

Study: Seawater desalination may be more costly than alternatives for Corpus Christi



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A new study commissioned by the [Coastal Alliance to Protect our Environment](#) contends that seawater desalination plants proposed by the city of Corpus Christi and the Port of Corpus Christi would cost substantially more than alternative water sources.

The newly published study comes as the city and the Port of Corpus Christi have engaged in multimillion-dollar efforts to get environmental permits for four different locations for desalination facilities — all of which would pull from and discharge in Corpus Christi Bay.

“The fixation on desalination as a reliable source of water for the future is being driven by the many heavy industries waiting to locate or expand in Nueces, San Patricio and Kleberg counties,” said Errol Summerlin, a CAPE co-founder, during a news conference at the Holiday Inn hotel in downtown Corpus Christi on Wednesday.

The [56-page study](#) done by [Canada-based firm Autocase](#) seeks to estimate the financial, social and environmental costs and benefits of three of the proposed seawater desalination facility locations: the city’s proposed Inner Harbor and La Quinta Channel facilities and the Port of Corpus Christi’s proposed facility on Port Aransas’ Harbor Island.

The study squares those proposals against the costs of utilizing groundwater from the Laguna Water-run [Evangeline Groundwater Project](#) and increased water conservation efforts. In July, City Manager Peter Zanoni [said](#) it was not determined when city staff would bring a business proposal to City Council. Once started, the project would have a two-year time frame until water would be delivered to the city.



Coastal Alliance to Protect our Environment co-founder Errol Summerlin speaks at a news conference about the cost of seawater desalination and other water options for Corpus Christi at the downtown Holiday Inn on Wednesday, Nov. 2, 2022. *Lucas Boland/Caller-Times*

A fifth alternative suggests installing floating solar panels in the Choke Canyon Reservoir to reduce surface-level water evaporation should also be considered.

Assuming each of the alternatives produces 30 million gallons per day, the study shows that all three seawater desalination proposals would cost more than \$1.1 billion over a 30-year period while utilizing groundwater and conservation would cost about \$757 million.

The study also contends the facilities could have negative impacts on local commercial fisheries as a result of their brine discharge, resulting in an increase in salinity levels in the bay system. The report indicates that impacts on six key fish species could cost the region up to \$6 million per year.

The city and the port have said the facilities would have little environmental impact. One [analysis](#) commissioned by the port assessed possible impacts of discharge from the port's Harbor Island proposal and found that the discharge would "not likely result in environmental conditions that are potentially damaging to the Corpus Christi Bay ecosystem," if the plant is properly constructed and maintained.

However, the estimated costs associated with desalination — both financial and environmental — are too high and the water output would greatly favor future industrial buildout of the area, said Summerlin.

The study also found that “without the high rate of growth in the petrochemical and industrial manufacturing industries, the Coastal Bend Region would not need such large volumes of additional water supply.”

From 2010 to 2020, manufacturing purposes made up nearly 70% of new water use for the region while 5.6% was for municipal use, according to [data from the Texas Water Development Board](#).

Water demand in the region could outpace supply by the end of the decade if new water sources are not established, according to the [state's water plan for the Coastal Bend planning area](#). The water planning area projects that 70% of its new water resources will have to come from desalination plants by 2030.

The city of Corpus Christi is historically the primary water provider in the region, using about 72 million gallons per day and providing water for more than 500,000 residents. However, the port has raised the [prospect of having a third-party company operate its Harbor Island facility](#).

While [relations between the city and the port have been troubled in regard to desalination](#), leaders of both entities have said these kinds of facilities will be key to establishing a "drought-proof" water supply. The first facility to be built will be the first of its kind and scope in Texas.

The need for a reliable and continuous water source is in high demand by industry leaders in the region. On April 28, industry representatives in the region sent a [letter commending port CEO Sean Strawbridge and Zaroni, the city manager, for their efforts to accommodate "large volume water users."](#)

Neil McQueen, co-chair of the Surfrider Foundation, and Patrick Nye, president of the Ingleside on the Bay Coastal Watch Association, highlighted the findings of the study during the Wednesday news conference.

Paul Montagna, a department chair at Texas A&M University-Corpus Christi's [Harte Institute for Gulf of Mexico Studies](#), worked with Autocase's staff on parts of the study. The institute's [stance on desalination](#) is that the brine from the facilities should be piped offshore and released into the Gulf of Mexico rather than Corpus Christi Bay.

Who did the study?

The study is one of two CAPE commissioned by Autocase's [economic advisory division](#).

Autocase, which has done work for the [cities of Houston and San Antonio in recent years](#), has done a number of different studies across the U.S., including on the topics of climate adaptation, mitigation and resilience, aviation, real estate, multimodal transportation, the energy sector, water supplies, and wastewater and stormwater infrastructure.

Summerlin said CAPE commissioned the two studies for a total of \$150,000 after filing a grant application to do so. The backer who provided the funding for the studies wishes to remain anonymous, he said.

The first study, published in September, sought to quantify the total dollar amount of [forgone tax revenues due to elected official-approved tax incentives given by cities, counties and school districts in the Coastal Bend](#).

In part, that [study](#) contended that the state's Chapter 313 program, named after a section of the tax code, yielded the highest amount of forgone revenues in the region, making up 70%, or \$1.7 billion.

What is the latest on desalination?

The port and the city have made headway in their desalination proposals in recent months.

Last month, the Texas Commission on Environmental Quality granted the city one of two permits needed to establish its Inner Harbor facility, rejecting contested case hearing requests from residents in [Hillcrest, a predominantly Black and Hispanic neighborhood on Corpus Christi's Northside](#). That facility is expected to come online sometime in the 2030s and cost more than \$236 million, according to an [estimate by the Texas Water Development Board](#).

As a result, residents in the waning community [filed a complaint](#) with the U.S. Environmental Protection Agency and the U.S. Department of Housing and Urban Development against the city, calling for a federal investigation into whether the



Rev. Henry Williams, president of the Hillcrest Residents Association, speaks at a news conference at Brooks AME Worship Center in Corpus Christi, Texas, on Wednesday, Oct. 26, 2022. The Hillcrest Residents Association and Citizens Alliance for Fairness and Progress filed a civil rights complaint against the city of Corpus Christi over its proposed Inner Harbor desalination facility in the historically Black Hillcrest neighborhood. *Lucas Boland/Caller-Times*

city complied with the Civil Rights Act of 1964 when it selected a site on the northwestern side of the neighborhood.

In August, TCEQ issued a wastewater discharge permit to the port for its proposed 50 million-gallon-per-day facility on Port Aransas' Harbor Island. The Texas Water Development Board estimates the facility will cost more than \$800 million to construct.

Still, federal oversight looms over the proposals. The EPA has said it may refuse to accept the port's permit because its application has not been subjected to a complete federal review — a result, the federal regulator says, of TCEQ erroneously classifying the proposed facility as a “minor facility.”