NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY

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Securing Water For Our Future

Summer 2022

North Harris County Regional Water Authority 3648 Cypress Creek Parkway, Suite 110 Houston, Texas 77068 281-440-3924 www.nhcrwa.com



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What is the NHCRWA Water Pumpage Fee?

The North Harris County Regional Water Authority (NHCRWA) is a wholesale water provider created by the Texas Legislature and approved by voters in 2000. Its primary mission is to manage compliance with regulatory groundwater reduction mandates to mitigate land subsidence by the Harris-Galveston Subsidence District (HGSD).

<u>NHCRWA is not a retail water provider</u> like a Municipal Utility District (MUD), nor does it have any oversight of MUD operations.

<u>NHCRWA does not bill any individual</u> <u>homeowner</u> for the water they use; that is the responsibility of the MUD.

<u>MUDS are required by the Texas</u> <u>Legislature to participate in a Groundwater</u> <u>Reduction Program (GRP) or to develop their</u> <u>own GRP.</u> If a MUD does not convert from groundwater to surface water, homeowners in those districts would alternatively pay the HGSD's disincentive fee instead of the NHCRWA's water pumpage fee.

<u>NHCRWA charges each MUD</u> for the (metered) groundwater the MUD pumps from their well(s) and the surface water delivered to the MUD by NHCRWA.

As of April 1, 2021, the NHCRWA water pumpage fee is \$4.60 per 1000 gallons of groundwater pumped and \$5.05 per 1000 gallons for surface water. The HGSD's current disincentive fee is \$9.80 per 1000 gallons. In 2023 the HGSD's disincentive fee will increase to \$10.20 per 1000 gallons.

Based on consumer water usage, or meter readings, the MUD applies the NHCRWA water pumpage fee to the MUD bills based on <u>how much water the customer uses</u>, so the amount may change monthly depending on your water use.

Did You Know?

If Municipal Utility Districts in Harris-Galveston Subsidence Regulatory (HGSD) Area 3 DID NOT convert to surface water as mandated by the Texas Legislature, water users in those districts would be forced to pay the HGSD's \$9.80 per 1000 gallons disincentive fee instead of the NHCRWA's \$4.60 per 1000 gallons water pumpage fee.





Visit www.nhcrwa.com/questions-about-water-bill to learn more about the NHCRWA water pumpage fee on your water bill.

Some utility districts modify the NHCRWA water pumpage fee charged to their customers to cover such things as leaks in their system, fire hydrant use, etc., which will make the NHCRWA fee on your water bill higher than what the Authority actually charges.

Q. My MUD is not receiving surface water from NHCRWA, why do I still have to pay the NHCRWA water pumpage fee?

A. NHCRWA only converts MUDs into surface water recipients where it is most cost effective. That means some MUDs will be on 100% surface water and some will remain on 100% groundwater. The costs of converting to surface water are shared by all MUDs so everyone is in compliance with the Regulatory Mandate.

EXAMPLE:

For districts that are pumping Groundwater from their wells.

AT 10,000 gallons per month the NHCRWA water pumpage fee on your bill would equal \$46.00

EXAMPLE:

For districts that have converted to receiving Surface Water from NHCRWA.

AT 10,000 gallons per month the NHCRWA water pumpage fee on your bill would equal \$50.50

EXAMPLE:

For MUDS not in a GRP, the current HGSD disincentive fee would be applied at 80% of water use.

AT 10,000 gallons per month x 80% x \$9.80 per 1000 gallons the HGSD fee would equal \$78.40

Securing a long-term, reliable supply of wholesale drinking water while keeping the cost of water as low as possible for as long as possible.

On June 18, 1999, the bill (HB 2965) that created the North Harris County Regional Water Authority (NHCRWA) was signed into law, and called for a special election to be held on January 15, 2000 so voters could confirm the creation of the new Authority and elect Directors to lead it.

Following the election, NHCRWA became the



single entity empowered to negotiate for a secure, long-term, reliable, quality supply of wholesale drinking water for all the independent neighborhoods, municipal utility districts, small municipalities, and permitted well owners within its boundaries.

NHCRWA's primary assignment is to develop and implement a strategy for complying with the Harris-Galveston Subsidence District's (HGSD) Regulatory Plan that requires a conversion from groundwater to 30 percent surface water by 2010; 60 percent surface water by 2025; and 80 percent surface water in 2035.

30% reduction of groundwater usage by 2010

60% reduction of groundwater usage by 2025

80% reduction of groundwater usage by 2035

The initial mandate was met in 2010, which reduced reliance on groundwater in the area by 30 percent. Failure to meet these deadlines would trigger a HGSD ("Disincentive") penalty of \$9.80/1000 gallons pumped, which is significantly higher than the water usage charge amount.

For the past two decades, the NHCRWA has partnered with the City of Houston and other area water Authorities to deliver available water supplies to where they are needed most. This involves constructing new pipelines and more infrastructure to receive and deliver water to the MUDs within the Authority's boundaries.

In order to secure adequate water supplies for the future, we have adopted a regional approach, joining with other water entities. These partners include the North, West and Central Regional

Water Authorities, the City of Houston, and the North Fort Bend Water Authority -- each paying their fair share of these visionary construction projects. The projects include:

The completed Luce Bayou Interbasin Transfer Project – a \$361 million dollar project shared by the five water agency partners on a pro-rata basis, calculated on the percentage of the water each entity will be using. The NHCRWA share is \sim \$165 million.



A significant expansion to our Northeast Water Purification Plant (NEWPP) – a \$1.73 Billion dollar project, the cost of which once again will be shared by the 5 entities on a pro-rata basis. The North Authority's share of this project will be \sim \$602 million.

Constructing large scale water transmission lines -- This project will cost \sim \$445 million shared by the City of Houston, the Central Authority and the North Authority, again on a prorated basis. The NHCRWA share of this line will be \sim \$250 million.



Installing nearly 75 to 80 miles of new distribution lines as well as a new pump station and storage facility to connect another 60 to 65 utility districts (MUDs) to the surface water distribution system will cost an additional \sim \$635 million.

In addition to the large scale projects to be funded over the next few years, the Authority will continue to pay the everyday costs of operating the current system. The costs include the water we purchase from the City of Houston (31 million gallons a day), as well as our own O&M costs for the infrastructure we already have in the ground. There are annual fees to pay to the Subsidence District to keep the existing MUD



groundwater wells permitted within the Authority's boundaries. Since the NHCRWA does not have taxing authority like the MUDs, the Authority must acquire all revenue through the NHCRWA fee without additional monies from yearly property taxes.

The total "regional" projects will cost over \$7 to \$8 Billion dollars. This inventory of massive water projects reveals why the cost of water will continue to increase in the foreseeable future. Twenty years ago, when the Authority was created by the Texas Legislature, the emphasis to begin these extensive projects was the subsidence issue. Today, however, with our aquifers rapidly declining and the amount of water in the aging MUD wells decreasing, our most pressing reason for converting to surface water is to ensure that we will have an adequate supply of potable drinking water -- not only for now but into the future.

Without adequate water, the entire region -- Harris, Fort Bend and Montgomery Counties -- would not be able to sustain economic growth. We will all share the cost. Without that growth, the value of our homes would decrease and the lifestyle we have worked so hard to achieve and create would be in jeopardy.





Preventing Further Subsidence in the Houston Area with Surface Water Conversion

Article by Michael Turco, General Manager, Harris-Galveston Subsidence District

Significant issues with subsidence in the Houston area have been documented as

early as 1918 when the Goose Creek Oil Field near Galveston Bay began to display surficial fissures caused by oil and water extraction beneath the surface. Subsequently,



extensive research on local subsidence has confirmed a correlation between groundwater withdrawal and subsidence.



In 1975, the Texas Legislature created the Harris-Galveston Subsidence District (HGSD), the first political subdivision

of its kind in the United States, to serve as a groundwater regulatory agency to prevent future subsidence.

HGSD has taken a reasonable and inclusive approach to groundwater regulation, water conservation education, and science and research programs resulting in reduced subsidence rates within Harris, Galveston, and surrounding counties. Groundwater is not an infinite resource, and the best way

to combat the consequences of excessive withdrawals is to account for future water demands and utilize alternative water sources. An alternative water supply assessment has been completed as part of Harris-Galveston Subsidence District and Fort Bend Subsidence District's ongoing Joint Regulatory Plan Review. It provides an evaluation of alternative water supply strategies, including treated surface water, aguifer storage and recovery strategies, brackish groundwater development, and seawater desalination. The best strategy to prevent aquifer water-level decline, decrease in municipal supply well yields, and reduce subsidence is to diminish our reliance on groundwater and utilize alternative sources for water demand.

The Importance of Surface Water Conversion

It is crucial to diversify our water sources to prevent further water-level declines in our aquifers. Surface water development involves the construction of new reservoirs, inter-basin transfer of available water supplies, and utilization of appropriated but undeveloped water supplies requiring extensive planning, permitting, inter-agency coordination, and infrastructure construction. The development of regional surface water supplies is relatively cost-effective due to their high yields, accessibility, higher water quality, and lower treatment costs compared to other alternatives.

A major benefit of surface water reservoirs is that they capitalize on existing natural water supplies by storing water and allowing for its use during higher demand periods when natural streamflow may not provide adequate supply.

As we continue to reduce our reliance on

groundwater resources, and further our efforts to educate the community on water efficiency and conservation, we anticipate reduced subsidence rates in the Houston area. The District continues its mission to prevent subsidence in our area by enforcing reasonable groundwater regulation, water conservation, and conducting science-based water planning. This approach will continue to assure that future water demands can be fulfilled without the consequence of subsidence.

Visit hgsubsidence.org for more information regarding subsidence, groundwater regulation, planning, research, and more.



Alternative Water Supplies Available of other Long-term for HGSD/FBSD Regulatory Participants

The Harris-Galveston Subsidence Districts released an alternative water supply availability report earlier this year, the report can be found by visiting https://nhcrwa.info/hgsd22

TEXAS POPULATION

The Texas Water Development Board (TWDB) projects a 73% population increase over the next 50 years, from 29.7 million in 2020 to 51.5 million in 2070



NHCRWA POPULATION

TWDB projects a 25% population increase over the next 50 years in NHCRWA, from 726 thousand in 2020 to 908 thousand in 2070



Visit nhcrwa.info/twdb-data to learn more



PLANNING FOR ENOUGH WATER SUPPLY DURING DROUGHT

If you lived in Texas in 2011, this summer's record heat and dry conditions may bring back memories of what resulted in the worst one-year drought on record in parts of the state. Texans may wonder what is being done to plan for the state's water supply if a drought of that extent, or worse, were to happen again.

Regional water planning process is underway

The latest state water plan was adopted just over a year ago, but planning for the 2027 State

Water Plan is well underway to ensure adequate water supplies for all Texans in times of drought. This process starts locally with 16 regional planning groups, each implementing a bottom-up approach to develop regional water plans that identify proposed strategies and projects to meet water supply need



projects to meet water supply needs over the next 50 years.

Regional planning groups consist of representatives from a variety of water users, ranging from industry, agriculture, environment, water utilities, groundwater management areas, the public, and more. These groups consider water demand and needs (potential shortages) in their region throughout the five-year planning cycle and identify, evaluate, and recommend strategies and projects to address them. Their final plan must reflect and respond to changes in population, water supplies, technological improvements, economic shifts, project viability, and state policy.

"Depending on the region's geography and the water resources that are available, regional planning groups take their own path that fits their resources and the concerns they have related to water supply," said Matt Nelson, Deputy Executive Administrator of Planning at the Texas Water Development Board (TWDB). "They're planning for themselves within the State's framework, but the process is unique to their needs and the resources that they depend upon to be prepared for drought."

Each planning group identifies potential water shortages under drought of record conditions and recommends water management strategies and projects with cost estimates and designated sponsors to address those potential shortages.

"Together, the planning regions recommended more than 2,400 water management strategy projects in the 2022 State Water Plan that must be implemented to meet water needs during a drought of record in the next 50 years," said entirely on local project sponsors to implement, and, like any plan, they must be implemented to be effective."

The TWDB has financial assistance programs to help sponsors implement projects. One in particular, the State Water Implementation Fund for Texas (SWIFT)* program, was created to solely fund state water plan projects and has committed over \$9 billion to more than 60 projects across the state since 2015.

The TWDB is estimating that NHCRWA will receive savings of approximately \$250,000,000 by utilizing the SWIFT Program; comparing TWDB's AAA Bond Rating vs rates NHCRWA would expect to receive in the open market.

Utilizing localized data for water planning

Because Texas spans multiple geographies and climatic conditions, each region's water resources



North Harris County Regional Water Authority is part of Texas Regional Water Planning Area H (Region H)

and needs differ across the state. Annual rainfall amounts vary significantly from east to west, with Beaumont seeing an average of more than 60 inches of precipitation and El Paso seeing about 9 inches of precipitation, according to the National Oceanic and Atmospheric Administration. On top of that, drought conditions also vary by location and, together, these factors impact how each region plans for future risks.

The drought of the 1950s is the most significant statewide drought recorded in Texas' history in terms of geographic extent, duration, and intensity and is considered the benchmark drought for statewide water planning. However, more recent localized droughts of record vary by river basin, so planning groups consider and plan for the most relevant drought for their region and water resources.

"Planning groups are aware that new drought conditions may happen again in some areas, and they are taking that data into consideration when they're planning," said Nelson.

The five-year cyclical process allows the planning groups to incorporate new data and experiences to adapt accordingly. Regional planning groups can also plan for conditions that are worse than their drought of record, such as utilizing conservative (lesser) water source yield assumptions to provide some cushion in their plans.

Drought management strategies, which are measures implemented by local water providers to temporarily reduce water use, such as restricting car washing or lawn watering, can also be recommended by regional planning groups. In the 2022 State Water Plan, several regions made recommendations that collectively could reduce water use by up to 87,000 acre-feet per year in the immediate future and approximately 158,000 acre-feet per year by 2070 during a future drought of record.

Article originally appeared in the Texas Water Development Board Texas Water Newsroom August 2022.



Everyone knows that all living things need water to survive. Sadly, we have taken our water supplies for granted and have not always been careful about how we have used this valuable natural resource.

Our drinking water is going to cost more in the future, so it is important that kids learn to use it wisely and develop some efficiency strategies that will help when they are adults and have families of their own.

Here are some things you can do to help make our water resources last longer...

Bathrooms:

About 75% of the water used inside our homes is used in the bathroom. Experts estimate that in an average household about 40+ percent of the water gets flushed down toilets and the other 30 percent is used in showers and baths.

• Take shorter showers. A five minute shower uses 25 gallons of water. One option is to turn the water on to get wet, turn it off while you lather up and wash your hair...then turn it back on to rinse off. This bathing method can save as much as a hundred gallons of water a week! 12

- Heres a "two-for-one" idea place a bucket or plastic container in the shower to catch extra water. They used to call this a "Navy Shower" since this is how sailers shower on ships and in submarines! Use the captured water for indoor plants.
- Dont use the toilet as a trash can flush only when necessary. And, while we're talking about toilets...NO WIPES IN THE PIPES! Do not flush anything but toilet paper -- which was designed to decompose.
- Don't run the water while brushing your teeth. Turn it back on to rinse your toothbrush and clean the sink. Only use the water you actually need for washing your face, too.
- Tell your parents if you see a leaking faucet or if the toilet "runs" after flushing. These leaks can waste thousands of gallons of water a year and that is just money down the drain.
- It also takes a lot of water to wash dishes and to do the laundry. If you help with these household chores, use the right water level, and only run these appliances with full loads.

A huge amount of water is used outside the home...for lawns and landscaped areas. It is true that kids may not design and plant these areas, but they are often responsible for helping to maintain them.

- Adjust the lawn mower to a higher setting. Longer blades of grass will help shade the ground and this helps hold moisture longer.
- Water lawns only when necessary. Providing a deep soaking less frequently will help build good roots for better drought resistance.
- Water the yard, not the sidewalk or concrete. If theres a sprinkler system, tell your parents if any of the heads are not functioning properly.
- In every case, only use the amount of water you actually need. Make a commitment to conserve look for new ways to use water wisely in and around your home!

BECOME A WATER HERO!







What homeowners should know about Stormwater Pollution and how to prevent it.

What is Stormwater Pollution?

Rainwater either seeps into the ground or "runs off" to lower areas, flowing into streams, lakes and other bodies of water. On its way, runoff water can pick up and carry many substances that pollute water. Some of these substances, pesticides, fertilizers, oil and soap suds can be harmful even in small quantities. Other materials such as sediment from construction or bare soil, runoff from agricultural land, pet waste, grass clippings and other yard debris — can harm creeks, rivers and lakes when they are present in sufficient quantities.

Various human activities like lawn watering, car washing, and malfunctioning septic tanks can also end up in the storm sewer.

Why should I care about Stormwater Pollution?

Once the rainwater runoff carries pollutants to the nearest body of water, it rushes on untreated to creeks, rivers, water reservoirs, and lakes where it can harm fish and wildlife, kill native vegetation, negatively impact recreational waterways, and contaminate sources of drinking water.





What can homeowners and Landscapers do to help avoid or prevent this pollution?

Start with the obvious: NEVER use storm drains as waste receptacles.

• NEVER pour, blow or sweep lawn care products (pesticides, fertilizers), lawn debris (leaves, plant and grass clippings), pet waste into the storm drain openings.

• NEVER wash fertilizer spills into the street or onto other hard surfaces where they will ultimately be washed off into the storm drain.

• NEVER apply lawn care products while it is raining or about to do so. And, for the same reason, do not overwater after applying lawn chemicals. Always follow manufacturer's instructions.

• Use a broom to sweep debris off hard surfaces such as driveways and streets and around storm drains. Using a hose not only wastes water, but it will wash more pollutants into the drain.

• NEVER blow or sweep grass clippings into the street; when it rains, anything left in the street washes into the drains. Blow grass clippings back onto the lawn where they become a natural fertilizer or add them to the compost pile.

What are "sustainable infrastructure techniques" and how can they help?

These techniques involve substituting alternatives to areas traditionally covered by nonporous surfaces. Grasses and natural ground cover, for example, can be attractive and practical substitutes for paved driveways, walkways, and patios. Some homes effectively incorporate a system of natural grasses, trees, and mulch to cut down on the paved surface area.

Consider constructing wooden decks, gravel or brick paths, and rock gardens to keep the natural ground cover intact and allow rainwater to slowly seep into the ground. This acts as a natural filtering process and reduces harmful water quality impact from rainfall that carries chemicals and pollutants with it into storm sewers and retention ponds, and eventually into nearby streams and lakes.

Creating a rain garden in a shallow depression in the yard – planted with native flowers and grasses – can also make good use of rainwater runoff.



INTRODUCING YOUR YARD'S New Very Best Friends!



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IRRY GATOR'S ANNUAL SPRINKLER SYSTEM MAINTENANCE TIPS

EXAMINE

Examine your irrigation system for clogged, broken, or missing sprinkler heads. Better yet, call in the pros... schedule a complete irrigation system evaluation performed by a licensed irrigator.

INSPECT

Inspect the connection points where the sprinkler heads join the pipes and hoses. Be especially alert for any mysterious, persistent puddles or pools of water in the yard or landscaped area that could indicate a leak in the system. If you FIND one, FIX it!

AIM

Aim irrigation water where it belongs. Nothing is going to grow on your driveway, sidewalk, or other paved areas so make sure the sprinklers water ONLY yard or landscaped areas.

CONTROL

Control the controller. When the seasons change, review and update the system's settings. Don't just set it and forget it!

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NHCRWA'S MOBILE TEACHING LABS

For more than a decade, the North Harris County Regional Water Authority has sponsored water conservation education programs in our communities and for area students. Those programs include two mobile teaching labs that are offered at no charge to districts and educators in NHCRWA.





Visit www.nhcrwa.com/education to request the lab at your next event.







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