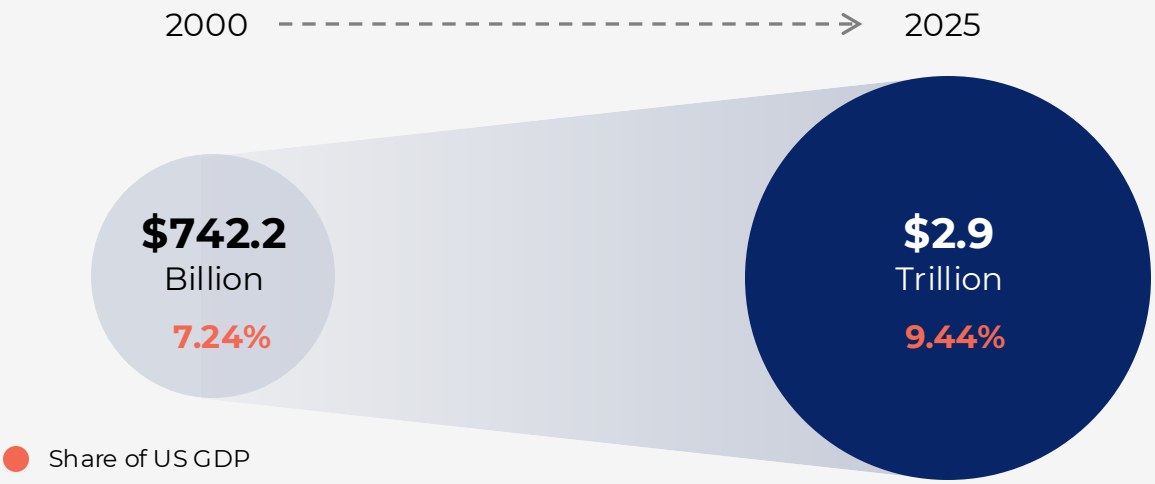
If the state water plan will serve as the blueprint for this new financial strategy, then lessons learned from what worked for the Coastal Bend region — and what did not — are critical to its future success.

The second major development involves the Texas Water Development Board's approval of the 2027 State Water Plan. The new plan comes with an eyebrow-raising $174 billion price tag (based on nominal 2023 dollars), making it the most expensive water plan in state history.[11] Beyond the price tag, the 2027 Plan recommends the most water supply strategies and projects of any plan since 2002. In total, the new plan recommends 6,687 water management strategies, including 3,036 water supply projects, to meet growing demands between the 2030s and 2080s.

Combined, these two new developments have heightened the significance of the state water plan and the planning process. Underlying this issue is the importance of reliable water infrastructure to Texas' growing economy. Since 2000, Texas' economy has expanded in exceptional magnitude and with extraordinary velocity.

Over the past quarter century, Texas' gross domestic product grew from $742.2 billion to $2.9 trillion, propelling the state to the second-largest economy in the United States.[12]

Texas' Economic Growth: 2000-2025



Expanding economic activity requires reliable water infrastructure, making the blueprint within the state water plan consequential to the state's continued prosperity.

Texas' water infrastructure needs will continue to grow with demographic and economic expansion. Growing communities and increased business activity will require more drinking water plants, wellfields, pipelines, reservoirs, and, among other infrastructure solutions, desalination facilities. In the meantime, the challenges and hardships attributable to drought, which has already strained the Coastal Bend region, shall remain an immutable part of the Texas experience. The state water plan remains Texas' best, logical policy given these future imperatives. Given its salience, this report is offered in the spirit of making the state's water plan and planning process better: lessons learned today can help craft a better water future for tomorrow.

11. Texas Water Development Board, 2027 State Water Plan, Phase I Water Plan Summary to Support State Water Implementation Fund for Texas Financial Assistance Commitments, page vi.

12. Jeremy Mazur, The Texas Economic Miracle, Texas 2036, pages 6 and 8.

CHAPTER 1

The Importance of the State Water Plan

Texas has a long history of developing water policy in reaction to drought crises. The Conservation Amendment of 1917, which specified that the development and conservation of the state's natural resources were public duties, passed in the wake of severe droughts affecting the state between 1908 and 1917. [13]

Choke Canyon Reservoir, May, 2026. Photo by Meagan Falcon.

In 1957, toward the end of Texas' historic Drought of Record, the most severe drought in recorded state history, the Legislature created the Texas Water Development Board (TWDB) as the state's water planning agency. Texas endured another significant drought during the 1990s. The Legislature responded to this crisis by passingSB 1 in 1997, launching both a new planning process and state and regional plans aimed toward securing Texas' water future. SB 1 was, in the words of Lt. Gov. Bob Bullock, who championed its passage, "milestone legislation that will serve as a blueprint for our leaders of tomorrow to build from." [14]

13. Article 16, Section 59, Texas Constitution.
14. Martin Hubert, "Senate Bill 1, the First Big and Bold Step Toward Meeting Texas's Future Water Needs," Texas Tech Law Review, Volume 30, 1999, page 53.

The SB 1 planning process centers on a "bottom-up" approach, where local and regional inputs inform the development of a state water plan. This was a deliberate departure from the previous state water plans, published in 1968, 1984, 1990, 1992 and 1997, that were regarded as "top-down" plans.[15] Under the SB 1 planning regime, the state was divided into 16 regional planning areas. Each planning area has its own regional water planning group, consisting of designated individuals representing specific water use interests. These regional water planning groups develop and approve regional water plans that, in turn, are used to inform the development of the state water plan prepared by TWDB.

SB 1 amended the Texas Water Code to require that regional and state water plans be prepared every five years. Texas' 16 regional water planning groups published their respective regional water plans in 2001, 2006, 2011, 2016, 2021 and 2026. TWDB published final state water plans in 2002, 2007, 2012, 2017 and 2022. As of this report's writing, TWDB has published the 2027 State Water Plan that includes data and recommendations from the 2026 regional water plans.

Planning Objectives

The Texas Water Code prescribes two planning objectives for the state and regional water plans. The first entails the "orderly development, management, and conservation of water resources." [16] Second, both plans shall also provide for the "preparation for and response to drought conditions." [17] Both objectives should be achieved "in order that sufficient water will be available at a reasonable cost to ensure public health, safety, and welfare; further economic development; and protect the agricultural and natural resources of the entire state."

Despite these broad articulations in state law, in practice, the state and regional water plans have centered on drought preparedness. The first post-SB 1 plan in 2002 expressed an objective of "identifying action necessary to meet water needs during drought-of-record conditions." [18] The 2007 Plan focused on Texas having "enough water in the future to sustain our cities and rural communities, our farms and ranches, our businesses and industries, and the environment." [19] 2012's plan was "designed to meet the state's needs for water during times of drought," while the stated goal of the 2017 Plan was "to ensure that we have adequate water supplies in times of drought." [20] The 2022 Plan's objective largely mirrored that from 2017. Lastly, the 2027 Plan admonishes that it is not for replacing aging or deteriorating infrastructure, "but rather to increase and expand volumes of additional water supplies beyond the existing capacity of current facilities to ensure public health, safety, and welfare in times of severe drought." [21]

15. Emily Rogers and Lyn Clancy, "State Water Planning: Its History and Its Challenges," 2014 Texas City Attorneys Association Conference Paper, page 2.
16. §16.051(a), Water Code.
17. §16.051(a), Water Code.
18. 2002 State Water Plan, page 2.
19. 2007 State Water Plan, page 2.
20. 2012 State Water Plan, page 1; 2017 State Water Plan, page 4.
21. 2027 State Water Plan, page 1.

The legal operation of the state water plan

The state water plan works in two respects: one legal, the other practical. Legally, the water plan serves as the central organizing document for the administration and enforcement of state water policy. The Texas Water Code plainly states that the plan "shall be a guide to state water policy." [22] The Legislature, in turn, has crafted and approved state policies, including those relating to infrastructure funding, resource regulation, and other water planning activities on the foundation of the state water plan.

With regard to infrastructure funding, the Legislature has created and aligned several state financial assistance programs toward achieving or otherwise advancing water plan objectives. In 2013, Texas voters approved an amendment proposed by the Legislature to the Texas Constitution creating the State Water Implementation Fund for Texas (SWIFT) for the express purpose of "implementing the state water plan that is adopted as required by general law by the Texas Water Development Board." [23] Other TWDB-administered funds, including the Water Infrastructure Fund and the Rural Water Assistance Fund (RWAF), may be used to provide financial assistance to projects in the state water plan. [24] TWDB, when considering an application for RWAF financial assistance, shall consider the relationship of the project to the state water plan. [25] Applications for financial assistance from the New Water Supply for Texas Fund, created by the Legislature in 2023 for the purpose of developing water supply projects that create new water sources in the form of desalination, produced water treatment, aquifer storage and recovery, and conveyance infrastructure, must be evaluated by TWDB in relationship to the state water plan. [26]

In addition to guiding the state's financial assistance programs for water infrastructure development, the state water plan informs state and local water permitting efforts. The Texas Commission on Environmental Quality (TCEQ), which regulates state surface water resources and water quality standards, is required to take the plan into consideration in matters coming before the agency. [27] TCEQ must grant an application for a surface water right only if the proposed appropriation "addresses a water supply need in a manner that is consistent with the state water plan." [28] A surface water right is exempt from cancellation for nonuse after 10 years if the permit was obtained to meet a long-term water supply need and is consistent with future water needs in the water plan. [29] TCEQ's evaluation of applications for an inter-basin transfer of surface water must consider the impact of that proposed transfer as described in the applicable regional water plans. [30] Further, TCEQ must consult with TWDB before setting or amending state water quality standards to ensure that the proposed standards are consistent with the plan. [31]

22. §16.051(b), Water Code.
23. Article 3, Section 49-d-12, Texas Constitution.
24. §15.973(a), Water Code and 15.994(a)(2), Water Code.
25. §15.995(c)(2), Water Code.
26. §15.154(b)(1), Water Code.
27. §16.051(b), Water Code.
28. §11.134(b)(3)(E), Water Code
29. §11.173(b)(3), Water Code.
30. §11.085(k)(2), Water Code.
31. §26.024(2), Water Code.

With regard to local water regulation, groundwater conservation districts (GCDs) — the state's preferred method for regulating groundwater — must adopt management plans that consider the water supply needs and management strategies in the most recent state water plan. [32] Interested parties may contest that management plan before TWDB if they find that it conflicts with the state water plan. [33] GCDs adopting desired future conditions for aquifers within their management area must consider the water supply needs and management strategies identified in the water plan. [34]

Other state water planning processes have been established by the Legislature to inform the state water plan and planning process. The Water Conservation Advisory Council, which is required to submit recommendations to the Legislature for advancing water conservation in Texas, monitors the implementation of water conservation strategies by entities identified within the regional water plans. [35] Further, the environmental flows advisory process, established in 2007 to identify appropriate levels of surface water flows for the state's rivers, bays and estuaries, establishes standards that are incorporated into the regional water planning process. [36]

The practical operation of the state water plan

Practically, the state water plan and regional water plans serve, as Lt. Gov. Bullock said, as a blueprint for water infrastructure development. Each plan projects long-term water demands, available water supplies during a repeat of a drought of record, and anticipated water shortages where demands exceed available supplies. These water demand, supply and shortage data are calculated on a decadal basis over a 50-year planning horizon.

Water shortage data are the linchpin of each plan. These figures signal how much water supplies need to be developed, conserved or acquired, and by when. The state water plan provides aggregate shortage data for both the state and the 16 planning regions. For example, the 2022 State Water Plan projected a statewide water shortage of more than 3.1 million acre-feet during the 2020s that would rise to 6.9 million acre-feet by the 2070s. [37] It also projected that Region N, the Coastal Bend planning area, would face a water supply deficit of just over 15,000 acre-feet during the 2020s, and 49,000 acre-feet by the 2070s. [38] (As will be discussed in Chapter 7, this projection for the 2020s understated the region's drought vulnerability and the near-term strategies needed to address it.) The regional water plans provide more specific, granular information on which user groups, such as cities or industrial sectors, will face shortages, when those shortages will occur, and how large they are expected to be.

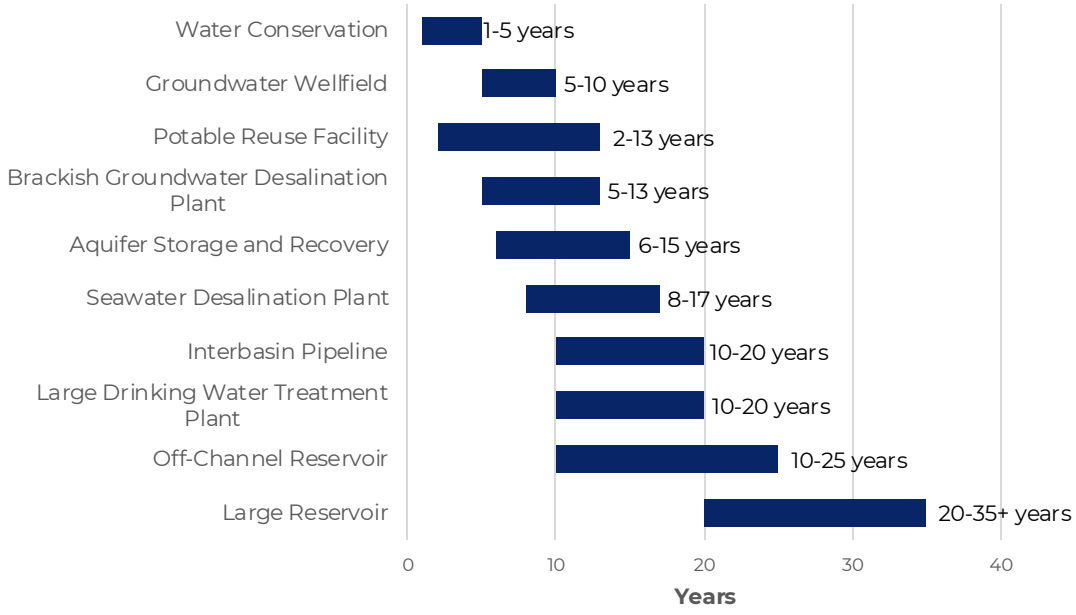
32. §36.1071(e)(4), Water Code.
33. §36.1071(g), Water Code.
34. §36.108(d), Water Code.
35. §10.010 and §10.011, Water Code.
36. §11.0235, Water Code.
37. 2022 State Water Plan, page 83.
38. 2022 State Water Plan, page 86.

The state and regional water plans recommend water management strategies to address projected shortages. These may include water supply projects, such as new reservoirs, desalination plants, water treatment facilities, groundwater wells, and aquifer storage and recovery facilities. Other recommended strategies, such as water conservation and drought management, do not necessarily require new infrastructure or capital investment.

Projected water shortages therefore send an important planning signal: they identify when new water management strategies must be developed to avoid the consequences of inadequate supplies. A region with a shortage anticipated for the 2030s in the 2022 Plan receives advance warning that water supply projects may need to be developed before that decade arrives. Similarly, a city or water district with a projected shortage in the 2040s receives an important signal that a strategy must be initiated early enough to meet that future demand.

The timing of these signals is critically important, particularly for water management strategies that involve developing water supply projects. Every project involves planning by design professionals, permitting, procurement, construction, testing, and, among other activities, the acquisition of land. Each of these activities often takes years to complete. Figure 1.1, *Water Infrastructure Development Timelines*, illustrates the amount of estimated time — in terms of years — needed to complete different types of water supply projects.

Figure 1.1. Water Infrastructure Development Timelines



The timeline estimates in Figure 1.1 are based on the amount of time to complete similar projects in Texas or elsewhere in the United States. Appendix A identifies the projects used to inform these estimates. Because many water supply projects require years to plan, permit, finance, construct, and place into service, the plans must send timely signals well before projected shortages occur.

Framework for assessing the plans' performance

The findings and analysis in this report evaluate the state and regional water plans developed within each planning cycle as practical warning systems as much as planning documents. Each planning cycle either strengthened, weakened or obscured the signal about whether the Coastal Bend Region needed additional water supplies before the 2020s.

To assess whether the plans provided a usable blueprint for drought resilience, this report answers the following questions for each planning cycle:

1. Did the plans from each planning cycle function as an effective warning system by giving planners, policymakers, cities, industry leaders and the public a clear enough signal that additional water supplies or drought-resilience measures were needed before the 2020s?
2. How did each plan's drought-of-record assumptions, supply estimates, demand projections, and shortage calculations affect the consistency, timing and strength of the planning signal for the Coastal Bend Region?
3. Did the projected shortages identify the communities, industries and other water users that were actually vulnerable during the Coastal Bend crisis, or did the plans frame the risks too narrowly as localized, operational, or groundwater-dependent needs?
4. Did the recommended water management strategies match the type and scale of risk revealed by the crisis? Including whether they expanded raw water supplies, improved treatment or delivery capacity, conserved demand, diversified sources, or merely created optional planning cushions?
5. Did the plans provide enough timing and prioritization to meaningfully guide implementation actions before the 2020s?
6. Did the state water plan and planning process achieve the statutory objectives for the orderly development, management and conservation of water resources and preparation for drought conditions?

In plain language, the analysis asks what planners, local water providers, policymakers and the public reasonably could have known after each plan was published, and whether the plans gave them enough lead time to act. This framework reflects the report's central finding: the planning process did not fail because one forecast was wrong, but because successive plans sent inconsistent and sometimes insufficient signals about the timing, scale and type of water supply development needed for drought resilience.

This report analyzes the state and regional plans from the five post-SB 1 planning cycles and the 2026 Region N Plan. For each cycle, the analysis draws on both the aggregate regional supply, demand and shortage projections, and the individual municipal and user group water supply plans within each regional plan. This report uses data published within the published state and regional water plans. It does not revise water availability data or other plan projections.

Two framing choices should be noted. First, this report evaluates each plan as a warning system and asks what a reader could have reasonably concluded from reading the plans from each planning cycle at the time that they were published about the need for water supply development. The term 'signal' is used throughout the report as an interpretive lens for that question, and not as a term from the plans themselves. Second, by TWDB design, the plans from each planning cycle modeled a repeat of a drought of record rather than a worse-than-record drought. This analysis judges the plans against that design and asks — particularly within the recommendations — whether that design remained sufficient as drought conditions worsened.

Choke Canyon Reservoir, May, 2026. Photo by Meagan Falcon.

CHAPTER 2

The Coastal Bend Region, Water Supplies & Drought

This report examines how the state and regional water plans published since 1997 anticipated the water crisis in the Coastal Bend Region in the 2020s. Where the previous chapter provided background on the history, import and applications of the plans and planning process, this chapter provides additional descriptions of the Coastal Bend Region, its key water supplies and recent drought chronology.

The Coastal Bend Region

The Coastal Bend Region is one of 16 planning regions used as part of the state and regional water planning process. Labeled as “Region N” in the State Water Plan, the Coastal Bend planning area includes Aransas, Bee, Brooks, Duval, Jim Wells, Kenedy, Kleberg, Live Oak, McMullen, Nueces, and San Patricio Counties. According to the 2026 Region N Plan, the region had a population of 575,933 in 2020, with 77% of this total within the Corpus Christi Metropolitan Statistical Area (MSA).[39]

Choke Canyon Reservoir, May, 2026. Photo by Meagan Falcon.

39. 2026 Coastal Bend Regional Water Plan (CBRWP), pages 6-7.

Corpus Christi is the largest municipality within the region. Other cities within Corpus Christi's MSA include Rockport, Portland, Ingleside, Port Aransas, Robstown, Aransas Pass, Sinton, Bishop, and Mathis. Major cities outside of the Corpus Christi MSA include Alice in Jim Wells County, Beeville in Bee County, and Kingsville in Kleberg County.

Key industries within the Coastal Bend Region include energy, manufacturing, national defense, healthcare, agriculture and tourism. The region's contributions to Texas' energy and manufacturing output are significant, however.

Three Rivers petrochemical refinery, May, 2026. Photo by Meagan Falcon.

With regard to energy, the region serves as a major hub for petroleum refining and export. Situated at the terminus for pipelines stretching to the Permian Basin and the Eagle Ford Shale, regional refiners process nearly 1 million barrels of refined products — including plastics, jet fuel and gasoline — per day. The Port of Corpus Christi labels itself as "The Energy Port of the Americas" for good reason. Nearly half of all U.S. crude oil exports come from the Port.[41] In 2025, 840,036 million cubic feet of liquefied natural gas — just over 15% of U.S. LNG exports — sailed to foreign ports from the Port of Corpus Christi.[42]

40. Paul Cobler and Carlos Nogueras Ramos, "Corpus Christi's crucial refineries look for alternative water supplies amid looming water crisis," Texas Tribune, March 20, 2026.
41. Elizabeth Trovall, "Amid war, business booms at America's biggest energy port," Marketplace, May 1, 2026.
42. U.S. Energy Information Administration, U.S. Natural Gas Exports and Re-Exports by Point of Exit, LNG Exports from Corpus Christi, TX (annual), updated June 30, 2026.

Manufacturing also plays a key role within the region. In addition to petrochemical manufacturing plants, the region hosts several large metals, automotive and food manufacturers.[43] H-E-B tortillas, a mainstay for many Texas dinner tables, are made in Corpus Christi.[44]

Regional Water Supplies

Nearly 75% of Region N's water supplies come from surface water resources.[45] These include water from the Choke Canyon Reservoir/Lake Corpus Christi (CCR/LCC) System within the Nueces River Basin, and from pipelines that provide inter-basin transfers from the Lavaca-Navidad and Colorado River Basins. Most of these surface water supplies come from the CCR/LCC System located to the northwest of Corpus Christi. The conservation capacity of the two reservoirs within this system totals 918,882 acre-feet . Choke Canyon, the largest reservoir within the system, has a conservation capacity of 662,820 ac-ft, while Lake Corpus Christi can store up to 256,062 ac-ft.[46]

Other surface water supplies arrive within Region N through inter-basin transfers from eastern river basins. These include the transfer of up to 43,440 acre-feet per year from Lake Texana in the Lavaca-Navidad River Basin, and another 35,000 acre-feet per year from the Colorado River.[47]

The remaining 25% of water within Region N is supplied through groundwater. While the region includes portions of five aquifers, the Gulf Coast Aquifer serves as the region's primary groundwater resource. According to the 2026 Region N Plan, the Gulf Coast Aquifer provides roughly 95% of the region's groundwater availability.[48] The plan estimated 148,731 acre-feet per year in groundwater availability for the 2030s, with an estimated 140,960 acre-feet per year pumped from the Gulf Coast Aquifer.

Drought Chronology

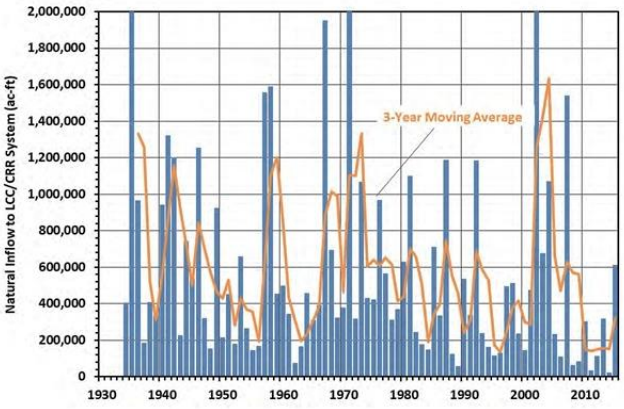
The Coastal Bend Region has a long history of drought. Region N endured the state's Drought of Record during the 1950s, only to be hit with another dry spell during the 1960s. After a respite throughout the 1970s, the region was afflicted by consecutive droughts in the 1980s, 1990s, 2000s, 2010s and 2020s.

Choke Canyon Reservoir, May, 2026. Photo by Meagan Falcon.

43. Ryan Reed, "Examining the Employment Landscape in Corpus Chrisi," Texas Real Estate Research Center, Texas A&M University, September 3, 2025.
44. John-Henry Perera, "Water crisis in Corpus Christi hits restaurants, H-E-B's tortilla supply," The Houston Chronicle, April 29, 2026.
45. 2026 CBRWP, page 9-5.
46. Texas Water Development Board, "Coastal-Bend Planning Region Reservoirs," Water Data for Texas, June 25, 2026, https://waterdatafortexas.org/reservoirs/region/coastal-bend,accessed June 25, 2026.
47. 2026 CBRWP, pages 3-9 and 3-10.
48. Table 3.8, Groundwater Availability for Aquifers within the Coastal Bend Region, 2026 CBRWP, page 3-25.

These droughts reduced surface water availability from the CCR/LCC System. While groundwater supplies are relatively immune to drought impacts, surface water resources — including the region's reservoirs — are not. Below average precipitation, sometimes combined with hotter temperatures, diminish water supplies within rivers, lakes and reservoirs. Figure 2.1 illustrates inflows to the CCR/LCC System since 1934. As depicted within the chart, each drought event within the region contributed to diminished inflows to the region's reservoirs. These lesser inflows, in turn, reduced water storage within the CCR/LCC System.

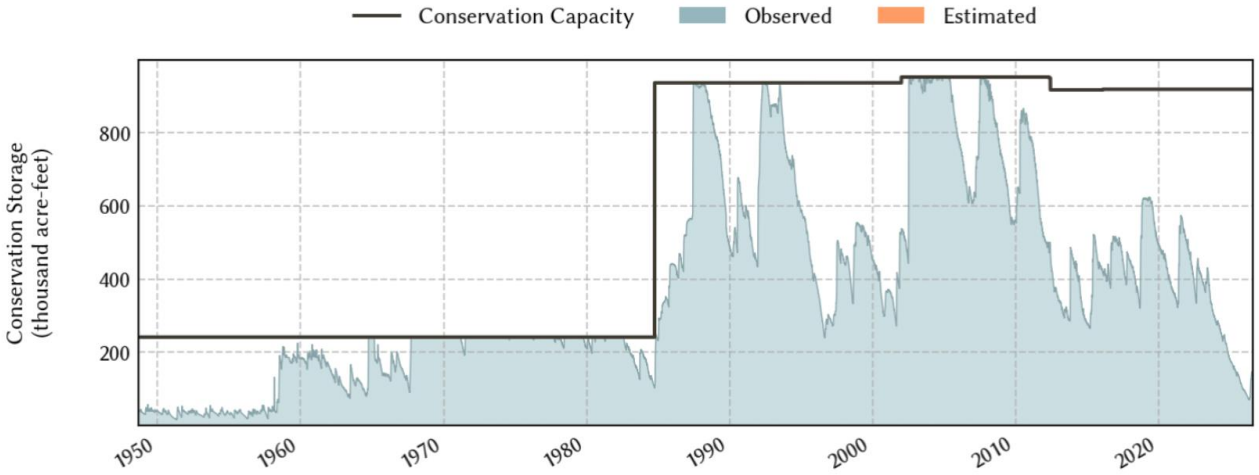
Figure 2.1. Annual Natural Inflow to the CCR/LCC System, 1934-2015



Source: Figure 7-1, 2026 CBRWP, page 7-3.

Figure 2.2 depicts the water storage in the CCR/LCC System between 1950 and July 2026. Each observed low level of conservation storage correlates with the diminished inflows due to drought conditions.

Figure 2.2. CCR/LCC System Water Levels, 1950-July 2026



Source: TWDB, Coastal-Bend Planning Reservoirs, Water Data for Texas.

A "drought of record" is a drought event — often spanning several years, and potentially decades — that produced the least amount of water supply on record based on hydrologic and meteorological records.[49]

49. Texas Water Development Board, Regional Water Planning in Texas and the Drought of Record, October 2022, https://www.twdb.texas.gov/waterplanning/rwp/education/RWP_DroughtofRecord.pdf?d=7415.600000023842, accessed June 26, 2026.

Texas' Drought of Record occurred during the 1950s.[50] Region N, however, has endured several new droughts of record since the state's Drought of Record. These new droughts of record occurred when drought conditions for a certain period were worse than those observed in a prior drought of record. Based on the most recent Region N Plan, the Coastal Bend endured a drought of record between 1992-2002 that was followed by a new drought of record from 2007 to 2013.[51] As will be discussed in Chapter 8, area planners suspect that the region is currently in a new drought of record.

The evolution of the drought of record within the Coastal Bend Region would have substantial ramifications for the state and regional water plans. These plans were developed for preparation of a repeat of drought of record conditions, as required by the Texas Water Development Board's guidance principles for state water plan development.[52] The droughts of record used within each plan provided key data assumptions — in terms of available water supplies and anticipated water shortages — that informed the recommended water supply strategies.

Unfortunately for regional planners, the droughts of record within the region got worse as the planning cycles proceeded after SB 1's passage in 1997. As discussed in Chapters 3, 4, 5 and 6, the state and regional plans were designed to address repeats of earlier droughts of record within the Coastal Bend Region. But the signals and projections from those plans for the 2020s were incorrect when tested against newer, more severe droughts of record that occurred, sometimes as the plans were being written. When the 2007-2013 drought became the new drought of record for the region in the 2021/22 planning cycle, as discussed in Chapter 7, the planning process began to reveal the extent to which the earlier assumptions had understated the region's vulnerability to more severe drought conditions. Invariably, the worsening drought conditions over the past 30 years proved these water plans incorrect regarding what could happen in the 2020s. As a result, erroneous signals were sent for when water supplies would be needed for enhanced drought resilience.

Lake Corpus Christi, May, 2026. Photo by Meagan Falcon.

50. Texas' Drought of Record was the worst extended drought in recorded meteorological history. Paleoclimatic data indicates that Texas endured droughts that were longer and more severe than the 1950s Drought of Record. These occurred in the late 16th, early 18th, and mid 19th centuries. (See: Cleaveland MK, Votteler TH, Stahle DK, Casteel RC, Banner JL. 2011. Extended chronology of drought in South Central, Southeastern, and West Texas. Texas Water Journal. 2(1):54-96. Available from: https://doi.org/10.21423/twj.v2i1.2049)

51. 2026 CBRWP, page 7-2.

52. 31 Texas Administrative Code §358.3(2) (2024).

CHAPTER 3

The 2001 Region N & 2002 State Water Plans

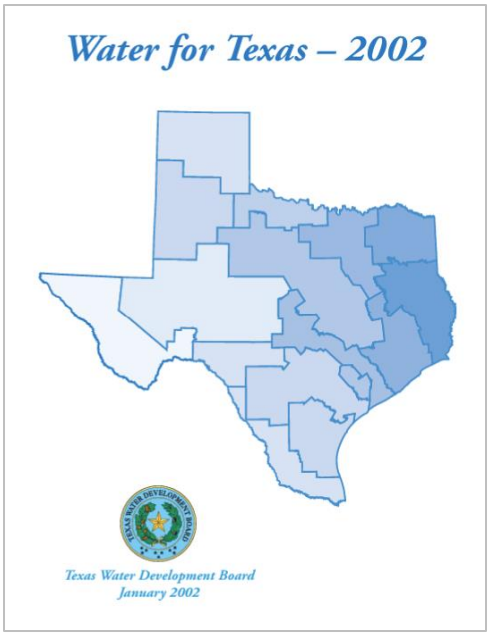
Key Takeaways

- The first post-SB 1 plans projected no regional water shortage until the 2030s, giving no clear signal that major new supplies would be needed by the 2020s.
- The plans identified only limited, localized 2020s shortages. All cities later affected by the crisis, including Corpus Chrisi, were shown as having no projected water shortages.
- Recommended water supply strategies for the 2020s focused on modest groundwater, conservation and small supply measures rather than a regional portfolio capable of preparing the Coastal Bend for the 2020s crisis.

On Sept. 19th, 2001, the week after the terrorist attacks on the World Trade Center and the Pentagon, the Texas Water Development Board met to approve the release of the draft 2002 State Water plan for public comment. This was the first draft plan released after SB 1's passage in 1997, and the first informed by the new "bottom-up" regional water planning process. Four months earlier, in May 2001, the board voted to approve the adopted regional water plan for Region N.[53] The draft 2002 State Water Plan incorporated the findings and recommendations from this plan and the 15 others submitted by the other regional water planning groups. After receiving public comments in the September meeting, the board voted to release the draft plan for public comment.[54]

Immediately after this vote, the board received a briefing on drought conditions in Texas. Despite recent rains, the agency's Executive Administrator observed that many areas of the state were still very dry. At the end of this presentation, one board member observed for the record that drought conditions in the Coastal Bend area were worse than in 1952, the era of Texas' historic Drought of Record. He was on to something.

Three months later, in December 2001, the board met to approve the 2002 State Water Plan. This was a momentous occasion for the agency. Gov. Rick Perry was there and commented how the new plan "demonstrates the state's commitment to water conservation, economic development, and meeting the needs of a growing population."[55] Agency staff subsequently recommended approving the new plan, and the board obliged. The 2002 State Water Plan was unanimously approved.

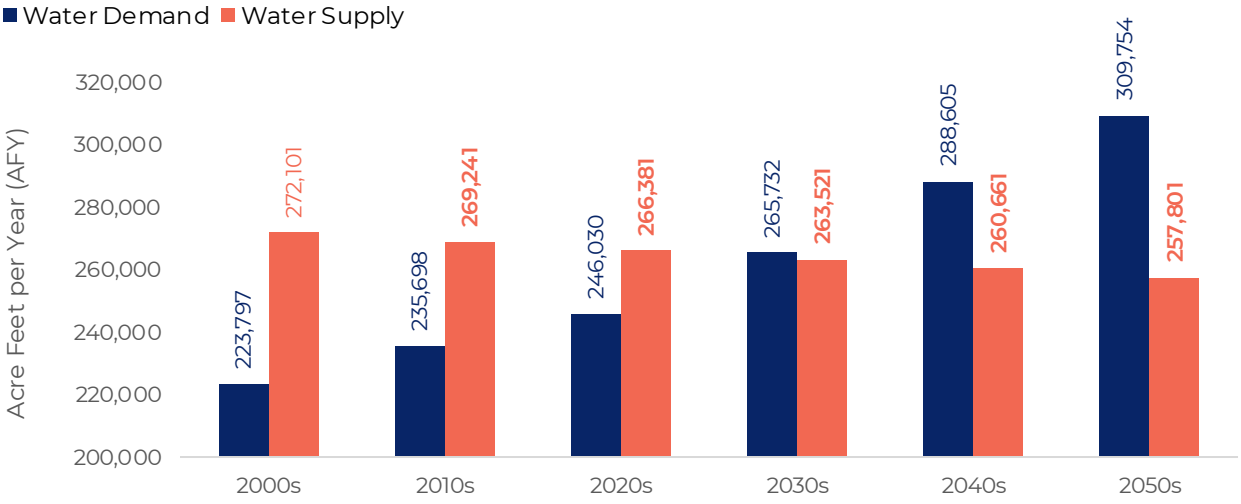


53. Minutes of the Texas Water Development Board meeting for May 16, 2001.
54. Minutes of the Texas Water Development Board meeting for September 19, 2001.
55. Minutes of the Texas Water Development Board meeting for December 12, 2001.

Regional Water Deficits Starting in the 2030s

The first state water plan published after SB 1 did not project a water shortage in the Coastal Bend Region during the 2020s. It anticipated a regional water supply surplus instead. As Figure 3.1, *2002 Plan Water Supply and Demand Projections for Region N (2000s-2050s)*, shows the region would not face a shortage until the 2030s based on the first plan's data.[56]

Figure 3.1. 2002 Plan Water Supply & Demand Projections For Region N (2000s-2050s)



As was intimated during the board's meeting in September 2001, the Coastal Bend was in the throes of a major regional drought. This was the same drought that persisted through the 1990s, inspiring the Legislature's passage of SB 1 in 1997. Although the planners did not know this at the time, this drought would soon become the new drought of record for the region. Still, the 2001/02 plans were developed in preparation for a repeat of a drought of record. The 2001 Region N Plan indicated that the region's drought of record occurred during the 1950s, while a drought during the 1990s appeared as the most severe on record for the Choke Canyon Reservoir/Lake Corpus Christi (CCR/LCC) System.[57]

Using these assumptions about the drought of record, the plans from the 2001/02 cycle projected declining water supplies and increasing regional demands over the 50-year planning period.[58] Given these projections, the earliest regional water supply deficit would not occur until the 2030s. Even then, that deficit would be relatively minor at just over 2,000 ac-ft for the decade. The regional signal for developing water supplies for the 2020s was not present.

56. Table 5-3, Projected demand for water for each planning area under drought conditions (AFY), 2002 SWP, page 29, and Table 5-8, Groundwater, surface water, water reuse, and total supplies from existing sources under drought conditions for different planning areas, 2002 SWP, page 58.
57. 2001 Coastal Bend Regional Water Plan (CBRWP), page 3-13.
58. The available water supply estimates differ between the 2002 SWP and 2001 CBRWP. The 2002 SWP projected that available supplies would decline from 272,101 acre feet in the 2000s to 257,801 acre feet by the 2050s, while the 2001 CBRWP plan indicated that total supplies would peak at 323,025 acre feet during the 2000s, and decline slightly to 308,725 acre feet in the 2050s (2002 SWP, page 58, 2001 CBRWP, page 4-52); Table 5-3, Projected demand for water for each planning area under drought conditions (AFY), 2002 State Water Plan, page 29; Table 4-23, 2001 CBRWP, page 4-52.

Limited Local Water Shortages in the 2020s

While the first post-SB 1 water plan indicated that the Coastal Bend Region would, on balance, have enough water supplies to meet demands during a drought in the 2020s, some local water user groups were still anticipated to have shortages. These were groups for which demands exceeded the capacity of available local supplies. The 2001 Region N Plan identified 13 water users and user groups with a combined 11,295 AFY in projected shortages during the 2020s. These users and their projected water shortages are listed in Table 3.1.

Table 3.1. 2001/02 Planning Cycle Projected Water Shortages for the 2020s

User	Shortage (acre-feet per year)
Brooks County-other	446
City of Benavides (Duval County)	491
City of Freer (Duval County)	715
City of San Diego (Duval County)	662
Duval County other	372
Duval County mining	1,437
Duval County irrigation	1,073
City of Premont (Jim Wells County)	62
Kleberg County-other	22
Kleberg County irrigation	4
Live Oak County-other	332
Live Oak County irrigation	2,166
Nueces County-other	3,513
Total Needs	**11,295 AFY**

Source: Table 5.4-6 (Brooks County-other), Table 5.5-3 (City of Benavides), Table 5.5-5 (City of Freer), Table 5.5-7 (City of San Diego), Table 5.5-9 (Duval County-other), Table 5.5-11 (Duval County mining), Table 5.5-13 (Duval County irrigation), Table 5.6-3 (City of Premont), Table 5.8-3 (Kleberg County-other), Table 5.8-6 (Kleberg County irrigation), Table 5.9-3 (Live Oak County other), Table 5.9-9 (Live Oak County irrigation), Table 5.11-3 (Nueces County-other), 2001 CBRWP.

Most of these users were groundwater-dependent cities and industries in Brooks, Duval, Jim Wells, Kleberg and Live Oak counties. The water supply plans for many of the entities at the center of the 2026 Coastal Bend water crisis, including the cities of Aransas Pass, Rockport, Beeville, Alice, Corpus Christi, Port Aransas, Ingleside, Mathis and Portland, each indicated that no shortages were projected throughout the 2000-2050 planning horizon.[59] In addition, the 2001 Region N Plan projected that a shortage in water supply for manufacturers in Nueces and San Patricio counties would not emerge until 2031.[60] This particular sector, as will be discussed in subsequent chapters of this report, would have the more acute needs reported in subsequent plans.

59. Pages 5.2-1 (Aransas Pass), 5.2-2 (Rockport), 5.3-1 (Beeville), 5.6-1 (Alice), 5.11-2 (Corpus Christi), 5.11-3 (Port Aransas), and 5.12-2 (Ingleside, Mathis, and Portland), 2001 CBRWP.

60. 2001 CBRWP, pages 5.11-7 and 5.12-3.

Supply Projects for the 2020s

The 2001 Region N Plan recommended 19 discrete water management strategies to address the supply deficits projected for the 2020s. These strategies listed in Table 3.2 represented specific plans to increase water supplies or maximize existing supplies to address anticipated shortages.[61]

Table 3.2. 2001/02 Planning Cycle Recommended Water Supply Strategies for the 2020s

User	Recommended Strategy	Yield (acre-feet per year)	Capital Costs (Thousands of 1999 Dollars)
Brooks County-other	Voluntary reallocation of mining & irrigation Gulf Coast Aquifer supplies	193	$0
	Voluntary reallocation of municipal Gulf Coast Aquifer supplies	22	$0
	Short-term (30 years) over drafting of the Gulf Coast Aquifer	231	$0
City of Benavides (Duval County)	Voluntary reallocation of mining & irrigation Gulf Coast Aquifer supplies	491	$303
City of Freer (Duval County)	Brackish groundwater desalination	715	$3,350
City of San Diego (Duval County)	Voluntary reallocation of municipal Gulf Coast Aquifer supplies	31	$0
	Interconnect with municipal system	631	$3,364
Duval County other	Over drafting Gulf Coast Aquifer	372	$0
Duval County mining	Brackish Gulf Coast Aquifer wells	719	$0
	Recycle and reuse of groundwater	718	$0
Duval County irrigation	Irrigation conservation	1,162	$610
City of Premont (Jim Wells County)	Voluntary reallocation of irrigation Gulf Coast Aquifer supplies	62	$0
Kleberg County-other	Voluntary reallocation of mining Gulf Coast Aquifer supplies	22	$0
Kleberg County irrigation	Voluntary reallocation of mining Gulf Coast Aquifer supplies	4	$0
Live Oak County-other	Voluntary reallocation of manufacturing Gulf Coast Aquifer supplies	332	$0
Live Oak County irrigation	Irrigation conservation	221	$126
	Voluntary reallocation of mining and manufacturing Gulf Coast Aquifer supplies	1,945	$0
Nueces County-other	Reallocation of irrigation surplus (surface water)	2,326	N/A
	Manufacturing conservation	1,187	$0
	Totals	**11,384 AFY**	**$7,753**

Source: Tables 5.4-5 and 5.4-6 (Brooks County-other), Tables 5.5-2 and 5.5-3 (City of Benavides), Tables 5.5-4 and 5.5-5 (City of Freer), Tables 5.5-6 and 5.5-7 (City of San Diego), Tables 5.5-8 and 5.5-9 (Duval County-other), Tables 5.5-10 and 5.5-11 (Duval County mining), Tables 5.5-12 and 5.5-13 (Duval County irrigation), Tables 5.6-2 and 5.6-3 (City of Premont), Tables 5.8-2 and 5.8-3 (Kleberg County-other), Tables 5.8-5 and 5.8-6 (Kleberg County irrigation),Tables 5.9-2 and 5.9-3 (Live Oak County other), Tables 5.9-8 and 5.9-9 (Live Oak County irrigation), Tables 5.11-2 and 5.11-3 (Nueces County-other), 2001 CBRWP.

61. 2002 SWP, page 69.

Of the 11,384 acre-feet per year (AFY) in water supplies from the recommended strategies for the 2020s, nearly three-quarters of that amount would come from groundwater development and water conservation measures. The estimated cost of the strategies was $7.753 million. Absent any indication of substantive, drought-induced water shortages for the 2020s, the 2001/02 cycle plans did not recommend any major water supply projects for the Coastal Bend Region for delivery before or during the 2020s.

The plans did, however, recommend several large supply strategies for manufacturing users in San Patricio and Nueces counties before the 2040s and 2050s, when larger water shortages were anticipated. These strategies included manufacturing water conservation and an inter-basin transfer project (Garwood Pipeline) for completion by 2031, and an aquifer storage and recovery facility by 2050.[62] Other strategies that were considered, but not recommended, included wastewater reuse, groundwater imports, reservoir expansion (Stage II of Lake Texana), and seawater desalination.[63] With regard to seawater desalination, the Region N planning group committed to the further study of large-scale desalination projects, noting that such projects had the potential to meet the needs in several regions.[64]

Assessment of the 2001 & 2002 Plans

It may be unfair to judge the plans from the 2001/02 cycle too harshly: these were the first plans developed under the SB 1 planning regime. State and regional models and planning assumptions would evolve and mature in subsequent planning cycles. Nonetheless, these initial plans did little to prepare the region or the state for the current crisis in the Coastal Bend. The droughts of record used in these plans would soon, and quickly, be eclipsed by worsening variants.

The plans' focus on resilience to a repeat of a historic drought failed to provide the signal for developing a broad, diversified water supply portfolio in anticipation of a worse drought in the future. Those water shortages that were identified for the 2020s were largely local in nature and remedied through the redistribution of groundwater resources or application of conservation initiatives. A reader of either plan in the early 2000s would have understood that major water infrastructure developments would be needed for the region, but not until the 2030s or later. In the meantime, the window for building large, regional water supply projects in time for the 2020s was closing.

62. 2001 CBRWP, page 5.11-9.
63. Table 5.11-4, Water Management Strategies Considered for Manufacturing in Nueces & San Patricio Counties, 2001 CBRWP, page 5.11-8.
64. 2001 SWP, page 112.

CHAPTER 4

The 2006 Region N & 2007 State Water Plans

Key Takeaways

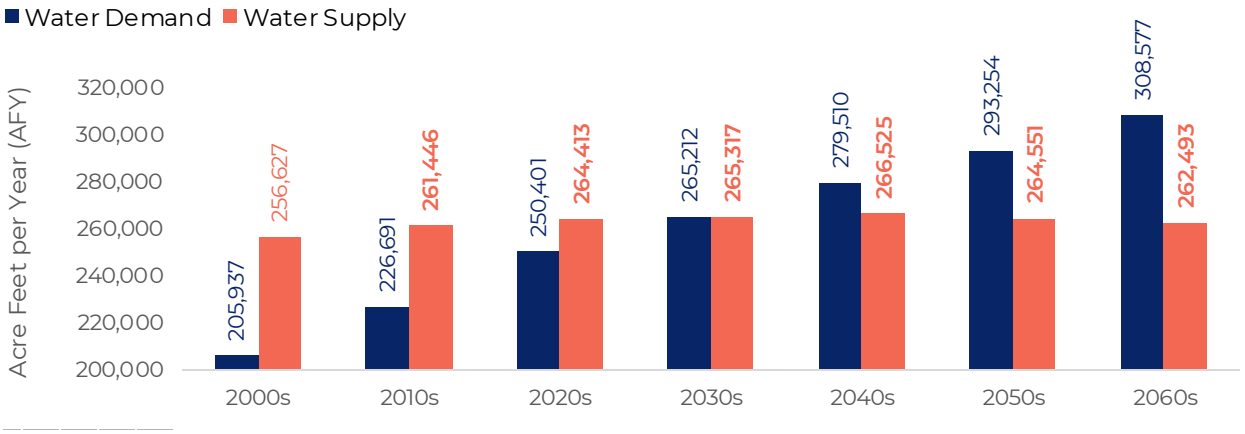
- The 2006/07 plans projected no regional Coastal Bend water shortage until the 2030s, reinforcing confidence that existing supplies would meet demands during the 2020s.
- The CCR/LCC System's safe yield analysis indicated that Corpus Christi and its regional customers would have sufficient water throughout the 2020s.
- Although the plans recommended a larger menu of water strategies, they were presented as planning options rather than urgent projects needed before the 2020s.

A big event occurred between the 2001/02 planning cycle and the 2006/07 cycle: the Coastal Bend's reservoirs filled. Between 2000 and 2005, Lake Corpus Christi's storage surged from nearly 50,000 acre-feet to just over 250,000.[65] Choke Canyon Reservoir storage jumped from just above 200,000 acre-feet to its conservation capacity of roughly 670,000 acre-feet.[66] For a while during the mid-2000s, the CCR/LCC System was full. At the time of the writing of the 2006 Region N Plan and the 2007 State Water Plan, planners had reasons for optimism.

A Water Supply Surplus for the 2020s

Like the plans from the previous cycle, the 2007 State Water Plan and 2006 Region N Plan did not project a regional water supply crisis in the 2020s. In fact, the 2006 Region N Plan stated that "[w]hen comparing total available supplies to total demands, the region shows a current surplus until after 2020."[67] As depicted in Figure 4.1, *2007 Plan Water Supply and Demand Projections for Region N (2000s-2060s)*, the region was projected to have a water deficit starting in, and increasing after, the 2030s.[68]

Figure 4.1. 2007 Plan Water Supply & Demand Projections For Region N (2000s-2060s)



65. TWDB, "Lake Corpus Christi," Water Data for Texas, June 5, 2026, waterdatafortexas.org/reservoirs/individual/corpus-christi, accessed June 5, 2026.
66. TWDB, "Choke Canyon Reservoir," Water Data for Texas, June 5, 2026, waterdatafortexas.org/reservoirs/individual/choke-canyon, accessed June 5, 2026.
67. 2006 Coastal Bend Regional Water Plan (CBRWP), page 4A-57.
68. Table 4.3, Reginal and state total water demand projections for 2000-2060 (acre-feet per year), 2007 State Water Plan (SWP), page 123; Table 4A-24, Coastal Bend Region Summary, Population, Water Supply, and Water Demand Projections, 2006 CBRWP, page 4A-58.

Like its predecessor, the 2006 Region N Plan identified the 1950s drought as the drought of record for the region, and the 1990s drought as that of record for the CCR/LCC System.[69] Given the region's long and then-recent history with severe drought, the planning group made a substantive change in its planning assumptions for the CCR/LCC System for the 2006 Region N Plan. The previous regional water plan used *firm yield* as the basis for determining water availability from the reservoir system during a repeat of a drought of record. Firm yield represented the amount of water that could be "diverted for use during a repeat of the most severe drought of record without interruption of service."[70] The 2006 Region N Plan applied the more conservative *safe yield* assumption to the CCR/LCC System. Safe yield included "the amount of water that can be withdrawn from a reservoir such that a given volume remains reservoir storage during the critical month of the drought of record."[71] The given volume set aside to remain in reservoir storage within the CCR/LCC System — i.e. the "safe yield reserve" — was set at 75,000 acre-feet in anticipation of a future drought worse than the drought of record. This new, more conservative planning approach lowered the estimated amounts available from the CCR/LCC System in the 2006 Region N Plan when compared to the 2001 Plan.[72]

Still, and in contrast to the previous planning cycle, the 2006/07 cycle projected that available water supplies during drought conditions would increase slightly until the 2040s. Two reasons explain this increase. The first, specified within the 2007 State Water Plan, involved the projected expansion of existing groundwater supply capacity.[73] The second, which may be inferred from the 2006 Region N Plan, was that additional water could be procured through contracts with the region's wholesale suppliers.[74]

Safe Yield Supply Projections Pointed to No Crisis in the 2020s

While the regional data did not send a signal regarding the need for water supply development by the 2020s, the safe yield supply projections for the CCR/LCC System indicated that users of water from the reservoirs had little reason to worry. The majority of water rights within the Nueces River Basin are held by the City of Corpus Christi.[75] The City of Corpus Christi, in turn, serves as the wholesale water supplier to other cities within the region, such as Alice, Beeville and Mathis, and to other wholesale suppliers, including the San Patricio Municipal Water District (MWD) and the South Texas Water Authority. The organizational chart in Figure 4.2, *Nueces River Basin Surface Water Contracts*, shows the basin's main surface water contract relationships, with the City of Corpus Christi at the center of the system.

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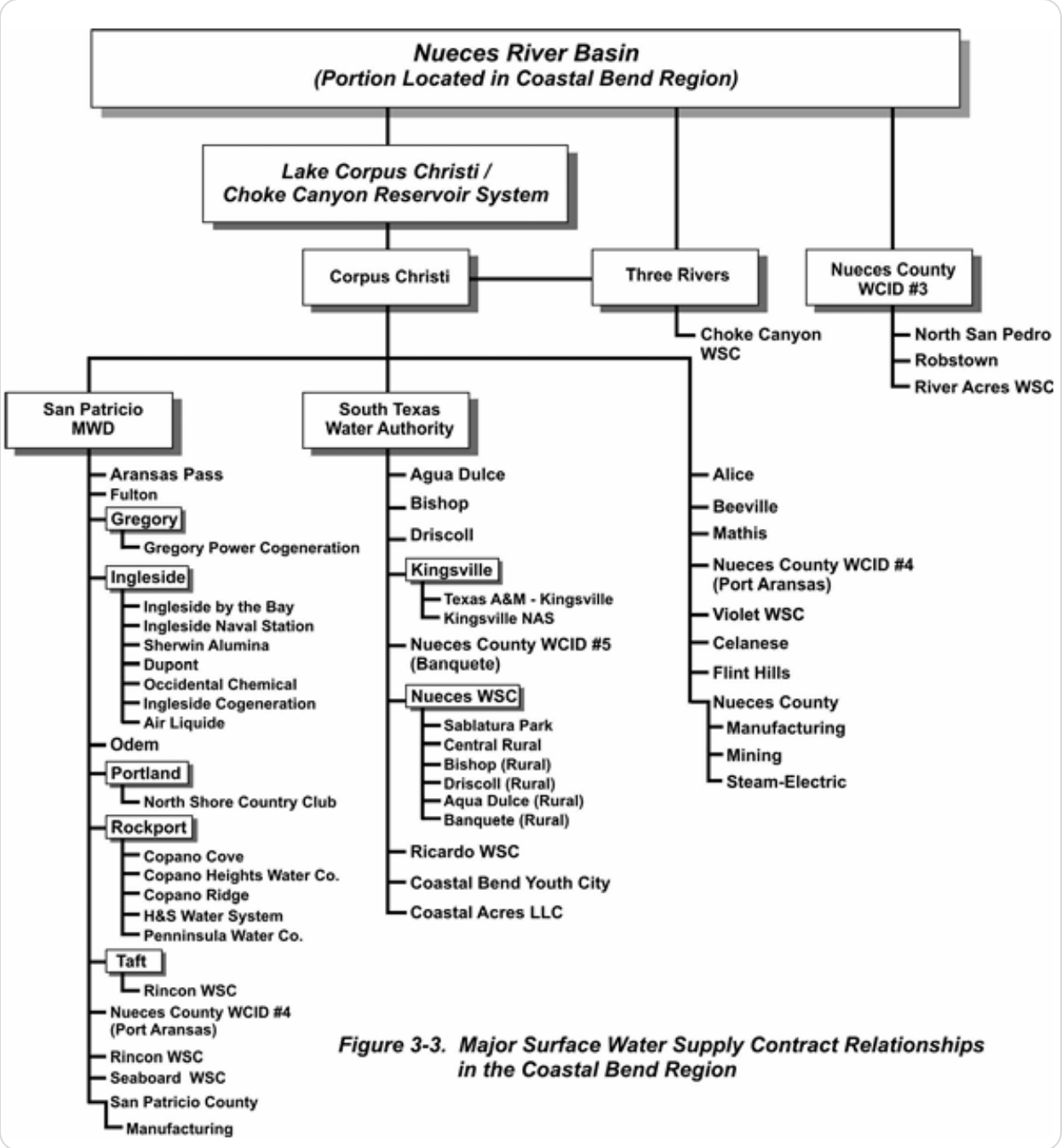
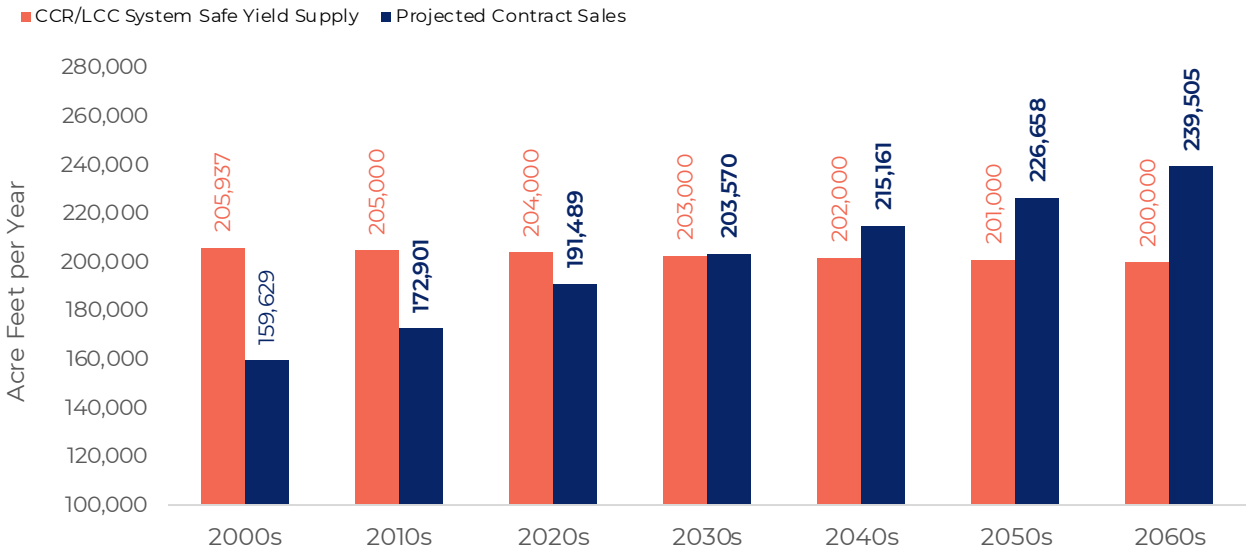
69. 2006 CBRWP, page 3-14. Also, while the 2005 Region N plan does not explicitly state that the 1950s drought was the drought of record, the groundwater modeling was based on precipitation from this era (see 2006 CBRWP, page D-4.)
70. 2001 Coastal Bend Regional Water Plan, page 3-13.
71. 2006 CBRWP, page 3-6.
72. The estimated firm yield of Corpus Christi's water rights in the Nueces River Basin for 2050 totaled 209,700 AFY in the 2001 CBRWP (2001 CBRWP, page 3-15), the estimated safe yield of Corpus Christi's water rights in the Nueces River Basin for 2060 totaled 200,000 AFY (2006 CBRWP, page 3-17).
73. 2007 State Water Plan, page 92.
74. 2006 CBRWP, pages 4A-1 and 4A-2,
75. Table 3-1, Nueces River Basin Water Rights in the Coastal Bend Region, 2006 CBRWP, page 3-8

Figure 4.2. Nueces River Basin Surface Water Contracts



Source: 2006 CBRWP, page 3-12.

Figure 4.3. CCR/LCC System Safe Yield Supply vs. Projected Contract Sales (2000s-2060s)



The 2006 Region N Plan's safe-yield analysis reinforced the conclusion that no regional crisis was expected in the 2020s. Figure 4.3, *CCR/LCC System Safe Yield Supply vs. Projected Contract Sales (2000s-2060s)*, indicates that Corpus Christi's CCR/LCC System supplies were projected to meet contract demands until the 2030s, when a shortfall first appeared.[76] In fact, the 2006 Region N Plan states that "[a]fter meeting customer needs, the City of Corpus Christi has a surplus of 12,511 acft/yr in [the decade of] 2020."[77]

On paper, and based on these safe yield supply and contract sales projections, Corpus Christi's water supplies within the CCR/LCC System would satisfy customer demands in the 2020s. Accordingly, the water supply plans for the cities and water districts that purchased water from Corpus Christi, including Alice, Beeville, Mathis, and Nueces County WCID #4 serving Port Aransas, reported that "no shortages are projected," obviating the need for water supply development.[78] Customers of other wholesale water providers who obtained water from Corpus Christi also indicated that they did not anticipate water shortages during the 2020s. The water supply plans for the cities of Aransas Pass, Gregory, Ingleside, Rockport and Taft, which obtained water from the San Patricio MWD, also indicated that "no shortages are projected" and "no changes in water supply are recommended."[79] Water supply plans for the South Texas Water Authority's customers, including the cities of Bishop, Driscoll and Kingsville said the same.[80]

The practical signal was clear: users of the region's principal surface water system were not expected to require major new supply development for the 2020s.

76. Table 4A-23, Surface Water Allocation/Wholesale, 2006 CBRWP, page 4A-54.
77. 2006 CBRWP, page 4A-53.
78. 2006 CBRWP pages 4B.6-1 (Alice), 4B.3-1 (Beeville), 4B.12-4 (Mathis), and 4B.11-3 (WCID #4).
79. 2006 CBRWP pages 4B.11-2 (Aransas Pass), 4B.12-2 (Gregory), 4B.12-2 (Ingleside), 4B.2-2 (Rockport), and 4B.12-4 (Taft).
80. 2006 CBRWP pages 4B.11-2 (Bishop), 4B.11-3 (Driscoll), and 4B.8-1 (Kingsville).

Limited Local Water Shortages for the 2020s

While on balance, the 2007 State Water Plan projected a water surplus for the Coastal Bend Region during the 2020s, it did identify 4,691 acre-feet in local water shortages for certain users and user groups within the region for that decade.[81] These groups are listed in Table 4.1.

Table 4.1. 2006/07 Planning Cycle Projected Water Shortages for the 2020s

User	**Water Shortage** (acre-feet per year)
Aransas County manufacturing	86
Duval County mining	2,518[A]
Jim Wells County-other	238
Kleberg County-other	31
Live Oak County-other	32
Live Oak County manufacturing	483
Live Oak County mining	478
Live Oak County irrigation	569
River Acres WSC (Nueces County)	255
Lake City (San Patricio County)	1
Total Shortage	**4,691 AFY**

Source: Table 4B.2-5 (Aransas County Manufacturing), Table 4B.5-3 (Duval County mining); Table 4B.6-3 (Jim Wells County-other), Table 4B.8-3 (Kleberg County-other), Table 4B.9-4 (Live Oak County-other), Table 4B.9-6 (Live Oak County manufacturing); Table 4B.9-8 (Live Oak County mining), Table 4B.9-10 (Live Oak County irrigation), Table 4B.11-3 (River Acres WSC), and Table 4B.12-3 (Lake City), 2006 CBRWP.
Note: A. A portion of the region's mining needs were anticipated to be unmet by the recommended strategies in the state water plan. (see 2007 SWP, page 92)

Most of these projected shortages were for groundwater-dependent mining users in Duval and Live Oak counties.[82] Just one entity that relied on surface water from the Nueces River Basin, River Acres WSC, anticipated a supply deficit throughout the entire planning period, including the 2020s. The WSC's answer to this shortfall was to increase purchases from Nueces County WCID #3 that had its own rights to Nueces River water.[83] As mentioned previously, none of the cities at the center of the 2026 Coastal Bend crisis registered water shortages during the 2006/07 planning cycle. Further, the plans indicated zero water supply deficits for manufacturing users in Nueces and San Patricio counties in the 2020s.[84] These were the last plans in which these users would not have any water shortage for the 2020s.

81. Table 9.3, Water supply needs for 2010-2060, 2007 SWP, page 249.
82. 2006 CBRWP pages 4B.5-5 (Duval County mining) and 4B.9-8 (Live Oak County mining).
83. 2006 CBRWP, page 4B.11-5.
84. Table 4B.12-5, Potential Plan Costs by Decade for Manufacturing in Nueces and San Patricio Counties, 2006 CBRWP, page 4B.12-7.

Despite Limited Shortages, an Oversupply from Recommended Water Strategies

The recommended water supply strategies from the 2006/07 planning cycle would yield over 42,000 acre-feet per year (AFY) for the 2020s, well above the 4,691 AFY in shortages anticipated for that decade.[85] The estimated capital costs for all these projects totaled just over $228 million in 2002 dollars. Some of these recommended strategies were for users with anticipated deficits, others were not. Each of these recommended water management strategies, their anticipated yield for the 2020s, and estimated capital costs, are listed in Table 4.2.

Table 4.2. 2006/07 Planning Cycle Recommended Water Supply Strategies for the 2020s

User	Recommended Strategy	Yield (acre-feet per year)	Capital Costs (Thousands of 2002 Dollars)
User Groups with 2020s Water Shortages (see Table 4.1)			
Aransas County manufacturing	Additional Gulf Coast Aquifer wells	200	$196
Duval County mining	Mining water conservation	332	N/A
Jim Wells County-other	Additional Gulf Coast Aquifer wells	565	$746
Kleberg County-other	Additional Gulf Coast Aquifer wells	400	$447
Live Oak County-other	Additional Gulf Coast Aquifer wells	80	$240
Live Oak manufacturing	Voluntary redistribution of municipal surplus	483	N/A
Live Oak County mining	Mining water conservation	216	N/A
Live Oak County irrigation	Irrigation conservation	52	$59
	Additional Gulf Coast Aquifer wells	1,210	$805
River Acres WSC (Nueces County)	Increase contracted amount from wholesale supplier	255	$0
Lake City (San Patricio County)	Additional Gulf Coast Aquifer well	80	$262
User Groups without 2020s Water Shortages			
Nueces and San Patricio County manufacturing	Reclaimed wastewater supplies	250	$1,500
Nueces County mining	Gulf Coast Aquifer groundwater	11,000	$45,642
	Voluntary redistribution & USCOE Nueces Feasibility Projects	25,000	$178,281
Regional manufacturing	Manufacturing water conservation	1,418	$0
Regional municipalities	Municipal water conservation	353	$0
Other groups	Voluntary redistribution of existing supplies	261[A]	$0
	Totals	**42,155 AFY**	**$228,178**

Source: Tables 4B.2-4 and 4B.2-5 (Aransas County manufacturing),Tables 4B.5-2 and 4B.5-3 (Duval County mining), Tables 4B.6-2 and 4B.6-3 (Jim Wells County-other), Tables 4B.8-2 and 4B.8-3 (Kleberg County-other), Tables 4B.9-3 and 4B.9-4 (Live Oak County-other), Tables 4B.9-5 and 4B.9-6 (Live Oak County manufacturing), Tables 4B.9-7 and 4B.9-8 (Live Oak County mining), Tables 4B.9-9 and 4B.9-10 (Live Oak County irrigation), Tables 4B.11-2 and 4B.11-3 (River Acres WSC), Tables 4B.11-6 and 4B.11-7 (Nueces and San Patricio County manufacturing), Tables 4B.11-8 and 4B.11-9 (Nueces County steam-electric), Tables 4B.11-10 and 4B.11-11 (Nueces County mining), and Tables 4B.12-2 and 4B.12-3 (Lake City), 2011 CBRWP, Appendix A.2, 2012 SWP; Amendment #1, 2012 SWP.
Note: A. The recommended water supply strategies for Nueces County steam-electric are the same strategies for Nueces and San Patricio County manufacturing. Given this duplication, the yield and capital cost figures are not included in the total calculation at the bottom of this table.

85. Appendix 2.1, Recommended Water Management Strategies and Cost Estimates, 2006 SWP, pages 346-347.

The 2006 Region N Plan provides two explanations on why the recommended water management strategy volume exceeds anticipated water shortages. The first was that these recommended strategies served as a hedge should regional growth patterns and demands exceed TWDB's projections, or if supplies were reduced through changes to existing inter-basin transfer contract arrangements.[86] Here, the excess volume of strategies worked as a planning cushion should actual water demand and supply figures change in future decades. The second explanation, buried within a footnote deep within the plan, was that the "total water supplies by all water management strategies exceeds projected water needs and it is anticipated that not all water management strategies will be implemented."[87] This suggests that the recommended strategies were not necessarily projects that should — or must — have been completed by a certain time, but rather a menu of options to address anticipated needs. In a departure from the 2001/02 plans, those from the 2006/07 cycle were the first to recommend water management strategies with associated volumes that exceeded anticipated needs. Subsequent planning cycles would replicate this pattern.

The bulk of these water supplies — 25,000 AFY — were anticipated from projects that could have resulted from a then ongoing feasibility study of the Nueces River Basin by the U.S. Army Corps of Engineers (USCOE). The projects included in this study included desalination, diversions, off-channel reservoirs, recharge enhancement, and brush management. That study ultimately stalled due to lack of federal funding availability.

The recommended water supply strategies for most of the user groups with shortages anticipated before or during the 2020s largely involved drilling additional wells into the Gulf Coast Aquifer or conservation.[89] The one water user dependent on Nueces River supplies, River Acres WSC, planned additional water purchases to meet its 2020s demands.

Both plans from the 2006/07 cycle did anticipate escalating water deficits for the Coastal Bend region starting in the 2040s and escalating to the 2060s. These shortages were largely concentrated within the manufacturing sector for Nueces and San Patricio counties, however. The recommended projects to meet these anticipated deficits included water conservation and reuse, wellfields, an inter-basin transfer (Garwood Pipeline) and a reservoir expansion (Stage II of Lake Texana).[90]

86. 2006 CBRWP, page ES-16.
87. Footnote 2, 2006 CBRWP, page 9-2.
88. 2006 CBRWP, page 4B 11-9.
89. 2006 CBRWP pages 4B.2-5 (Aransas manufacturing), 4B.5-5 (Duval mining), 4B.6-4 (Jim Wells county-other), 4B.8-3 (Kleberg county-other), 4B.9-4 (Live Oak county-other), 4B.9-6 (Live Oak manufacturing), and 4B.9-8 (Live Oak mining).
90. 2006 CBRWP, page 4B.11-9.

Assessment of the 2006 Region N & 2007 State Water plans

These plans were released two decades before the current crisis emerged. In 2007 there was still enough time to develop the large regional water supply projects needed to enhance the region's resilience to a drought *worse* than the drought of record (although this was not the plans' stated objective). Had these plans indicated a substantive water supply shortage within the region in the 2020s, and one where, on paper, the CCR/LCC System's safe yield supplies would not meet all customer needs, then a bright signal would have been sent for the development of these projects. That signal was not present in the 2006 Region N and 2007 State Water plans, however. A state or local policymaker, regional business leader, or citizen reading these documents would find few reasons to worry about the next two decades.

One metric underscores how this failure to signal the need for a broader water supply portfolio worked to the region's detriment. The 2006/07 planning cycle set the CCR/LCC System's safe-yield reserve at 75,000 acre-feet for the explicit purpose of preparing for droughts worse than the drought of record.[91] This reserve functioned as a minimum storage buffer — akin to an emergency reserve — for a more prolonged or severe drought. In early 2026, conservation storage in the CCR/LCC System fell below that 75,000 acre-foot threshold.[92] Although the reserve may have operated as contemplated in the 2006 Region N Plan, it proved insufficient under the drought conditions experienced in 2026. As a result, cities and industries across the region pursued costly alternative water supplies, underscoring the consequences of relying on a planning signal that underestimated the region's drought vulnerability

This planning cycle began a new pattern that would persist in subsequent plans: a broad list of recommended water management strategies that were offered regardless of anticipated water shortages. There was some wisdom in this approach, as the planners acknowledged that future demands and available supplies may be worse, justifying the need for a planning cushion.[93] These strategies were not prioritized or designated as essential, however. And the planners themselves acknowledged that some would likely never be implemented. This likely left little incentive, if any, to move forward toward implementing these strategies by the 2020s. The fact that the region's reservoirs were full at the time likely did little to advance this cause.

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91. 2006 CBRWP, page 4A-53.
92. Texas Water Development Board, Water Data for Texas, Daily Historical Data, Last One Year, updated June 17, 2026, waterdatafortexas.org/reservoirs/region/coastal-bend-1year.csv, accessed June 17, 2026.
93. Note #1, Table 4B.11-7, Potential Plan Costs by Decade for Manufacturing in Nueces and San Patricio Counties, 2016 CBRWP, page 4B.11-10.

CHAPTER 5

The 2011 Region N & 2012 State Water Plans

Key takeaways

- The 2011/12 plans were the first to project a regional water shortage for the Coastal Bend in the 2020s, reversing projections of surplus from prior planning cycles.
- Most projected 2020s shortages were linked to groundwater users and water treatment capacity constraints, while Corpus Christi and neighboring cities were still shown as having no water shortages.
- While plans recommended a large portfolio of water strategies, few were implemented in the years leading up to the 2020s.

The draft of the 2011 Region N Plan was released on Sept. 1, 2010. At that time, the levels of Choke Canyon Reservoir and Lake Corpus Christi remained above the lows observed during the turn of the century. Just a few days after the plan's release, Tropical Storm Hermine coasted through the Coastal Bend region, depositing beneficial rainfall into the reservoirs' catchment.[94] The hydrologically happy days of 2010 would quickly end, however.

In 2011, the State of Texas endured its worst one-year drought in recorded history.[95] In that year, and the several to follow, the storage levels in Choke Canyon Reservoir and Lake Corpus Christi would drop precipitously. [96] Although no one knew at the time, the Coastal Bend region was plunging into a new drought of record. Nonetheless, the 2011 Region N Plan used the 1950s drought as the planning basis for regional groundwater use, and the 1990s drought as the drought of record for the CCR/LCC System. [97]

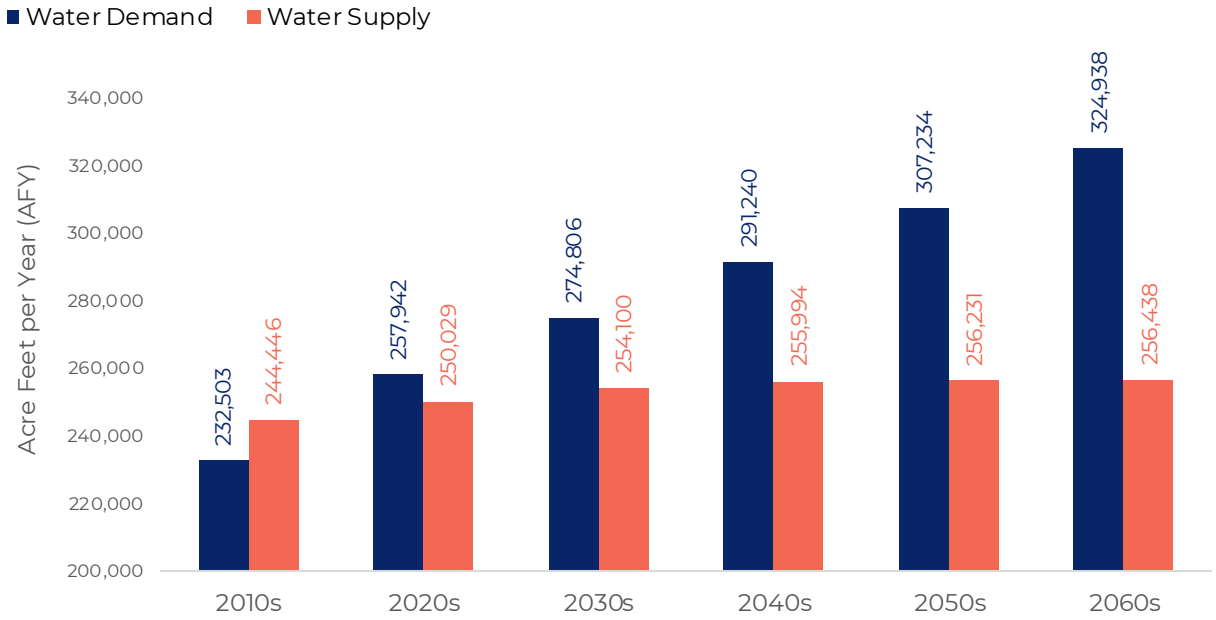
The First Plan Projecting a Water Shortage for the 2020s

The plans from the 2011/12 planning cycle were the first to project a water supply deficit for the Coastal Bend region during the 2020s. As illustrated in Figure 5.1, *2012 State Water Plan Water Supply & Demand Projections for Region N (2010s-2060s)*, projected regional water demands would exceed available supplies starting in the 2020s, creating a net water supply deficit that would thereafter crescendo throughout the planning horizon. [98]

94. "Tropical Storm Hermine (2010)," Wikipedia, June 1, 2026, https://en.wikipedia.org/wiki/Tropical_Storm_Hermine_(2010), accessed June 5, 2026.
95. Nielsen-Gammon JW. 2012. The 2011 Texas Drought. The Texas Water Journal. 3(1):59-95.
96. TWDB, "Coastal-Bend Planning Region Reservoirs," Water Data for Texas, June 5, 2026, waterdatafortexas.org/reservoirs/region/coastal-bend, accessed June 5, 2026.
97. Appendix D, Projected Groundwater Availability through 2060 using the Central Gulf Coast Groundwater Availability Model, 2011 Coastal Bend Regional Water Plan (CBRWP), page D-4; 2011 CBRWP, page 3-14.
98. Table N.1. Population, Water Supply, Demand, and Needs 2010-2060, 2012 State Water Plan (SWP), page 113.

Compared to the 2007 State Water Plan, the 2012 Plan projected slightly higher demands for the 2020s and slightly lower available water supplies during drought. Interestingly, the 2012 State Water Plan projected a greater amount of available groundwater throughout the 50-year planning period than the 2007 Plan.[99] Even though both plans used conservative safe yield assumptions for surface water availability, the 2012 Plan projected substantially less available surface water than the previous plan.[100] While neither the state nor regional plans explain the reason for this diminished surface water availability, as will be discussed later, this is likely due to water treatment constraints within the region.[101]

Figure 5.1. 2012 Plan Water Supply & Demand Projections For Region N (2010s-2060s)



Like the 2007 Plan, the 2012 Plan also projected that existing water supplies during a repeat of a drought of record would increase over time.[102] Unlike the 2007 Plan the 2012 Plan projected that available water supplies would increase throughout the entire planning period. This projected increase was anticipated "as a result of future increases in the existing water supply contracts from the Lake Corpus Christi-Choke Canyon Reservoir System."[103] Again, and on paper, the safe yield supplies from the CCR/LCC System were sufficient to address area demands.

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99. The 2007 Plan estimated 51,768 acre-feet per year (AFY) in 2010 and 46,650 AFY in 2060 (2007 SWP, page 94) while the 2012 Plan estimated 57,580 AFY in 2010 and 57,624 AFY in 2060 (2012 SWP, page 113).
100. The 2007 Plan estimated 209,678 AFY in 2010 and 215,837 AFY in 2060 (2007 SWP, page 94) while the 2012 Plan estimated 186,866 AFY in 2010 and 198,814 AFY in 2060 (2012 SWP, page 113).
101. 2011 CBRWP, page 4A-5.
102. Table N.1. Population, Water Supply, Demand, and Needs 2010-2060, 2012 SWP, page 113.
103. 2012 SWP, page 112.

Growing Local Water Supply Deficits for the 2020s

The 2012 State Water Plan identified just over 14,000 acre-feet per year of local water shortages within the Coastal Bend region for the 2020s.[104] While the 2012 Plan listed these needs by user category, the 2011 Region N plan listed the needs for specific user groups in the 2020s. These user groups, and their correlative shortages, are listed in Table 5.1.

Table 5.1. 2011/12 Planning Cycle Projected Water Shortages for the 2020s

User	Water Shortage (acre-feet per year)
Aransas County Manufacturing	86
Duval County Mining	2,518
Jim Wells County-other	238
Kleberg County-other	31
Live Oak County-other	32
Live Oak County manufacturing	483
Live Oak County mining	478
Live Oak County irrigation	569
River Acres WSC (Nueces County)	255
Nueces and San Patricio County manufacturing	7,411
Nueces County steam-electric	1,982
Lake City (San Patricio County)	1
Total Shortage	**14,084 AFY**

Source: Table 4B.2-5 (Aransas County manufacturing),Table 4B.5-3 (Duval County mining), Table 4B.6-3 (Jim Wells County-other), Table 4B.8-3 (Kleberg County-other), Table 4B.9-4 (Live Oak County-other), Table 4B.9-6 (Live Oak County manufacturing), Table 4B.9-8 (Live Oak County mining), Table 4B.9-10 (Live Oak County irrigation), Table 4B.11-3 (River Acres WSC), Table 4B.11-7 (Nueces and San Patricio County manufacturing), Table 4B.11-9 (Nueces County steam-electric), and Table 4B.12-3 (Lake City), 2011 CBRWP.

According to 2011 Region N Plan data, just over 20% of the supply deficits for the 2020s were for groundwater-dependent mining operations in Duval and Live Oak counties.[105] Another 10% of the region's shortages were for comparatively small amounts distributed among manufacturing, municipal and irrigation users within Aransas, Jim Wells, Kleberg and Live Oak counties.

104. Table N.1, Population, Water Supply, Demand, and Needs, 2010-2060, 2012 SWP, page 113.

105. 2011 CBRWP pages 4A-23 (Duval county mining) and A4-39 (Live Oak county mining).

Nearly 70% of the projected 2020s shortages were within Nueces County. These included 255 AFY in municipal shortages, 7,411 AFY in manufacturing shortages, and 1,982 AFY in steam-electric shortages.[106] These supply deficits were not attributable to a lack of overall water supplies within the region or the CCR/LCC System. The 2011 Region N plan included a safe yield analysis for the CCR/LCC System that was identical to the analysis provided in the 2006 Plan.[107] This included a safe yield reserve of 75,000 ac-ft for a drought worse than the drought of record. The 2011 Plan added two analyses, however: one for raw water sales from the safe yield supply, another for treated water sales from Corpus Christi's water treatment plant. Those analyses showed that treated water demand would exceed the plant's treatment capacity in the 2020s. Consequently, the water shortages for Nueces County's manufacturing and steam-electric users reflected treatment capacity constraints rather than a shortage of raw water.[108] The 255 AFY in municipal shortage in Nueces County was for River Acres WSC, which had identified the same shortage in the previous planning cycle.[109]

Meanwhile, there were enough safe yield supplies from the CCR/LCC System to meet cities' demands. The water supply plans for every city and water district that procured water from Corpus Christi's supply — including Aransas Pass, Rockport, Beeville, Alice, Kingsville, Bishop, Driscoll, Gregory, Ingleside and Port Aransas — indicated that "[n]o shortages are projected."[110] Accordingly, the water supply plan for the City of Corpus Christi indicated that "[n]o shortages are projected for the City's own municipal needs."[111] Again, and on paper, the CCR/LCC System's safe yield supplies would meet anticipated demands during a drought of record.

A Growing Water Supply Volume from Recommended Water Management Strategies for the 2020s

On Dec. 15th, 2011, the Texas Water Development Board voted to approve the 2012 State Water Plan.[112] The water management strategies recommended in the 2012 Plan were anticipated to yield 81,020 AFY for the Coastal Bend Region in the 2020s.[113] Three years later, in November 2014, the Board voted to approve an amendment to the 2012 Plan that recommended seawater desalination as a recommended strategy for the region in the 2020s.[114] This new strategy was anticipated to deliver an additional 28,000 AFY in the 2020s at a cost of $261 million. Purified seawater would increase the total supply volumes from the recommended strategies to over 100,000 AFY for the 2020s.

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106. Table 4A-20, Nueces County Population, Water Supply, and Water Demand Projections, 2011 CBRWP, page 4A-48.
107. Table 4A-24, Surface Water Allocation/Wholesale, 2011 CBRWP, page 4A-56.
108. 2011 CBRWP, page 4A-47.
109. 2011 CBRWP, page 4A-50.
110. 2011 CBRWP, pages 4B.2-1 (Aransas Pass), 4B.2-2 (Rockport), 4B.3-1 (Beeville), 4B.6-1 (Alice), 4B.8-1 (Kingsville), 4B.11-2 (Bishop), 4B.11-3 (Driscoll), 4B.11-3 (Port Aransas), 4B.12-2 (Gregory), and 4B.12-2 (Ingleside).
111. 2011 CBRWP, page 4B.11-2.
112. Minutes of the Texas Water Development Board Meeting, December 15, 2011.
113. Appendix A.2, Recommended Water Management Strategies and Cost Estimates, 2012 SWP, page 267.
114. Amendment #1, 2012 State Water Plan, approved by the Texas Water Development Board on November 20, 2014.

The plans from the 2011/12 cycle recommended 20 discrete water management strategies and projects for implementation by the 2020s. These strategies are listed in Table 5.2 below. Some of these strategies and projects were recommended to answer an anticipated water shortage, as indicated in Table 5.1 above. Others, however, were recommended even though no corresponding shortage had been identified, continuing the planning pattern of presenting a broader menu of strategies than the projected shortages alone appeared to require.

Table 5.2. 2011/12 Planning Cycle Recommended Water Supply Strategies for the 2020s

User	Recommended Strategy	Yield (acre-feet per year	Capital Costs (Thousands of 2008 Dollars)
User Groups with 2020s Water Shortages (see Table 5.1)			
Aransas County Manufacturing	Additional Gulf Coast Aquifer wells	200	$257
Duval County Mining	Mining water conservation	332	N/A
Jim Wells County-other	Additional Gulf Coast Aquifer wells	565	$980
Kleberg County-other	Additional Gulf Coast Aquifer wells	400	$587
Live Oak County-other	Additional Gulf Coast Aquifer wells	80	$315
Live Oak County manufacturing	Voluntary redistribution of municipal surplus	483	N/A
Live Oak County mining	Mining water conservation	216	N/A
Live Oak County irrigation	Irrigation conservation	52	Variable
	Additional Gulf Coast Aquifer wells	1,210	$1,058
River Acres WSC (Nueces County)	Increase contracted amount from wholesale supplier	255	N/A
Nueces and San Patricio County manufacturing	Manufacturing water conservation	1,418	N/A
	Treatment plant improvements	40,048	$31,324
	Reclaimed wastewater	250	N/A
	Garwood Pipeline	35,000	$112,798
Nueces County steam-electric	Treatment plant improvements	40,048[A]	$31,324[A]
	Reclaimed wastewater	250[A]	N/A
	Garwood Pipeline	35,000[A]	$112,798[A]
Lake City (San Patricio County)	Additional Gulf Coast Aquifer well	80	$343

User Groups without 2020s Water Shortages			
Various municipal users	Municipal water conservation	353	N/A
Nueces County mining	Mining water conservation	78	N/A
Regional manufacturing	Seawater desalination	28,000	$260,914
	Totals	**109,020 AFY**	**$408,576**

Source: Tables 4B.2-4 and 4B.2-5 (Aransas County manufacturing),Tables 4B.5-2 and 4B.5-3 (Duval County mining), Tables 4B.6-2 and 4B.6-3 (Jim Wells County-other), Tables 4B.8-2 and 4B.8-3 (Kleberg County-other), Tables 4B.9-3 and 4B.9-4 (Live Oak County-other), Tables 4B.9-5 and 4B.9-6 (Live Oak County manufacturing), Tables 4B.9-7 and 4B.9-8 (Live Oak County mining), Tables 4B.9-9 and 4B.9-10 (Live Oak County irrigation), Tables 4B.11-2 and 4B.11-3 (River Acres WSC), Tables 4B.11-6 and 4B.11-7 (Nueces and San Patricio County manufacturing), Tables 4B.11-8 and 4B.11-9 (Nueces County steam-electric), Tables 4B.11-10 and 4B.11-11 (Nueces County mining), and Tables 4B.12-2 and 4B.12-3 (Lake City), 2011 CBRWP; Appendix A.2, 2012 SWP; Amendment #1, 2012 SWP.

Note: A. The recommended water supply strategies for Nueces County steam-electric are the same strategies for Nueces and San Patricio County manufacturing. Given this duplication, the yield and capital cost figures are not included in the total calculation at the bottom of this table.

The recommended water supply strategies for Region N for the 2020s totaled 109,020 AFY. This was nearly eight times greater than the projected shortages for the decade. As was done in the previous planning cycle, the volumes from these recommended strategies were intended as a cushion in case demands exceeded TWDB projections or if supplies were curtailed under existing inter-basin transfer contracts.[115]

The recommended strategies for many of the user groups with projected water shortages for the 2020s involved additional pumping from the Gulf Coast Aquifer. The plan also recommended water plant capacity improvements to address the treated water needs of manufacturing and steam-electric users. These improvements would expand treatment or delivery capacity, but they would not necessarily increase the amount of raw water available to the region during a severe drought. As a result, the recommended strategies addressed certain localized and operational constraints, but they did not provide a clear, prioritized portfolio of regional supply projects designed to protect CCR/LCC System-dependent communities from a drought worse than the planning assumptions.

The recommended strategies for the 2020s were estimated to cost $409 million in nominal 2008 dollars, equivalent to $624 million in 2026. [116] Over half of that projected cost was attributable to the recommended seawater desalination strategy. Even so, the 2012 Plan's recommended strategy portfolio for the 2020s carried the highest price tag of any planning cycle thus far.

The 2011/12 cycle plans also recommended several large-scale water supply projects for decades after the 2020s. These included an off-channel reservoir and Gulf Coast Aquifer supplies that would be needed by the 2030s, and another off-channel reservoir needed by the 2060s. [117] Alternative water management strategies for after the 2020s from the 2011 Region N plan included a pipeline from the CCR/LCC System (2040s), Stage II Lake Texana (2060s), and brackish groundwater desalination (2040s). [118]

115. 2011 CBRWP, page ES-18.
116. 2026 values determined by using US Bureau of Labor Statistics, CPI Inflation Calculator, https://www.bls.gov/data/inflation_calculator.htm.
117. Appendix A.2, Recommended Water Management Strategies and Cost Estimates, 2012 SWP, page 267.
118. Table 4B.11-7, Potential Plan Costs by Decade for Manufacturing in Nueces and San Patricio Counites, 2011 CBRWP, page 4B.11-11.

Assessment of the 2011 Region N & 2012 State Water plans

The plans from the 2011/12 planning cycle did not warn of a regional water supply crisis for the mid-2020s. While they did identify a potential regional water shortage for that decade, most of the associated shortages were local deficits that could be addressed through further pumping from the Gulf Coast Aquifer or the expansion of water treatment plant capacity. In addition, the safe yield supply projections for the CCR/LCC System, together with the City of Corpus Christi's plans to distribute reservoir supplies to its customers, appeared sufficient to satisfy demands under drought of record conditions.

These plans did not send a clear signal that large-scale regional water infrastructure would be needed by the 2020s. They did recommend a broad set of water management strategies to address growing demands, but those recommendations were not prioritized. While a reader of these plans in the 2010s would understand that the region could face some water shortages in the 2020s, that individual would not have an indication of which of the strategies on the $409 million menu were essential, time-sensitive, or necessary to strengthen drought resilience.

In the years following the 2011/12 planning cycle some of the recommended strategies were implemented or were put in motion toward implementation. In 2016, the expansion of the Mary Rhodes Pipeline (previously referenced as the Garwood Pipeline) would deliver Colorado River water to the region. One year later, in 2017, TWDB approved its first financial commitment to Corpus Christi for a seawater desalination plant. Further, and as indicated by an implementation status review included in the 2016 Region N Plan, the City of Port Aransas implemented its recommended water conservation strategy.[119] As did the mining users in Duval County. Based on the survey results received for this implementation status review, few other strategies from the 2011/12 cycle were in the process of being implemented.

Lake Corpus Christi, May, 2026. Photo by Meagan Falcon.

119. 2016 Coastal Bend Regional Water Plan, page 11-1.

CHAPTER 6

The 2016 Region N & 2017 State Water Plans

Key takeaways

- The 2016/17 plans reversed the prior planning cycle's warning and projected a regional water surplus through the 2050s, sending the weakest warning signal of any plan reviewed in this report.
- Corpus Christi and neighboring cities at the center of the 2026 crisis were projected to have no water shortages while the few remaining local water deficits were attributable to groundwater availability and treatment plant capacity constraints.
- Recommended strategies emphasized conservation, groundwater development, and treatment capacity improvements rather than major new drought-resilient supplies.

Three developments occurred after the 2011/12 planning cycle that informed the 2016/2017 cycle. The first was the creation of a new state program for funding state water plan projects. In 2013, both the Legislature and state voters approved Proposition 6 creating the State Water Implementation Fund for Texas (SWIFT) for the exclusive purpose of providing financial assistance for "implementing the state water plan."[120]

The second major development involved the completion of a significant water supply project recommended in previous planning cycles. In 2016, the City of Corpus Christi completed Phase 2 of the Mary Rhodes Pipeline, a $154 million inter-basin transfer pipeline project (previously described as the Garwood Pipeline) that would deliver up to 35,000 AFY of water from the Colorado River. [121] This project would increase the water supply projections used for the 2016/17 cycle.

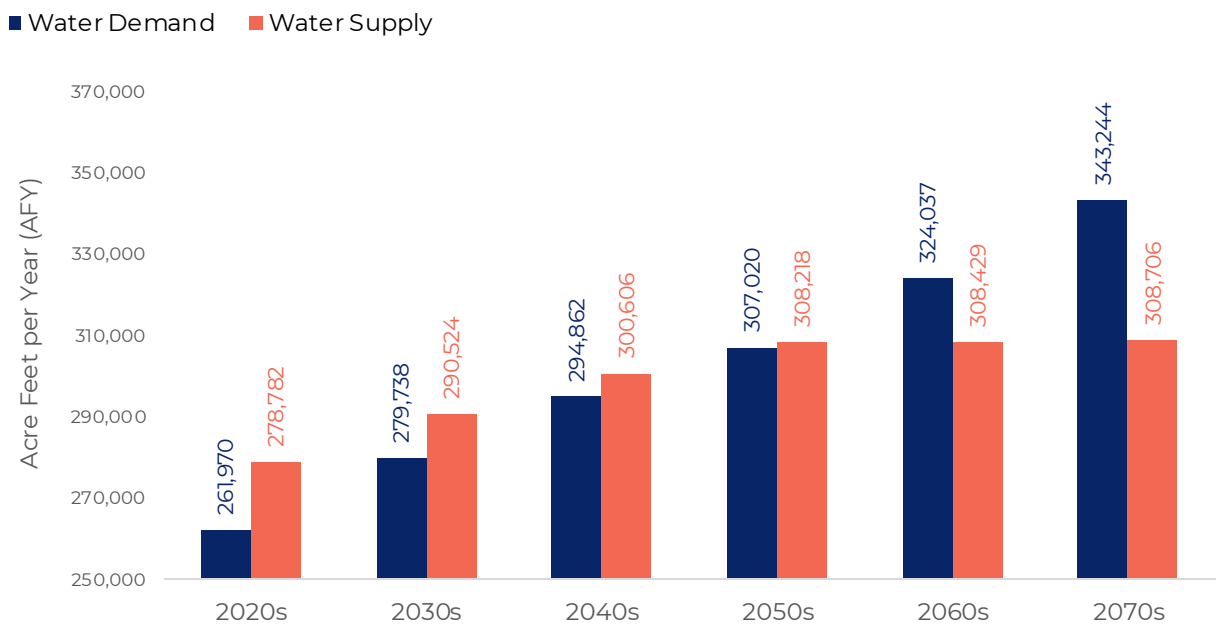
Lastly, the region's drought persisted. In fact, the 2016 Region N Plan acknowledged the severity of then-existing drought conditions and that supplies in the CCR/LCC System in 2015 neared levels observed during the 1990s drought. [122] Moreover, the region's drought beginning in 2007 had been discussed, but not confirmed, by region planners as the new drought of record for the Coastal Bend.[123] Even with these shifting drought conditions, the 2016 Region N Plan specified that the drought period between 1992 and 2002 was the region's drought of record.[124]

120. Article 3, Section 49-d-12, Texas Constitution.
121. "City Celebrates Completion of Mary Rhodes Phase Two Pipeline Project," KIII-TV, October 16, 2016, https://www.kiiitv.com/article/news/local/city-celebrates-completion-of-mary-rhodes-phase-two-pipeline-project/503-336235129, accessed on June 10, 2026; "Mary Rhodes Pipeline Phase 2 Nearing Completion," San Patricio Municipal Water District, June 28, 2016, https://sanpatwater.com/news%204.7.16%20MRP2.php, accessed on June 10, 2026.
122. 2016 Coastal Bend Regional Water Plan (CBRWP), page 7-4.
123. 2016, CBRWP, page 7-2.
124. 2016, CBRWP, page 1-20.

A Water Supply Surplus for the 2020s

The plans from the 2016/17 cycle provided a new — and, in retrospect, wrong — direction for water supply, demand, and needs estimates for Region N. Figure 6.1, 2017 *Plan Water Supply & Demand Projections for Region N (2020s-2070s),* depicts the water demand and available supply figures included in the 2017 State Water Plan.[125] Unlike the 2012 Plan, data from the 2017 Plan indicated that total regional available water supplies exceeded water demands during the 2020s. A regional water supply deficit, where demands would exceed aggregate available supplies during a drought of record, would not emerge until after the 2050s. In fact, the 2016 Region N Plan plainly stated: "[o]verall, the Coastal Bend Region has sufficient supplies to meet the demands of the six water user group categories through 2050." [126] Data published in the 2017 State Water Plan corroborated this assessment.

Figure 6.1. 2017 Plan Water Supply & Demand Projections for Region N (2020s-2070s)

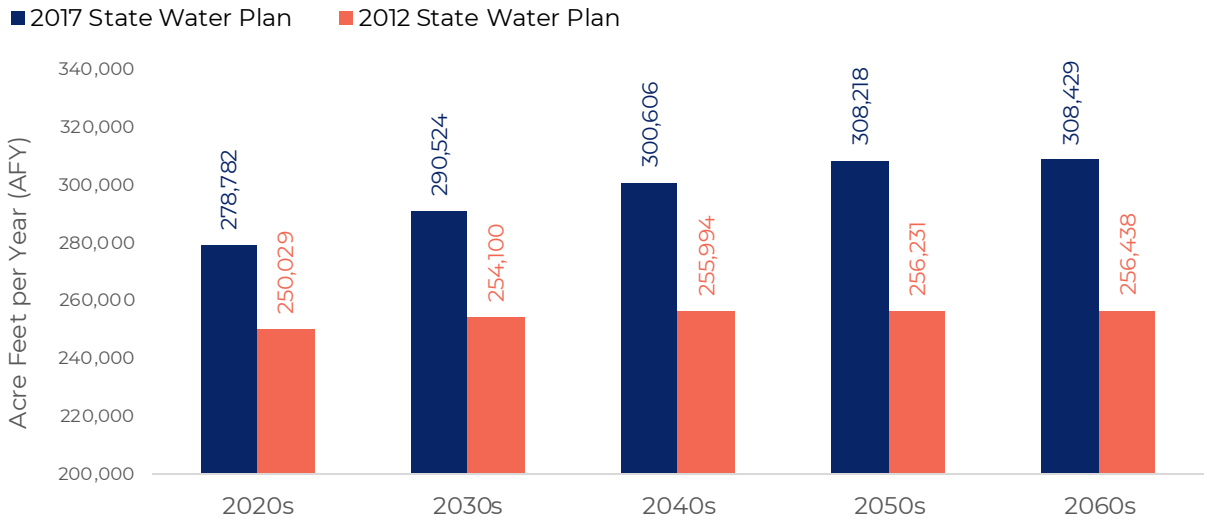


125. The data for water demands was obtained from the 2017 State Water Plan and the 2016 CBRWP. The data for available water supplies were obtained from the interactive 2017 State Water Plan on TWDB's website (see: 2017.texasstatewaterplan.org/region/N). The 2017 Plan's water availability data for the 2020, 2030, and 2040 decades are lower than those reported in the 2016 CBRWP (see Table 4.25, 2016 CBRWP, page 4-47.)

126. 2016 CBRWP, page 4-50.

A substantial change in projected water supply availability informed this new outlook. The region's water demand projections in the 2016/17 cycle were not statistically different (+/- 5%) from those in the previous cycle. Available water supply projections, as indicated in Figure 6.2, *2017 Plan Supply Estimates vs. 2012 Plan Supply Estimates for Region N (2020s-2060s),* however, were. Two explanations account for this increase. The first involves the completion of the expansion of the Mary Rhodes Pipeline project that increased the amount of surface water availability within the region.[127] The second explanation involves the use of modeled available groundwater (or MAG) figures that were substantively higher than the groundwater availability numbers in the earlier plan.[128] Given these assumptions, and like the two previous planning cycles, the 2016/17 cycle plans indicated that available water supplies during a repeat of a drought of record would increase.

Figure 6.2. 2017 Plan Supply Estimates vs. 2012 Plan Supply Estimates for Region N (2020s-2060s)



With regard to surface water availability, the 2016 Region N Plan used the same safe yield analysis for the CCR/LCC System applied in the previous regional water plans. Two changes were made to the safe yield assumptions, however. First, the safe yield reserve was increased to 125,000 acre-feet from 75,000 acre-feet, reflecting a more conservative effort to preserve storage during severe drought conditions.[129] Second, the safe yield of the new Mary Rhodes Pipeline project was included within the reservoir system's supply. As a result, the 2016 Region N Plan projected that the safe yield of the CCR/LCC System, including the new pipeline's supply, would equal 219,000 AFY in the 2020s, and decline to 214,000 AFY by the 2070s due to sedimentation.[130] On paper, these assumptions made the region's surface water portfolio appear more resilient than in prior plans. The 2026 crisis would soon reveal the limits to this conclusion.

127. 2016 CBRWP, page 3-9.
128. 2016 CBRWP, page 11-3.
129. 2016 CBRWP, page 3-11.
130. Table 4.24, Wholesale Water Provider Surface Water Allocation, 2016 CBRWP, page 4-43.

Few Local Water Supply Deficits for the 2020s

The 2016/17 planning cycle identified 10,807 acre-feet per year of local water shortages within the Coastal Bend for the 2020s, a lower total than those projected in the previous cycle[131]. Two planning assumptions explain this reduction. First, these plans projected greater groundwater availability, which eliminated several groundwater-associated needs identified in the prior cycle for users in Aransas, Duval, Jim Wells, Kleberg, and Live Oak counties. Second, the increase in surface water availability within the plans likely attenuated or mitigated the needs identified in the previous plan. On paper, these assumptions made the region appear more secure, even as later drought conditions would prove otherwise.

The 2016 Region N Plan projected that just four water user groups would have needs during the 2020s. These groups are listed in Table 6.1.

Table 6.1. 2016/17 Planning Cycle Projected Water Shortages for the 2020s

User	Water Shortage (acre-feet per year)
McMullen County mining	2,733
McMullen County irrigation	40
City of Robstown (Nueces County)	1,583
San Patricio County manufacturing	6,451
Total Shortage:	**10,807 AFY**

Source: Table 5B.10.2 (McMullen County mining), Table 5B.10.4 (McMullen County irrigation), Table 5B.11.10 (City of Robstown), Table 5B.12.8 (San Patricio County manufacturing), 2016 CBRWP.

None of the cities affected by the 2026 Coastal Bend water crisis were projected to have water shortages. The water supply plan for the City of Corpus Christi in the 2016 Region N Plan specified that "no shortages are projected for the City's own municipal needs."[132] Plans for the cities of Alice, Beeville, Port Aransas, Ingleside, Portland, Rockport, and, among others, Aransas Pass, included the same projection.[133] The largest water shortage within the region for the 2020s was for manufacturers in San Patricio County. This shortage, however, was attributable to San Patricio MWD's water treatment capacity.[134] No projected water deficits were attributable to drought-related stresses in the CCR/LCC System. The bulk of the other water shortages listed in Table 6.1 were attributed to groundwater-dependent industries in McMullen County. As a result, the 2016 Region N Plan framed the region's 2020s water needs as localized or operational constraints, not as evidence of a broader drought-based vulnerability within the region's surface water supplies.

131. Appendix C.1, Annual water needs by region and water use category (acre-feet), 2017 SWP, page 133.
132. 2016 CBRWP, page 5-38.
133. 2016 CBRWP, pages 5-23 (Alice), 5-14 (Beeville), 5-39 (Port Aransas), 5-47 (Ingleside), 5-48 (Portland), 5-12 (Rockport), 5-11 (Aransas Pass).
134. Table 4.24, Wholesale Water Provider Surface Water Allocation, 2016 CBRWP, page 4-44.

Recommended Water Supply Strategies

The plans from the 2016/17 planning cycle recommended 17 discrete water management strategies that would deliver just over 51,000 acre-feet of water by the 2020s with a capital cost of nearly $178 million.[135] These strategies are listed in Table 6.2.

Table 6.2. 2016/17 Planning Cycle Recommended Water Supply Strategies for the 2020s

User	Recommended Strategy	Yield (acre-feet per year)	Capital Costs (Thousands of 2013 dollars)
User Groups with 2020s Water Shortages (see Table 6.1)			
McMullen County mining	Mining conservation	106	N/A
	Additional groundwater wells	966	$1,685
McMullen County irrigation	Irrigation conservation	1	N/A
	Additional Gulf Coast Aquifer wells	43	$129
City of Robstown (Nueces County)	Local balancing storage	1,583	$8,182
San Patricio County manufacturing	Manufacturing water conservation	540	N/A
	Industrial water treatment plant improvements	7,460[A]	$58,366
	Reuse pipeline	2,240	$21,292
User Groups without 2020s Water Shortages			
Cities of Alice, Beeville, Benavides, Bishop, Corpus Christi, Falfurrias, Freer, Fulton, George West, Gregory, Orange Grove, Port Aransas, Portland, Premont, Robstown, Rockport, San Diego, Sinton, Three Rivers, El Oso WSC, River Acres WSC, Kleberg county-other, and Kenedy county-other.	Municipal water conservation	3,370	N/A
City of Beeville (Bee County)	Additional Gulf Coast Aquifer wells (Chase Field Project)	1,457	$4,777
	Conversion of irrigation wells to municipal use	340	$261
City of Alice (Jim Wells County)	Brackish groundwater desalination	3,363	$33,277
	Regional interconnection	1,204[B]	$5,866
Nueces County manufacturing	Manufacturing water conservation	501	N/A
	Water treatment plant improvements	20,739	$44,030[C]
Nueces County steam-electric	Manufacturing water conservation	40	N/A
	Water treatment plant improvements	7,286	$44,030[C]
	Totals	**51,239 AFY**	**$177,865**

135. Table 8.1, Annual volume of recommended water management strategies by region (acre-feet), 2017 SWP, page 88, and Table 8.2, Capital costs, by required online decade, of all recommend water management strategy projects by region (in millions), 2017 SWP, page 89.

Source: Table 5B.14.2 (Municipal water conservation), Tables 5B.3.1, 5D.7.7, and 5D.7.8 (City of Beeville), Tables 5B.6.2 and 5D.8.10and data from 2017 Interactive State Water Plan (City of Alice), Tables 5B.10.2 and 5D.7.5 (McMullen County mining), Tables 5B.10.4 and 5D.7.4 (McMullen County irrigation), Tables 5B.11.10 and 5D.11.1 (City of Robstown), Tables 5B.11.12, 5B.11.13, and 5D.15.3 (Nueces County Manufacturing), Tables 5B.11.14, 5B.11.15, and 5D.15.3 (Nueces County steam-electric), Tables 5B.12.8, 5B.12.9, 5D.5.8 and 5D.14.1 (San Patricio County manufacturing), 2016 CBRWP.
Note: A. The water supply plan in the 2016 Region N Plan for San Patricio manufacturing indicated that industrial water treatment plant improvements would yield 18,528 AFY by the 2020. The water management strategies spreadsheet from the interactive 2017 Plan website indicates that this yield was lowered to 7,460.
B. The water supply plan in the 2016 Region N Plan for the City of Alice included a regional interconnect project that would deliver 2,800 AFY by the 2020s. Data from the Region N water management strategies spreadsheet obtained from TWDB's interactive 2017 State Water Plan website indicates that this project would deliver 1,204 AFY.
C. The water treatment plan improvement costs for Nueces manufacturing and steam-electric are for the same facility.

Nearly three-quarters of the anticipated yield from the recommended strategies involved expanding the treatment capacity of existing water treatment plants to address manufacturing and steam-electric demands in Nueces and San Patricio counties. This reveals a potential shortcoming of the 2016/17 plans: the recommend strategies did not, in aggregate, materially expand the region's water supply portfolio for the 2020s. After excluding the roughly 37,000 AFY attributable to treatment plant capacity improvements or regional interconnects to other systems, the remaining strategies would yield roughly 15,000 AFY in new or conserved water supplies for the region's users. For comparison, that amount was equivalent to the decline in CCR/LCC System conservation storage over two months during drought conditions in early 2026.[136] Even if implemented, the conservation, groundwater and water reuse strategies recommended for the 2020s would have provided only incremental relief. They could reduce demand and diversify some local supplies but were not sufficient in volume to offset the scale of losses observed in the CCR/LCC System during the 2026 drought.

In a notable change from the 2011/12 planning cycle, which was amended in 2014 to include seawater desalination as a recommended strategy for the 2020s, the plans from the 2016/17 planning cycle moved the implementation date for this strategy back to the 2030s.[137] Other large water supply strategies recommended for the region, including water reuse and the Guadalupe Blanco River Authority's Lower Basin Storage Project, were not recommended until after the 2020s.

Corpus Christi Bay, May, 2026. Photo by Meagan Falcon.

136. On February 8, 2026, conservation storage in the CCR/LCC System totaled 86,389 ac-ft. Two months later, on April 8, 2026, System conservation storage equaled 71,711 ac-ft. TWDB, Daily Historical Data for Coastal Bend Planning Region Reservoirs, Water Data for Texas, updated June 27, 2026, https://waterdatafortexas.org/reservoirs/region/coastal-bend-1year.csv, accessed June 27, 2026.

137. Table ES.9, Summary of Recommended Water Management Strategies in the Coastal Bend Region, 2016 CBRWP, page 26.

In a departure from previous plans, the 2016 Region N Plan recommended that many cities in the region implement water conservation strategies throughout the planning horizon, including during the 2020s.[138] This recommendation applied to cities with water use exceeding 140 gallons per capita per day (gpcpd), regardless of whether the plan anticipated a shortage for that city in a specific decade.[139] These strategies aimed to reduce each city's consumption by 1% each year until the benchmark of 140 gpcpd was achieved. How each city achieved this water conservation objective was up to them; toward that end, the plan recommended several best management practices — including water loss remediation, plumbing fixture retrofit and replacement, rainwater harvesting, water reuse, public education, and, among others, conservation pricing — as a means toward achieving water conservation.

In total, these municipal conservation strategies were projected to yield 3,370 AFY for the 2020s. For comparison, however, conservation storage in the CCR/LCC System declined by this same amount in 13 days in early 2026.[140] Consequently, the recommended municipal conservation strategies, while useful as long-term demand management tools, were too small in scale to offset rapid reservoir losses during the crisis.

Assessment of the 2016 and 2017 Plans

The plans from the 2016/17 cycle did not indicate that the Coastal Bend would undergo a water crisis in the 2020s. Elevated, and arguably bullish, water supply availability estimates projected a region-wide surplus, while most of the shortages within the region were attributed to treatment plant capacity constraints. Other regional shortages would be solved by plunging wells into the Gulf Coast Aquifer.

One metric illustrates the inadequacy of the planning signals from this cycle. The Region N Plan included a 125,000 acre-feet safe yield reserve for the CCR/LCC System. This reserve was planned as a hedge against future drought uncertainty. [141] Between late August 2025 and early June 2026, the conservation storage of the CCR/LCC System fell below 125,000 acre-feet. When the system's storage dropped below this level, regional users were not content to rely on the safe yield reserve cushion; many imposed stricter water conservation restrictions, pursued emergency groundwater supplies, and searched for other alternatives to avoid running out of water. The 125,000 acre-feet safe yield reserve did not provide a meaningful safeguard against the drought conditions that materialized in 2025 and 2026. Instead, the threshold became evidence that even a reserve designed for worsening drought conditions was not enough to prevent the region from entering into a crisis response, revealing that the plans understated the volume, timing, and diversity of strategies needed for resilience to worsening drought conditions.

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138. Table 5B.14.2, Summary of Recommended Water Management Strategies in the Coastal Bend Region, 2016 CBRWP, page 5-58.
139. 2016 CBRWP, page 5.D.1-8.
140. On March 19, 2026, conservation storage in the CCR/LCC System totaled 76,894 ac-ft. By March 31, 2026, it had dropped to 73,534 ac-ft, amounting to a 3,360 ac-ft decline from March 19. TWDB, Daily Historical Data for Coastal Bend Planning Region Reservoirs, Water Data for Texas, updated June 27, 2026, https://waterdatafortexas.org/reservoirs/region/coastal-bend-1year.csv, accessed June 27, 2026.
141. 2016 CBRWP, page 7-4.

Ultimately, these plans failed to send the necessary signal to develop the types of water supply projects needed to enhance the region's resilience to drought. Based on the findings and recommendations from this planning cycle, a reader would have little reason to worry about a crisis unfolding within the region 10 years later. The timing of this shortcoming was critical: many of the water supply projects that could have been developed and delivered by the mid-2020s, such as groundwater wellfields, aquifer storage and recovery, potable water reuse, and potentially a seawater desalination plant, could have been built within a decade had the signal from the 2016 and 2017 plans been accurate.

One city did take notable action following the 2016/17 cycle, however. Despite not having an anticipated water shortage for the 2020s identified within the plans, the City of Alice moved forward with its brackish groundwater desalination facility. Recommended in the 2017 Plan, this project represented an effort to reduce reliance on supplies from Lake Corpus Christi. [142] Alice's brackish desalination plant, built as part of a public-private partnership, opened in 2025. [143]

Choke Canyon Reservoir, May, 2026. Photo by Meagan Falcon.

142. Editor, "Alice Breaks Ground to Build Drought-Resistant Water Supply," The Gilmer Mirror, October 17, 2023, https://www.gilmermirror.com/2023/10/17/alice-breaks-ground-to-build-drought-resistant-water-supply/, accessed June 11, 2026.

143. Michael Gibson, "Alice desalination plant opens with a blessing," Kiii TV, July 29, 2025, https://www.kiiitv.com/article/news/local/new-water-plant-blessed/503-be7c42bd-a5b3-46b9-9352-11e11941ddd8, accessed June 11, 2026.

CHAPTER 7

The 2021 Region N & 2022 State Water Plans

Key takeaways

- Published on the eve of the crisis, the 2021/22 plans projected the largest regional water shortage of any post-SB 1 plan for the 2020s after adopting a more severe drought of record.
- Most shortages were tied to groundwater-dependent users, while Corpus Christi and the cities at the heart of the 2026 crisis were still shown as having no water shortages.
- Out of the 50 recommended water strategies for the 2020s, only one strategy — the City of Alice's brackish groundwater desalination project — was implemented before the crisis began.

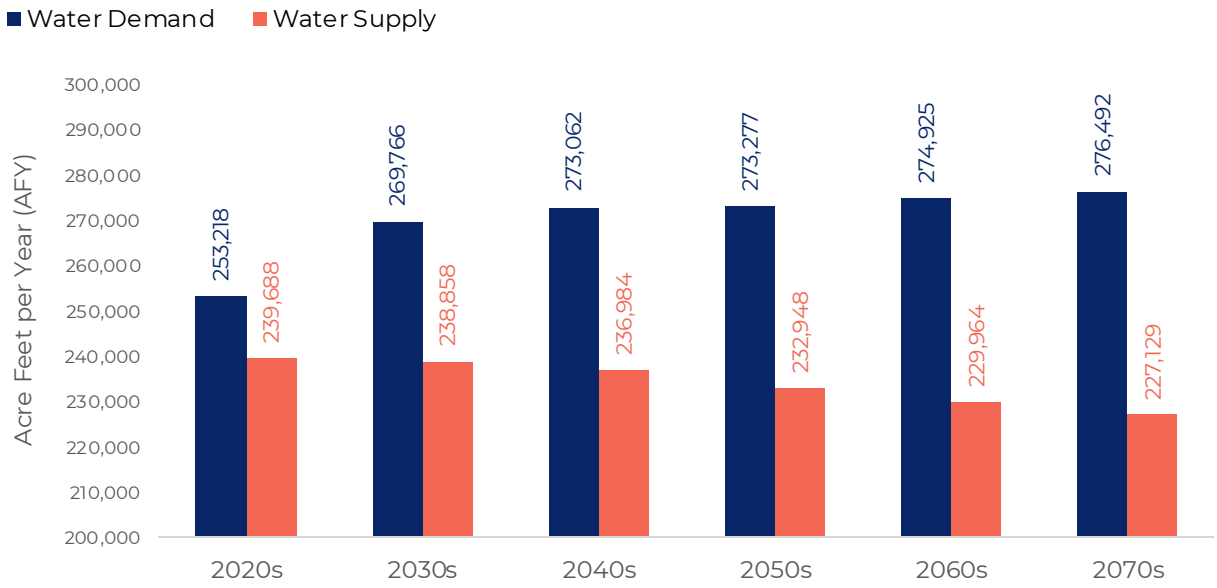
Throughout 2020 and 2021, planners in the Coastal Bend prepared the 2021 Region N plan that would inform the 2022 State Water Plan. At the time, and as the state and nation grappled with responses to the COVID-19 Pandemic, regional reservoirs had recovered slightly from the drought that had afflicted the region during the previous decade.[144] Despite this minor recovery, the levels of Choke Canyon Reservoir and Lake Corpus Christi would soon begin their rapid descent to the record lows observed in 2026. Without the benefit of hindsight, the 2021/22 planning cycle was the last opportunity before the crisis to send a clear near-term warning.

The Largest Regional Water Supply Deficit for the 2020s

In a departure from its immediate predecessor, the 2022 State Water Plan projected a water shortage in the Coastal Bend Region during the 2020s. According to that plan's data, and as depicted in Figure 7.1, *2022 Plan Water Supply & Demand Projections for Region N (2020s-2070s)*, the region's demands in the 2020s would exceed available water supplies by 13,530 AFY. This was the largest regional water shortage for the 2020s reported out of every state water plan published since 2002.

144. TWDB, Coastal-Bend Planning Region Reservoirs, Historical Data, June 11, 2026, https://waterdatafortexas.org/reservoirs/region/coastal-bend

Figure 7.1. 2022 Plan Water Supply & Demand Projections for Region N (2020s-2070s)



The larger water supply deficit was not anticipated as a product of surging demands. In fact, the region's projected water demands throughout the planning horizon were slightly lower in the 2022 Plan than those in the 2017 Plan.[145] (As will be discussed later, regional planners disagreed with these lower demand projections.) Rather, the projected regional water supply shortage was a result of lower water supply projections driven by the use of a newer and more contemporary drought of record for planning purposes.

The Coastal Bend endured a significant drought between the late 2000s and mid-2010s, during which CCR/LCC System storage declined from over 900,000 acre-feet — peak conservation capacity — to near 300,000 acre-feet.[146] This drought became the new drought of record used for the 2021 Region N Plan.[147] Combined with greater sedimentation and reduced inter-basin transfer availability, the updated drought assumption substantially lowered the projected safe yield of the CCR/LCC System.[148] Including the Mary Rhodes Pipeline supply, the system's safe yield supply was estimated at 178,000 AFY in the 2020s, declining to 167,000 AFY by the 2070s.[149] This was 41,000 acre-feet less than the amounts projected in the 2016 Region N Plan.

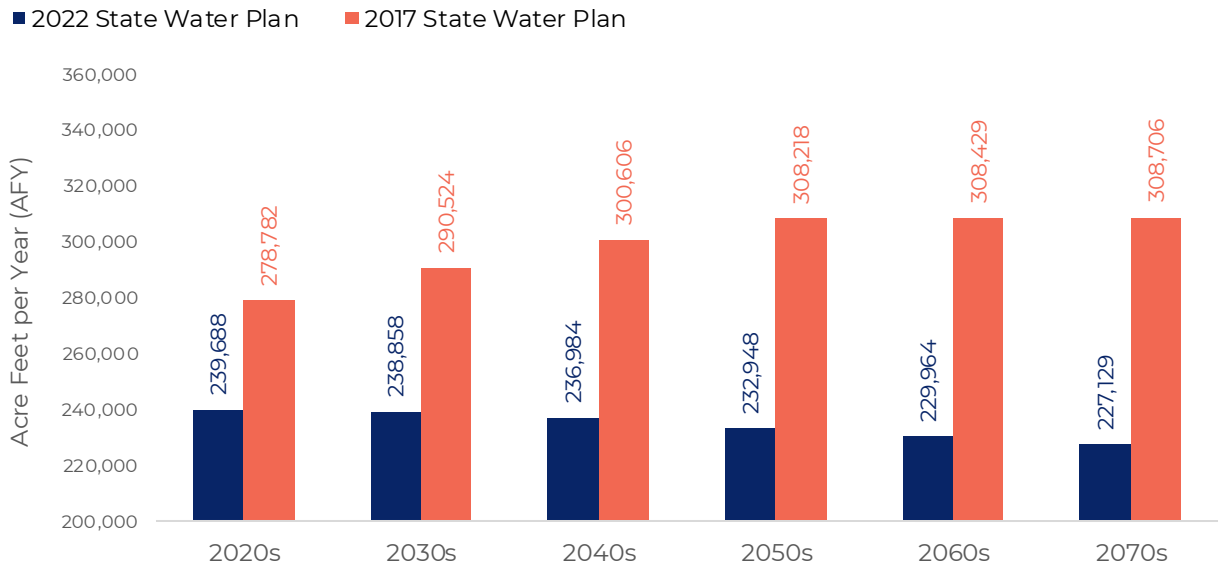
145. The 2021 CBRWP and 2022 SWP projected that the region's demands would equal 254,218 afy in the 2020s, while the 2016/2017 plans estimated that demands would total 261,970 afy,
146. 2021 Coastal Bend Regional Water Plan (CBRWP), page 7-2.
147. 2021 CBRWP, page 1-22.
148. 2021 CBRWP, page 11-5.
149. 2021 CBRWP, page 3-14.

At the same time, the 2021 Region N Plan used a smaller safe yield reserve than its predecessor, reducing the reserve from 125,000 acre-feet (12 month supply) to 75,000 acre-feet. [150] This decision to reserve the *lesser* amount of reservoir water, thereby allowing for a greater amount to be used for safe yield, may have masked the apparent severity of projected water shortages in the 2020s by allowing more of the CCR/LCC System's water to appear available on paper.

Projected groundwater availability also declined from the 2016 Region N Plan due to substantively lower modeled available groundwater (MAG) figures developed through the desired future condition process. [151]

As a result of lower groundwater and surface water supply estimates, the 2022 State Water Plan anticipated substantially lower available water supplies than its predecessor. Figure 7.2, *2022 Plan Supply Estimates vs. 2017 Plan Supply Estimates for Region N (2020s-2070s)*, illustrates that reduction. These lower supply estimates, and the correlative regional water supply deficit, translated into greater projected water shortages for regional water users during the 2020s. In short, the 2022 Plan's warning signal strengthened because the planning assumptions finally reflected a more constrained water supply picture.

Figure 7.2. 2022 Plan Supply Estimates vs. 2017 Plan Supply Estimates for Region N (2020s-2070s)



150. Table 11.2, Comparison of Water Modeling Assumptions Used to Develop the 2021 Plan and Previous Coastal Bend Regional Water Plans, 2021 CBRWP, page 11-5.

151. 2021 CBRWP, page 11-6.

Escalating Local Water Shortages for the 2020s

The plans from the 2021/22 cycle indicated that water users in the Coastal Bend would have approximately 15,200 acre-feet in water shortages during the 2020s. Table 7.1 identifies the users with projected shortages for that decade. The breadth of users listed in the table marked a shift from prior planning cycles, although many of the cities affected by the 2026 crisis were not projected to have water supply deficits.

Table 7.1. 2021/22 Planning Cycle Projected Water Shortages for the 2020s

User	Water Shortage (acre-feet per year)
TDCJ Chase Field (Bee County)	177
Bee County-other	1,657
Bee County mining	197
Bee County irrigation	352
Brooks County-other	192
Brooks County mining	179
San Diego MUD #1 (Duval County)	288
Duval County-other	477
Duval County mining	712
Jim Wells County-other	2,058
Jim Wells County mining	52
Jim Wells County irrigation	333
Kenedy County mining	58
Kleberg County mining	139
El Oso WSC (Live Oak County)	94
Live Oak County irrigation	343
Nueces County WCID #3	3,812
River Acres WSC (Nueces County)	234
Nueces County-other	1,245
Nueces County mining	629
Nueces County irrigation	51
San Patricio County manufacturing	1,479[A]
San Patricio County mining	237
San Patricio County irrigation	204
Total Shortage:	**15,199 AFY**

152. Table C-1, Annual water needs by region and water use category (acre-feet), 2022 State Water Plan, page 179.

Source: Table 5B.3.4 (TDCJ Chase Field), Table 5B.3.6 (Bee County-other), Table 5B.3.8 (Bee County mining), Table 5B.3.10 (Bee County irrigation), Table 5B.4.4 (Brooks County-other), Table 5B.4.6 (Brooks County mining), Table 5B.5.4 (San Diego MUD #1), Table 5B.5.6 (Duval County-other), Table 5B.5.8 (Duval County mining), Table 5B.6.8 (Jim Wells County-other), Table 5B.6.12 (Jim Wells County mining), Table 5B.6.14 (Jim Wells County mining), Table 5B.7.4 (Kenedy County mining), Table 5B.8.8 (Kleberg County mining), Table 5B.9.2 (El Oso WSC), Table 5B.9.10 (Live Oak County irrigation), Table 5B.11.8 (Nueces County WCID #3), Table 5B.11.14 (River Acres WSC), Table 5B.11.16 (Nueces County-other), Table 5B.11.20 (Nueces County mining), Table 5B.11.15 (Nueces County irrigation), Table 5B.12.6 (San Patricio County manufacturing), Table 5B.12.8 (San Patricio County mining), Table 5B.12.10 (San Patricio County irrigation), 2021 CBRWP.

Note: A. Table 5B.12.6 for San Patricio County manufacturing did not indicate a need for the 2020s. Data from the water needs spreadsheet for Region N obtained from TWDB's interactive 2022 State Water Plan website indicates as need of 1,479 AFY for the 2020s. That figure is used here.

In contrast to previous planning cycles that projected larger shortages among mining, manufacturing and steam-electric users, plans from the 2021/22 cycle attributed nearly two-thirds of projected shortages to municipal users.[153] Roughly half of the municipal water shortages for the 2020s were concentrated among three Nueces County water users: Nueces County WCID #3, River Acres WSC, and Nueces County-other. The remaining municipal shortages, largely lumped within the "county-other" classification, were distributed among groundwater-dependent users in Bee, Brooks, Duval, and Jim Wells counties. As in previous regional water plans, the water supply plan for the City of Corpus Christi disclosed that "no shortages are projected for the City's own municipal needs." [154] The water supply plans for Aransas Pass, Rockport, Beeville, Alice, Kingsville, Bishop, Driscoll, Nueces County WCID #4, Gregory, Ingleside, Mathis, Odem, Portland, Sinton, and Taft, likewise indicated that "no shortages are projected." [155]

The substantial water supply deficits for mining and manufacturing users during the previous planning cycle either disappeared or were significantly reduced in the 2021/22 planning cycle. For example, the 2,733 AFY deficit for mining operations in McMullen County identified in the 2016 Region N Plan were not reported in the 2021 Region N Plan. Similarly, while the 2016 Region N Plan identified nearly 6,500 AFY in manufacturing user shortages in San Patricio County during the 2020s, the 2021 Plan reported a reduced deficit of 1,500 AFY for the same sector. Like the earlier plan, these shortages were attributable to water treatment plant capacity constraints rather than a lack of raw water supply. [156]

Despite Greater Needs, Lesser Water Supplies from Recommended Strategies

The plans from the 2021/22 cycle recommended 50 discrete water management strategies for the 2020s, out of 87 strategies for the entire planning horizon. Together, and as listed in Table 7.2, these strategies were projected to deliver or conserve just over 24,000 AFY of water at a cost of $167 million.[157] Although the region's projected shortages during the 2020s were greater than those projected in the 2016/17 plans, the recommended strategy volume was lower than in the previous planning cycle.[158]

153. Table C-1, Annual water needs by region and water use category (acre-feet), 2022 SWP, page 179.
154. 2021 CBRWP, page 5-53.
155. 2021 CBRWP, pages 5-16 (Aransas Pass, Rockport), 5-18 (Beeville), 5-30 (Alice), 5-40 (Kingsville), 5-52 (Bishop), 5-55 (Driscoll), 5-56 (Nueces County WCID #4), 5-63 (Gregory), 5-64 (Ingleside, Mathis, Odem, Portland), 5-65 (Sinton, Taft),
156. 2021 CBRWP, page 4-37,
157. 2022 SWP, pages 99-100.
158. For reference, the 2017 SWP identified 10,807 aft in needs for the region in the 2020s, and recommended strategies that would yield roughly 51,239 aft.

The types of recommended water supply strategies for the region in the 2020s included mining, irrigation and manufacturing water conservation, additional Gulf Coast Aquifer wells, brackish groundwater desalination, local reservoir balancing, and water treatment plant capacity expansion.[159] With regard to municipal water conservation, the 2021 Region N Plan extended the same recommendation from the previous plan that cities with usage rates above 140 gpcpd reduce consumption by 1% per year until achieving the 140 gpcpd benchmark.[160] Given that this recommended strategy would be implemented throughout the 2020s, the yield from this recommended effort — or net amount of conserved water — would not be observed until the 2030s.

Table 7.2. 2021/22 Planning Cycle Recommended Water Supply Strategies for the 2020s

User	Recommended Strategy	Yield (acre-feet per year)	Capital Costs (Thousands of 2018 dollars)
User Groups with 2020s Water Shortages (see Table 7.1)			
TDCJ Chase Field (Bee County)	Additional Gulf Coast Aquifer well	208	$703
Bee County-other	Additional Gulf Coast Aquifer well	1,682	$4,943
Bee County mining	Mining water conservation	10	N/A
	Additional Gulf Coast Aquifer well	197	$622
Bee County irrigation	Irrigation water conservation	105	$3,042
	Additional Gulf Coast Aquifer wells	352	$1,166
Brooks County-other	Additional Guld Coast Aquifer wells	309	$1,207
Brooks County mining	Mining water conservation	9	N/A
	Additional Gulf Coast Aquifer wells	182	$615
San Diego MUD #1 (Duval County)	Additional Gulf Coast Aquifer wells	417	$1,856
Duval County-other	Additional Gulf Coast Aquifer wells	516	$2,109
Duval County mining	Mining water conservation	35	N/A
	Additional Gulf Coast Aquifer wells	768	$3,228
Jim Wells County-other	Additional Gulf Coast Aquifer wells	2,650	$10,704
Jim Wells County mining	Mining water conservation	2	N/A
	Additional Gulf Coast Aquifer wells	55	$202
Jim Wells County irrigation	Irrigation water conservation	48	$548
	Additional Gulf Coast Aquifer wells	333	$753

159. Table 5B.14.1, Summary of Recommended Water Management Strategies in the Coastal Bend Region, 2021 CBRWP, pages 5-73 to 5-76.

160. 2021 CBRWP, page 5D.1-10.

Kenedy County mining	Mining water conservation	3	N/A
	Additional Gulf Coast Aquifer wells	63	$469
Kleberg County mining	Mining water conservation	9	N/A
	Additional Gulf Coast Aquifer wells	142	$638
El Oso WSC (Live Oak County)	Additional Gulf Coast Aquifer wells	94	$424
	Municipal water conservation	20	N/A
Live Oak County irrigation	Irrigation water conservation	41	$677
	Additional Gulf Coast Aquifer wells	534	$917
Nueces County WCID #3	Local balancing storage reservoir	3,824	$21,575
River Acres WSC (Nueces County)	Local balancing storage	234	N/A[A]
Nueces County-other	Additional Gulf Coast Aquifer wells	1,435	$4,514
Nueces County mining	Mining water conservation	1	N/A
	Additional Gulf Coast Aquifer wells	1,127	$2,200
Nueces County irrigation	Irrigation water conservation	1	$15
	Additional Gulf Coast Aquifer wells	51	$319
San Patricio County manufacturing	Manufacturing water conservation	971	N/A
	Water treatment plant improvements	1,409[B]	$68,212
San Patricio County mining	Mining water conservation	7	N/A
	Additional Gulf Coast Aquifer wells	398	$1,141
San Patricio County irrigation	Irrigation water conservation	366	$7,829
	Additional Gulf Coast Aquifer wells**	204	$420
	User Groups without 2020s Water Shortages		
City of Alice (Jim Wells County)	Brackish groundwater desalination	2,369[C]	$23,983
Jim Wells County manufacturing	Manufacturing water conservation	2	N/A
	Additional Gulf Coast Aquifer wells	16	$129
Kleberg County manufacturing	Manufacturing water conservation	45	N/A
	Additional Gulf Coast Aquifer wells	247	$852
Live Oak County manufacturing	Manufacturing water conservation	57	N/A
	Additional Gulf Coast Aquifer wells[D]	28	$188
Nueces County manufacturing	Manufacturing water conservation	1,135	N/A
	Water treatment plant improvements	1,409[B]	$68,212[E]
Totals:		**24,120 AFY**	**$166,200**

Source: TWDB, List of recommended water management strategies by water user group, with associated strategy supply volume (spreadsheet), updated based on 2022 SWP Amendment Number 3, and List of recommended water management strategy projects, with associated sponsors, costs, and online date (spreadsheet), updated based on 2022 SWP Amendment Number 3, https://www.twdb.texas.gov/waterplanning/swp/2022/index.asp, accessed June 20, 2026.

Note: A. River Acres WSC's local balancing storage would be owned and operated by Nueces County WCID #3.
B. Tables 5B.11.18 and 5B.12.6 for Nueces and San Patricio County manufacturing in the 2021 CBRWP indicated that water treatment improvements would yield 16,015 AFY for the 2020s. Data from the water supply strategies spreadsheet for Region N obtained from TWDB's interactive 2022 State Water Plan website indicates a project yield of 1,409 AFY for the 2020s. That figure is used here.
C. Table 5B.6.1 for Alice indicates that the brackish groundwater desalination strategy would yield 3,360 AFY by the 2020s. Data from the water supply strategies spreadsheet for Region N obtained from TWDB's interactive 2022 State Water Plan website indicates a project yield of 2,369 AFY for the 2020s. That figure is used here.
D. The groundwater-related water supply strategies in the 2021 CBRWP list "Gulf Coast Aquifer supplies" or "Drill new well" as the water-supply strategy. These strategies are listed as "Additional Gulf Coast Aquifer wells" here.
E. The recommended water treatment improvement strategy for Nueces County manufacturing is the same recommended strategy for San Patricio County manufacturing. Given this duplication, this cost was excluded from the total cost calculation at the bottom of the table.

The yield from these recommended strategies was 9,000 AFY greater than the projected needs for the 2020s. This excess was intended as a planning cushion, not necessarily as a firm drought-resilient margin. The 2021 Region N Plan specified that the "additional supply accounts for uncertainties in population projections, future demands, climate variability, yield of recommended water management strategies, permitting challenges, and other uncertainties."[161] Moreover, the 2021 Region N Plan observed that the lower demand projections by TWDB were "not consistent with local water supply plans that indicate industrial growth."[162] This further justified the inclusion of additional water management strategies that yielded water supplies in amounts that exceeded needs based on TWDB projections.

Analysis of the recommended water supply strategies in the 2021/22 plans reveals three key observations. First, even though the recommended strategies produced more water on paper than the projected shortages for the 2020s, the total volume was likely insufficient to answer the demands of the water crisis that unfolded in the Coastal Bend. Second, the recommended strategy portfolio relied heavily on groundwater development: 29 out of the 50 recommended strategies for the 2020s involved accessing groundwater supplies. Combined, these strategies would yield 14,391 AFY, nearly 60% of the supply volume from all recommended strategies for the decade. Lastly, nearly 10% of the volume from the recommended strategies was from water treatment plant expansions. While these projects would answer escalating demands for treated water within the region, they did not necessarily expand the raw water supply portfolio to enhance resilience to severe drought conditions.

Unfortunately for the region, and as disclosed in the 2026 Region N Plan, the City of Alice's brackish groundwater desalination project was the only recommended water management strategy from the 2021/22 cycle that had been implemented by 2025.[163]

161. 2021 CBRWP, page 5-9.
162. 2021 CBRWP, page 11-2.
163. 2026 CBRWP, page 9-8.

Assessment of the 2021 and 2022 Plans

The plans from the 2021/22 cycle were the last ones published before the onset of the current water crisis in the Coastal Bend. Despite their proximity to the crisis, they did not anticipate its severity or recommend near-term projects beyond additional groundwater wells needed for enhanced drought resilience. Even with the use of a more contemporary drought of record for the region, that from the late 2000s to the mid-2010s, a reader of these documents would have concluded that despite the overall water shortage projected within the 2020s, those projected shortages were largely concentrated within groundwater-dependent communities that had plans to drill additional wells into the Gulf Coast Aquifer.

As discussed above, many of the cities scrambling for water in the 2026 crisis had water supply plans that indicated no water shortages during the 2020s. A mayor, city manager, water planner, community member, or business leader from any of these cities, including Corpus Christi, could have very well read these plans (if they were aware of them) and concluded that no near-term action was required beyond continued conservation. More critically, the plans did not present an urgent signal to develop large, regional water infrastructure projects capable of protecting the Coastal Bend from a drought worse than the drought of record by 2026. While these plans did recommend other, larger water supply projects, including multiple seawater desalination plants, groundwater desalination, industrial water reuse, and aquifer storage and recovery, these projects were slated for after the 2020s.[164] For the decade that mattered most, the planning signal was too weak, too narrow, and too late.

Choke Canyon Reservoir, May, 2026. Photo by Meagan Falcon.

164. Table 5B.14.1, Summary of Recommended Water Management Strategies in the Coastal Bend Region, 2021 CBRWP.

CHAPTER 8

The 2026 Region N Water Plan

Key takeaways

- Adopted amid the unfolding crisis, the 2026 Region N Plan was the first to concede that the Coastal Bend is "likely in a new drought of record."
- Hamstrung by a lack of funding to update its models, the 2026 Region N Plan centers on the outdated 2007–2013 drought of record.
- As a result, even this crisis-era plan likely understates the region's true shortages, meaning the 2027 State Water Plan it feeds will inherit projections that are already lagging behind the worsening drought.

On Sept. 11, 2025, the Coastal Bend Regional Water Planning Group adopted the 2026 Region N Plan. The plan was adopted as water supply discussions, combined with growing alarm about the regional drought, grew more urgent. In December 2024, less than one year before the plan was adopted, the City of Corpus Christi announced accelerated water restrictions as supplies within the CCR/LCC System dropped beneath 20%.[165] Three months later, in March 2025, the city advised residents on the likelihood of drought conditions persisting and the city's investigations of potential groundwater sources. [166] By May 2025, the headline "Corpus Christi at risk of running out of water by Spring 2027" appeared on the city's local TV station news. [167]

The advent of this new drought was not lost on the 2026 Region N Plan's writers. Some suspected that it was worse than anything seen before: "based on drought conditions as of February 2024, drought severity has intensified, and it appears that the region is in a new DOR [drought of record]." [168] Elsewhere, the 2026 Plan states that "the region is likely in a new drought of record." [169] Given this sobering realization, planners lamented on the lack of funding to update water supply models based on these worse, and worsening, drought conditions.[170] Moreover, the plan observed that the safe yield models used for the CCR/LCC System were potentially insufficient given changing hydrological conditions, requiring updates for future planning cycles.

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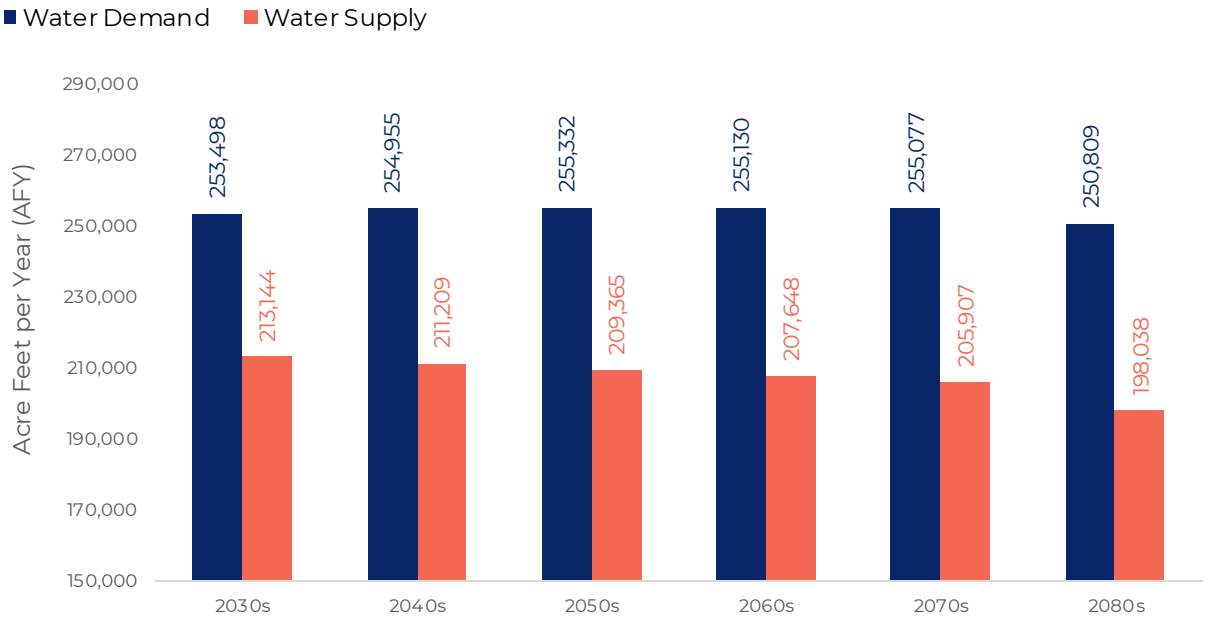
165. City of Corpus Christi, "Corpus Christi Now Under Stage 3 Water Restrictions," December 16, 2024, https://www.corpuschristitx.gov/news/posts/corpus-christi-now-under-stage-3-water-restrictions/ , accessed June 12, 2026.
166. City of Corpus Christi, "Drought Conditions Persist Across South Texas, Below Average Rainfall Predicted Through April," March 3, 2025, https://www.corpuschristitx.gov/news/posts/drought-conditions-persist-across-south-texas/ , accessed June 12, 2026.
167. Wes Wilson, Kristin Walla, Bill Churchwell, Alan Holt, Jonathan Munson, "Corpus Christi at risk of running out of water by Spring 2027," KIII TV, May 30, 2025, https://www.kiiitv.com/article/news/local/corpus-christi-water-drought-problems-explained/503-9e1ee348-a540-4668-be6e-0ec1dfa48846 , accesses June 12, 2026.
168. 2026 Coastal Bend Regional Water Plan (CBRWP), page 7-2.
169. 2026 CBRWP, page 3-17.
170. "There was insufficient funding allocated in the 2026 Coastal Bend Regional Water Plan development to update the CCWSM (Corpus Christi Water Supply Model) through current conditions." 2026 CBRWP, page 7-2.

Consequently, the data and projections in the 2026 Region N Plan are likely flawed. Like the 2021 Region N Plan, the 2026 Plan used the regional drought from 2007 to 2013 as the drought of record for planning purposes.[171] The plan's projected water demands and available water supplies during a repeat of this drought are depicted in Figure 8.1, *2026 CBRWP Water Supply & Demand Projections for Region N (2030s-2080s).*[172]

Figure 8.1. 2026 CBRWP Water Supply & Demand Projections for Region N (2030s-2080s)



While the data already point to a substantive water supply shortage in the region throughout the 50-year planning horizon, these projections are likely flawed if the current drought proves worse than the drought of record that occurred between 2007 and 2013. This would mean that the available water supplies would be lower and water demands higher than the amounts listed in Figure 8.1. Consequently, the anticipated regional water supply deficit, and correlative water shortages for user groups, would likely be worse.

Despite the concerns articulated within the document, the 2026 Coastal Bend Regional Water Plan was approved by the planning group and submitted to the Texas Water Development Board.

The Texas Water Development Board voted to approve the 2026 Region N Plan on Jan. 22, 2026.[173]

It will be used to develop the 2027 State Water Plan.

171. 2026 CBRWP, page 3-14.

172. Data obtained from Table 4A.27, Coastal Bend Region Summary Population, Water Supply, and Water Demand Projections, 2026 CBRWP, pages 4A-53 to 4A-54.

173. Minutes of the Texas Water Development Board Meeting, January 22, 2026.

CHAPTER 9

Analysis & Recommendations

When the Texas Legislature passed SB 1 in 1997, it instructed that the state water plan provide for the orderly development, management and conservation of water resources and preparation for drought conditions.[174] In practice, the plans published since 1997 did not fully achieve either objective for the Coastal Bend. Broadly, the plans did not signal the possibility of substantial water shortages during a long, severe drought within the Coastal Bend in the 2020s. Where local water shortages were identified, these were largely attributable to groundwater availability and pumping capacity or local treatment plant capacity.

The issue was not that one specific plan was wrong, but that the plans collectively failed to provide a stable, actionable warning. In the absence of a bright, clear indication of a substantial water supply deficit for the region in the 2020s, the plans did not signal the imperative for the orderly development of water supply strategies required for drought resilience. While some recommended water supply strategies were implemented before or during the Coastal Bend water crisis, others were not.

This chapter consists of three parts. First, it examines how successive planning cycles sent inconsistent signals about the timing, location and severity of water shortages in the Coastal Bend Region, and how those mixed signals affected the perceived need for infrastructure development. Second, it assesses whether the water management strategies recommended in each planning cycle were implemented in time to improve the region's resilience before the Coastal Bend water crisis. Third, it offers recommendations for improving the state water plan and regional planning process so that future plans provide clearer warnings, stronger implementation guidance and better protection for future generations of Texans.

Planning Inconsistencies Obscured Critical Signals

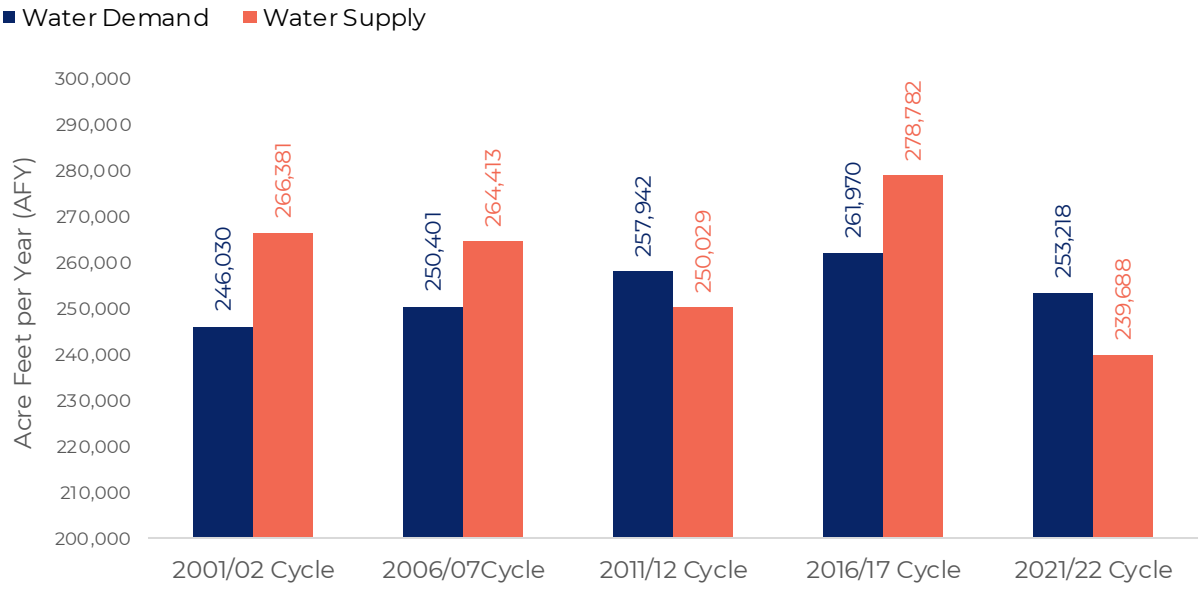
State and regional water plans are prepared once every five years. Once approved by the Texas Water Development Board, they serve as the guide to state water policy until the next planning cycle. A plan that projects a regional water supply deficit, accompanied by acute local shortages, sends an important signal that water supply strategies should be implemented before those shortages — and their anticipated consequences — arrive. A subsequent plan projecting no regional shortage, and lesser local supply deficits, sends a different and less urgent signal. Consistent projections reinforce the need for action; inconsistent projections weaken that urgency. The chronology described in this report shows that the state and regional water plans sent inconsistent signals about regional water supply deficits, local shortages and recommended water management strategies. Those mixed signals made it harder for project sponsors, policymakers and the public to distinguish between strategies that were optional, precautionary or urgently needed.

174. §16.051(a), Water Code.

Inconsistent Regional Shortages

The plans from each planning cycle sent inconsistent signals about whether the Coastal Bend would face a regional water supply deficit in the 2020s. As illustrated in Figure 9.1, the plans from the first two planning cycles projected no regional shortage for that decade, meaning that the first 10 years of post-SB 1 planning did not identify a region-wide deficit for the 2020s. The warning signal was off. Then the plans from the 2011/12 cycle projected the first region-wide shortage for the 2020s, but that warning was weakened five years later when the 2016/17 plans projected a regional surplus after incorporating greater water availability from the Mary Rhodes Pipeline and other supply assumptions. Here, between the 2011/12 and 2016/17 cycles, the warning signal went from on to off again. The 2021/22 cycle reversed course again, projecting the largest 2020s regional shortage of any post-SB 1 planning cycle shortly before the Coastal Bend water crisis unfolded. The warning signal was back on again.

Figure 9.1. Comparison of Regional Water Supply Deficits for the 2020s, 2001/02 – 2021/22 Planning Cycles



Out of the past 25 years governed by consecutive state water plans, plans for 15 of those years indicated no regional water shortages for the Coastal Bend in the 2020s. Only two plans covering 10 years of planning activity projected a regional water shortage for that decade. Taken together, these changing projections undermined the consistency of the planning signal for local and regional water providers to determine whether major water supply projects were needed by the 2020s.

Inconsistent Local Water Shortages

Each planning cycle did identify local user groups with projected water shortages during a repeat of drought-of-record conditions. These were groups for which legally and physically available water supplies during a drought of record would be less than projected demands. The projected local user water shortages were not consistent across the planning cycles, however. Table 9.1 lists each user group with a projected water shortage from one or more planning cycle. These users were listed in Tables 3.1, 4.1, 5.1, 6.1, and 7.1 in previous chapters.

Table 9.1. Projected Water Shortages by User Group & Planning Cycle

Group	2001/02 Cycle	2006/07 Cycle	2011/12 Cycle	2016/17 Cycle	2021/22 Cycle
Aransas County manufacturing		86	86		
Bee County irrigation					352
Bee County mining					197
Bee County-other					1,657
TDCJ Chase Field (Bee County)					177
Brooks County mining					179
Brooks County-other	446				192
City of Benavides (Duval County)	491				
City of Freer (Duval County)	715				
City of San Diego (Duval County)	662				
Duval County irrigation	1,073				
Duval County mining	1,437	2,518	2,518		712
Duval County-other	372				477
San Diego MUD #1 (Duval County)					288
City of Premont (Jim Wells County)	62				
Jim Wells County irrigation					333
Jim Wells County mining					52
Jim Wells County-other		238	238		2,058
Kenedy County mining					58
Kleberg County irrigation	4				
Kleberg County mining					139
Kleberg County-other	22	31	31		
El Oso WSC (Live Oak County)					94
Live Oak County irrigation	2,166	569	569		343
Live Oak County manufacturing		483	483		
Live Oak County mining		478	478		
Live Oak County-other	332	32	32		
McMullen County irrigation				40	
McMullen County mining				2,733	
Nueces and San Patricio County manufacturing			7,411	6,451	1,479
City of Robstown (Nueces County)				1,583	

Nueces County irrigation					51
Nueces County mining					629
Nueces County steam-electric			1,982		
Nueces County WCID #3					3,812
Nueces County-other	3,513				1,245
River Acres WSC (Nueces County)		255	255		234
Lake City (San Patricio County)		1	1		
San Patricio County irrigation					204
San Patricio County mining					237
Total shortage by cycle	**11,295**	**4,691**	**14,084**	**10,807**	**15,199**

Note: Values are shortages in acre-feet per year (AFY). Blank cells indicate the group was not listed for that planning cycle. Darker red indicates larger shortage volume.

No user groups were projected to have water shortages in the 2020s across all five planning cycles. Only two user groups, largely groundwater-dependent users in Duval and Live Oak counties, had projected shortages across four planning cycles. Nueces and San Patricio county manufacturing users had the largest projected shortages in any cycle, but these deficits were only projected in the last three cycles. Several other user groups appeared in only one planning cycle. Meanwhile, and as documented in Chapters 3 through 7, Corpus Christi and other cities at the center of the Coastal Bend crisis were never projected to have shortages in the 2020s.

The magnitude of projected water shortages also varied significantly across planning cycles. For example, manufacturers in Nueces and San Patricio counties were projected to have a 2020s shortage of 7,411 acre-feet in the 2011/12 planning cycle, but only 1,479 ac-ft in the 2021/22 cycle. Other user groups showed similar swings, with shortages appearing, disappearing, or changing from one plan to the next.

These shifting water shortage projections made the local planning signal hard to interpret. The plans did not consistently identify which groups were at risk, how severe their risks were, or which users should be treated as priorities for near-term action. By the time the 2021/22 planning cycle identified the largest number of user groups with projected shortages, the remaining implementation window was too short for many larger water supply strategies that could have materially improved drought resilience by the time of the Coastal Bend crisis.

Inconsistent Recommended Water Supply Strategies

The recommended water supply strategy signal was inconsistent as well. Every planning cycle recommended a different portfolio of water strategies for implementation by the 2020s. Some strategies were recommended to address projected water shortages, while others were included to serve anticipated demands or as a planning cushion against uncertain growth, supply reductions or implementation risk. The number and composition of recommended strategies varied across planning cycles. The 2006/07 and 2016/17 cycles recommended just 17 strategies, while the 2021/22 cycles recommended 50.

Table 9.2 aggregates the discrete water supply strategies listed in Tables 3.2, 4.2, 5.2, 6.2, and 7.2 into thematic categories to show how the recommended strategy portfolio changed over time.

Table 9.2. Yield Volumes from Recommended Water Management Strategies by Planning Cycle

Water Management Strategy	2001/02 Cycle	2006/07 Cycle	2011/12 Cycle	2016/17 Cycle	2021/22 Cycle
Additional groundwater wells and pumping	1,322	13,535	2,535	2,466	12,008
Irrigation water conservation	1,383	52	52	1	561
Manufacturing water conservation	1,187	1,418	1,418	1,081	2,210
Mining water conservation		548	626	106	76
Municipal water conservation		353	353	3,370	20
Brackish groundwater desalination	715			3,363	2,369
Reclaimed wastewater supplies		250	250	2,240	
Voluntary redistribution/reallocation	5,428	999	738	340	
Water treatment plant improvements			40,048	35,485	2,818
Interconnection	631			1,204	
Local balancing storage				1,583	4,058
Garwood (Mary Rhodes) Pipeline			35,000		
Recycle and reuse of groundwater	718				
Seawater desalination			28,000		
USCOE Feasibility Study		25,000			
Total yield by cycle:	**11,384**	**42,155**	**109,020**	**51,239**	**24,120**

Note: Values shown are recommended strategy volumes in AFY by planning cycle. Blank cells indicate the strategy was not listed for that planning cycle. Darker red indicates larger strategy yield volume.

Only three water management strategy types were recommended for implementation by the 2020s across all five planning cycles. Other strategies were recommended in four or fewer cycles. Still, the volumes of water projected to be developed or conserved varied by strategy throughout the 25-year planning cycle. These inconsistencies in recommended strategies presented no clear picture on the portfolio required for enhanced drought resilience. Further, and as discussed in Chapters 5 and 6, the bulk of the water supplies for two planning cycles came from treatment plant capacity improvements, which could expand the capacity to treat or deliver water but did not increase the region's raw water supply portfolio.

Groundwater pumping served as a mainstay strategy for all planning periods, but its relative importance changed significantly over time. Groundwater strategies accounted for as little as 2% of the recommended strategy portfolio in the 2011/12 cycle, and nearly 50% of the recommended portfolio for the 2021/22 cycle. Seawater desalination followed the opposite pattern: it was recommended for implementation by the 2020s in the 2011/2012 cycle, then moved to later decades in subsequent plans. Other one-time strategies, including the Garwood/Mary Rhodes Pipeline and the projects included in the U.S. Army Corps of Engineers feasibility study, either were implemented once or discontinued.

The decline of strategies for the voluntary redistribution and reallocation of water resources deserves special attention. SB 1 amended the Texas Water Code to emphasize the importance of voluntary water transfers. [175] Nearly 50% of the recommended strategy portfolio from the first planning cycle involved voluntary water transfers. By the last planning cycle in 2021/22 that proportion had declined to zero. This suggests that as the planning process moved further away from the time of SB 1's passage, the emphasis on voluntary transfers diminished.

That shift reinforces the broader inconsistency in the recommended strategy signal. If the plans were intended to serve as a blueprint for the water supply portfolio needed to achieve drought resilience by the 2020s, they sent mixed signals about what that portfolio should include, how much each strategy type should contribute, and which strategies were essential rather than merely optional.

Limited Strategy Implementation

In 2011, the Legislature amended the Texas Water Code to require that the state water plan begin tracking the implementation of recommended water management strategies and projects, including the number of projects from a prior water plan that received financial assistance from the Texas Water Development Board (TWDB). [176] This change reflected a recommendation adopted by the Sunset Advisory Commission as part of its review of TWDB. Six years later, in 2017, the Legislature further amended the Water Code to require that the plan gauge the extent to which projects prioritized for SWIFT financial assistance were implemented in the decade in which they were needed. [177]

Implementation reports were included in the 2016/17, 2021/22, and 2026/27 planning cycles to assess whether recommended strategies from the prior planning cycle had been implemented. These reports also identified whether projects from prior cycles received financial assistance. Table 9.3 lists the number of water management strategies recommended for the 2020s by planning cycle and identifies how many were implemented, under construction, in design or study, or receiving state or federal financial assistance in the following planning cycle.

175. §16.051(d) and (e), Water Code
176. §16.051(a-1 (1) and (2)), Water Code
177. §16.051(a-1 (3)), Water Code

Table 9.3. Planning Cycle Strategy Implementation Reports

Planning Cycle (Reporting Cycle)	Total Recommended Strategies for the 2020s	2020s Strategies Reported Implemented	Reported Construction, Design, or Study	2020s Strategies Receiving Financial Assistance
2011/12 Planning Cycle (2016/17 cycle)	20 (see Table 5.2)	3	3	0[A]
2016/17 Planning Cycle (2021/22 cycle)	17 (see Table 6.2)	4[B]	5	2
2021/22 Planning Cycle (2026/27 cycle)	50 (see Table 7.2)	1	0	1

Sources: Table 11.1, 2016 CBRWP; Table 9.1, 2017 SWP; 2021 CBRWP, page 11-1; Table 11.1, 2021 CBRWP; Table 10-1, 2022 SWP; Table 9.1, 2026 CBRWP; Table B-10, Draft 2027 SWP.

Note: : A. The 2017 State Water Plan reported that Nueces County received financial assistance for Cyndie Park water improvements. However, the 2011/12 planning cycle did not identify Nueces County or Cyndie Park as a water user group with any anticipated water shortage or recommended water management strategy.
B. The data and reporting in the 2021 CBRWP are inconsistent on how many projects recommended for the 2020s were implemented. On page 11-1 the Plan specifies that five recommended strategies – one of which was for a decade after the 2020s – were implemented. Table 11.1 indicates that seven strategies were implemented. This data does not reconcile with the survey information from Feb. 1, 2020 included in Appendix E.

The three strategies reported as implemented from the 2011/12 cycle included mining water conservation in Live Oak County, reclaimed wastewater for manufacturing users in Nueces County, and water conservation by the City of Port Aransas. [178] Three other strategies recommended for the 2020s were reported as under construction or undergoing feasibility studies: the seawater desalination project, the Mary Rhodes Pipeline, and water treatment plant capacity improvements. For the 2016/17 cycle, reported implemented strategies included groundwater development for the City of Beeville and McMullen County users, along with industrial treatment plant improvements for San Patricio County manufacturers. [179]
The only 2021/22-cycle project reported as implemented in the 2026 Region N Plan was the City of Alice's brackish groundwater desalination project. [180]

The 2021/22 and 2026/27 planning cycles included survey results indicating whether project sponsors had taken affirmative action to implement recommended water management strategies.

178. Summary of WMS Implementation, Report 24, Appendix 1, 2016 Coastal Bend Regional Water Plan.
179. 2021 CBRWP, page 11-1.
180. 2026 CBRWP, page 9-1.

These surveys gauged compliance with a planning statute specifying that a water management strategy would be considered infeasible — and thereby excluded from the plans — if the project sponsor did not take an affirmative vote or other action needed to pay for the strategy's construction or permitting. [181] The 2021 Region N Plan's survey indicated that only 22 out of the 39 project sponsors for projects recommended in the 2016/17 cycle met this requirement. [182] The survey results from the 2026 Region N Plan were far better: 100% of project sponsors with a recommended strategy from the 2021/22 planning cycle reported having taken affirmative action on that recommended strategy. [183] With just one exception, every respondent indicated that work toward implementing their recommended strategy had started.

These implementation survey results reveal a larger problem with the planning process: many strategies were recommended, but few were implemented or even advanced far enough to be evaluated in subsequent planning cycles. Some of these inactions may be attributable to limited financial assistance, local capacity constraints, or long project implementation timelines. Even so, of the 71 unique water strategies recommended in the 2011/12, 2016/17, and 2021/22 planning cycles, only eight —– 11% — were reported as implemented. As indicated in Table 9.3, 11 other projects — 15% — were reported as under construction, design or study, or receiving financial assistance. Based on these data, 27% of the recommended water strategies from the three planning cycles listed in Table 9.3 were implemented, in progress, or had received funding. This gap between recommendation and implementation reinforces the report's central finding that the plans functioned more as menus of possible options than as actionable blueprints for drought resilience.

Choke Canyon Reservoir, May, 2026. Photo by Meagan Falcon.

181. §16.053 (h)(10), Water Code
182. Appendix E, Status of Implementation of Projects Identified in the 2016 Plan, 2021 CBRWP.
183. Appendix F, 2021 Coastal Bend Regional Water Plan – Implementation Plan Survey Results, 2026 CBRWP.

Recommendations

The shortcomings described in this report — including the inconsistent signals about 2020s shortages and recommended strategies — do not undermine the need for statewide and regional water planning. On the contrary, they underscore and emphasize why the process must be strengthened. The Coastal Bend's experience provides practical lessons learned that inform recommendations for improving future plans and planning processes, so they more clearly identify emerging risks and provide for the orderly development of Texas' water resources while answering the challenges attributable to drought and growth.

First, the planning process should begin with a dedicated data and model readiness phase before each regional planning cycle begins. The Coastal Bend experience shows that the quality of the planning signal depends on the quality and timeliness of the hydrologic assumptions beneath it. As discussed in Chapter 2, the region's drought of record changed over time. By 2026, and as discussed in Chapter 8, regional planners suspected that the Coastal Bend may have entered a new drought of record even though the plan continued to rely on older modeling assumptions. Future planning cycles should therefore include a pre-planning technical review of surface water data, groundwater data, hydrologic models, groundwater availability models, and drought-of-record assumptions. That review should identify and document data gaps, model deficiencies, funding needs, and the specific updates required before regional planning begins, rather than after plans are already being drafted. These reviews should be completed before the first legislative session after the conclusion of the previous planning cycle to allow for the submission and consideration of legislative appropriations requests to address data gaps and model deficiencies.

That readiness phase should also require each regional plan to clearly identify the drought of record used for planning purposes and explain its characteristics. In several earlier chapters, the drought-of-record assumptions had to be inferred from plan text rather than stated in a uniform, transparent way. Chapters 3 and 4 show that the early plans were based on earlier drought assumptions even as the region was experiencing or emerging from more severe drought conditions. Chapter 7 shows that adoption of the 2007–2013 drought of record materially reduced projected supplies and triggered plans from the 2021/22 cycle to identify the largest regional 2020s shortage of any post-SB 1 plan. Chapter 8 then shows that even those updated assumptions may already have been outdated. Future plans should disclose the drought used, describe its hydrologic effects on major surface water and groundwater sources, and identify whether newer drought conditions may require additional stress testing. The process may need to include a circuit breaker where, when conditions worse than drought of record conditions are suspected for a region during the planning process, the models would be updated to account for changing conditions.

Second, recommended water management strategies should be organized into a more actionable implementation framework. The report's review of prior planning cycles shows that the plans often recommended more strategies and strategy volumes than the projected shortages appeared to require. Chapters 4, 5, 6 and 7 each describe strategy portfolios that included projects for users with and without modeled shortages. These recommended strategies worked sometimes as a planning cushion against demand growth, supply uncertainty or implementation risk. That approach has value, but it also created ambiguity. As Chapter 4 noted, planners acknowledged that not every recommended strategy would be implemented. As depicted in Table 9.2, the result was a changing menu of options rather than a stable blueprint identifying which strategies were essential, precautionary or optional.

Future plans should therefore classify recommended strategies by purpose and urgency. Projects that expand the regional water supply portfolio, improve drought resilience, or serve multiple communities should be identified as projects of regional significance. Strategies needed to meet a projected shortage should be mapped directly to the affected user group, and include a recommended start date, implementation milestones, and target completion date. The planning process should also require an affirmative acknowledgement from the governing body or sponsor of any capital-intensive project before that project is included as a recommended strategy. This would reduce the risk that plans list large projects that have not been meaningfully accepted by the entities expected to build, finance or operate them.

Third, future plans should become longitudinal documents that track changes and implementation progress across planning cycles. One of the clearest lessons from Chapters 3 through 7 is that the plans did not present a stable progression of projected supplies, demands, shortages, and recommended strategies. Out of the five post-SB 1 planning cycles, the regional signal for the 2020s was absent in the first two, appeared in the third, weakened again in the fourth, and returned in the fifth. As depicted in Tables 9.1 and 9.2, user-level shortages and recommended strategies shifted in similar ways. Future plans should include a longitudinal comparison showing how each major projection and recommendation changed from the prior cycle, why it changed, and what those changes mean for implementation. This would help the state water plan function more like a continuing blueprint and less like a series of disconnected snapshots.

This longitudinal structure should include better performance metrics for strategy implementation. Existing measures do not provide a clear picture of how far recommended strategies have actually progressed. Current figures in the regional water plan indicate only the number of projects that are implemented, under construction, in design, or undergoing study. While the recent regional plans included appendices indicating whether the project sponsor has taken affirmative action for a project, this disclosure provides little material information about genuine progress.

For example, while the 2026 Region N Plan disclosed that nearly every project sponsor reported taking affirmative action on their project, the implementation table indicated that only one project from the City of Alice was actually built. New metrics must describe actions beyond mere affirmative action, including scheduled start dates and completion timeframes, and, for those completed projects, details on the amounts of water delivered or conserved. A stronger implementation survey, mandatory sponsor response, and public reporting of implementation status would make it easier to determine whether plans are improving drought resilience. Moreover, this recommendation builds upon new policies approved by the Legislature aimed at enhancing public reporting on the state's progress toward addressing water infrastructure challenges.[184]

Fourth, the planning process should incorporate stress testing for droughts worse than the drought of record and consider whether the current five-year cycle provides enough time for data updates and implementation guidance. The Coastal Bend crisis illustrates the danger of planning only for a repeat of a previously observed drought when hydrologic conditions are worsening. Chapter 6 shows that even a 125,000 acre-foot safe yield reserve did not prevent the region from entering crisis conditions when storage fell below that threshold. Chapter 8 shows that planners suspected the region may already have entered a new drought of record but lacked updated modeling to fully incorporate that possibility. Future plans should therefore include sensitivity analyses showing how projected supplies, shortages and strategy needs would change under drought conditions worse than the formal drought of record.

Further, lawmakers should consider whether the current planning calendar gives TWDB, regional planning groups and the Legislature enough time to update data, fund modeling improvements, and translate plan findings into implementation. A longer cycle, including a formal pre-planning phase tied to the legislative session, could allow model deficiencies and data gaps to be identified before regional planning begins. The planning horizon could also be evaluated to determine whether a shorter horizon, such as 30 years, would produce more actionable near- and mid-term implementation guidance while still preserving the long-term perspective necessary for major projects. The objective should not be to make the process slower or more complicated, but to ensure that future plans provide clearer signals, stronger accountability, and a more reliable blueprint for the orderly development of water resources.

184. §6.116, Water Code as added by Senate Bill 7, 89th Legislature (2025).

Fifth, future plans should distinguish more clearly between projected shortages, regional drought vulnerability and system resilience. The Coastal Bend plans often treated the absence of a modeled shortage as evidence that no near-term action was required. Chapters 4, 5, 6 and 7 show that many cities later affected by the 2026 crisis — including Corpus Christi, Alice, Beeville, Rockport, Aransas Pass, Port Aransas, Ingleside, Mathis, Portland, and others — were repeatedly listed as having no projected shortages for the 2020s. At the same time, the CCR/LCC System serving these communities remained exposed to severe drought risk. Future plans should therefore identify not only user groups with modeled shortages, but also communities and water providers that are vulnerable because they depend on a single source of supply, rely heavily on a common wholesale provider, lack emergency interconnections, or face operational constraints that could become critical during a prolonged drought.

This recommendation follows directly from the treatment-capacity findings in Chapters 5 and 6. In those cycles, significant projected shortages for manufacturing and steam-electric users were tied to water treatment plant capacity rather than raw water availability. Those constraints mattered, but they were different from the broader drought-resilience problem that later emerged when the CCR/LCC System declined toward emergency levels. Future plans should classify whether each identified need involves raw water supply, treatment capacity, delivery capacity, storage, emergency redundancy, or demand management. That distinction would help policymakers, project sponsors and the public understand whether a recommended strategy expands the drought-resilient water supply portfolio or merely improves the ability to treat or move existing supplies.

Sixth, the planning process should create a formal shortage notification and acknowledgement process for affected water providers and project sponsors. Regional plans should not merely list shortages in tables. When a plan identifies a shortage for a water user group, the provider or sponsor associated with that shortage should receive formal notice and be required to acknowledge whether it accepts, disputes or intends to address the projected need. Table 9.1 shows why this matters. User-level shortages appeared, disappeared, and shifted substantially across planning cycles, and no user group was projected to have a 2020s shortage in every cycle. This instability made it difficult to know which risks were urgent and which entities were expected to act. A formal acknowledgement process would create a clearer record of who was notified, what shortage was identified, what assumptions were used, and whether the responsible entity agreed that action was needed.

Seventh, plans should restore attention to voluntary transfers and market-based reallocation opportunities. SB 1 expressly emphasized voluntary water transfers. As described earlier, voluntary redistribution and reallocation strategies were prominent in the first planning cycle but disappeared by the 2021/22 cycle.

Water markets represent one avenue for encouraging and facilitating voluntary transfers for water. Texas already hosts two robust water markets, one for groundwater in the Edwards Aquifer, the other for surface water in the Lower Rio Grande Valley. Recent research shows that both markets contributed to the more efficient and effective use of water resources while assigning an essential economic value for water.[185] When used as a water management strategy, markets and market-based mechanisms, like water banks, offer a useful tool for facilitating voluntary transfers of water.

Future regional plans should identify whether voluntary transfers, regional water markets, or market-based mechanisms could help move water to where it is needed, particularly during drought. If those tools are not feasible, the plans should explain why, including legal, institutional, hydrologic, infrastructure, or other barriers.

Lake Corpus Christi, May, 2026. Photo by Meagan Falcon.

185. Dr. Todd H. Votteler, Water Markets for Texas, Texas 2036, March 22, 2025.

Appendix A

Water Infrastructure Project Development Timelines

How to Read This Table

Each timeframe is the approximate elapsed time from a project's initial planning or permitting to the point it delivered water. This represents the full development horizon, not construction alone. Where a project had a longer documented planning or permitting run-up, the figure reflects that fuller span, and a range (e.g., "~6–12 years") brackets the active build against the full planning horizon. Water conservation programs are measured from launch to a stated milestone. Figures labeled "estimated" or "est." denote projects still under development or with a soft start date; labels such as "incl. remediation" or "emergency" flag timelines lengthened or shortened by unusual circumstances. Out-of-state examples (Carlsbad, Tampa Bay, Wichita, Los Vaqueros, Manatee County) are included where they provide a well-documented example of the strategy type. Because early planning start points are inconsistently documented, longer figures are approximate.

Documented Water Infrastructure Development Timelines

Project Type	Project Example (Sponsor)	Timeframe (planning to completion)
Water Conservation	Austin Water Meter Replacement – "My ATX Water" AMI program (Austin Water)	~5 years (2020–2025)[1]
	SAWS Recycled Water "purple pipe" program (SAWS)	~2 years to first delivery[2]
	Water-loss / leak reduction, Iowa Park (City of Iowa Park)	~1 year (leak repair)[3]
Groundwater Wellfield	Vista Ridge wellfield + 142-mile pipeline (SAWS)	~10 years[4,5]
	John C. Williams Aqueduct & Wellfield (CRMWA)	7–8 years[6]
	Carrizo Groundwater Supply Project (GBRA / Alliance RWA)	~17 years (2007 planning–2024); ~4 yrs construction[7,8]
	City of Amarillo Potter County Well Field (City of Amarillo)	~5 years (est.)[9]
Drinking Water Treatment Plant	Northeast Water Purification Plant Expansion (City of Houston)	~8–11 years[10]
	Water Treatment Plant No. 4 (Austin Water)	~30+ years (1980s planning–2014)[11]
	Leonard WTP / Bois d'Arc Lake (NTMWD)	~20 years[12]
	San Patricio MWD Plant C expansion / "Project 2008" (San Patricio MWD)	~10 years (early 2000s–2011)[13]
Brackish Groundwater Desalination	City of Alice (Seven Seas P3)	~3–5 years (P3)[14]
	Kay Bailey Hutchison Desalination Plant (El Paso Water)	~6–12 years (incl. early pilots)[15,16]
	H2Oaks brackish desalination, Phase I (SAWS)	~5–13 years (incl. site development)[17,18]
Aquifer Storage and Recovery (ASR)	Twin Oaks / H2Oaks ASR (SAWS)	~6 years[18]
	Kerrville ASR (Upper Guadalupe River Authority / City of Kerrville)	~7–8 years (feasibility 1990–91 to 1998)[19]
	Wichita Equus Beds ASR (City of Wichita, Kansas)	~15 years (1990s planning–2013)[20]
	Manatee County MARS reclaimed-water ASR (Manatee County / SWFWMD, FL)	~12 years (1994–2006)[21]
Direct Potable Reuse (DPR)	Big Spring, Texas	11 years[22]
	El Paso Pure Water Center (under construction)	13 years (estimated)[23]
	Emergency DPR (City of Wichita Falls)	~2 years (emergency)[24]

Off-Channel Reservoir	Arbuckle Reservoir (LCRA)	~13 years (incl. remediation)[25]
	Los Vaqueros Reservoir (Contra Costa Water District, CA)	~10 years (1988–1998)[26]
Seawater Desalination	Claude "Bud" Lewis Carlsbad Desalination Plant (San Diego CWA, CA)	~17 years[27]
	Tampa Bay Seawater Desalination (Tampa Bay Water, FL)	~8 years[28]
Interbasin Pipeline	Integrated Pipeline Project (TRWD & Dallas Water Utilities)	~15 years (first phase 2022; full build under construction, ~2037)[29]
	Luce Bayou Interbasin Transfer Project (Coastal Water Authority / City of Houston)	~11 years (2009–2020)[30]
	Mary Rhodes Memorial Pipeline, Phase 1 — Lake Texana / LNRA water (City of Corpus Christi)	~4 years (fast-track, ~1994–1998)[31]
	Mary Rhodes Memorial Pipeline, Phase 2 — Colorado River water (City of Corpus Christi)	~6 years (2010–2016); ~17 yrs from 1999 rights[31]
Large Reservoir	Bois D'Arc Reservoir	20 years[32]
	Lake Ralph Hall	27 years (under construction; ~2026)[33]
	O.H. Ivie Reservoir (Colorado River Municipal Water District)	~15 years (1975–1990)[34,35]

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About this analysis

Texas 2036

Texas 2036 is a non-partisan, non-profit public policy organization building long-term, data-driven strategies to secure Texas' prosperity through the state's bicentennial in 2036 and beyond. The organization conducts research, develops policy recommendations, and engages with civic and business leaders on the structural challenges and opportunities facing the state — including infrastructure, water, energy, education, health, and government performance.

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Methodology

This report analyzes the state and regional water plans published across five planning cycles since SB 1 to assess the water supply, demand, and shortage projections and recommended water supply strategies for the Coastal Bend region for the 2020s. The assessed plans include the Coastal Bend (Region N) regional water plans adopted in 2001, 2006, 2011, 2016 and 2021, and the corresponding state water plans approved for 2002, 2007, 2012, 2017 and 2022. The report also draws on the 2026 Region N Plan and the 2027 State Water Plan. This analysis relies on the data and text published in those plans; figures are reported as published. It does not re-run hydrologic or water-availability models or otherwise revise the plans' projections. It is supplemented by Texas Water Development Board meeting records. The description of the Coastal Bend water crisis was constructed from publicly reported reservoir data, state and local proclamations, credit-rating actions, and news coverage, as cited.

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