

# West Harris County Regional Water Authority **WATERWORKS**

June 2020



**MEET "IRRY GATOR"**  
**WHCRWA'S**  
**WATER MY YARD**  
**SPOKESPERSON GATOR**







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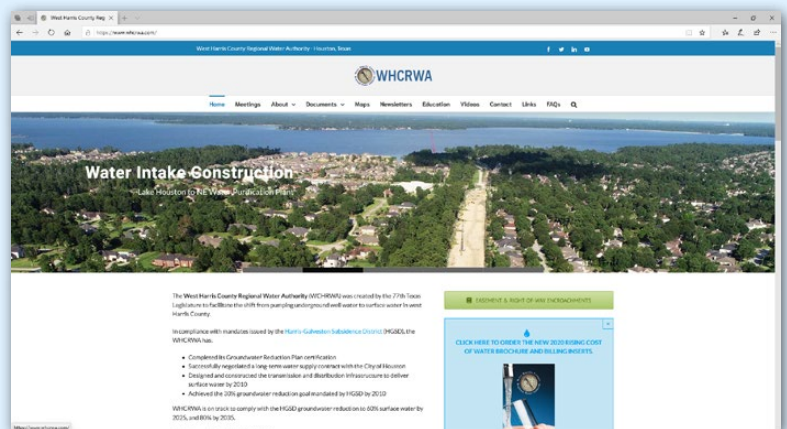
## What do you know about Subsidence?

According to the United States Geological Survey (USGS), the greater Houston area has been more adversely impacted by subsidence than any other metropolitan area in the U.S. Extensive subsidence has caused damage to the area's infrastructure and has increased the frequency of flooding. While regional land subsidence can be subtle and difficult to detect, there are locations in and near Houston where as much as 10 feet of subsidence has occurred.



The conversion to surface water -- mandated by the Harris Galveston Subsidence District (HGSD) is designed to mitigate subsidence and give aquifers the opportunity to recharge.

## VISIT WHCRWA.COM



**To learn more about the**  
**West Harris County Regional Water Authority.**



# UNDERSTANDING THE RISING COST OF WATER

## What is the WHCRWA?

The West Harris County Regional Water Authority (WHCRWA) was created by the Texas Legislature in 2001 to manage compliance with the Harris-Galveston Subsidence District's (HGSD) groundwater reduction mandates. The WHCRWA is not a Municipal Utility District (MUD) and does not control any MUD operations (delivering water to homes and businesses, sewer services, retail billing, etc.). The West Authority is a wholesale water provider and does not provide retail customer services.

The MUDs that supply our neighborhoods with drinking water have traditionally relied on groundwater pumped by individual wells, some of which are now 50 to 60 years old. Our area's steadily increasing population and decades of aggressive water usage have not only caused the aquifers to decline, but resulted in land subsidence and increased flooding, as well.

## The Impact of Subsidence

In 1975, the Texas Legislature created HGSD—a special purpose district; the first of its kind in Texas – armed with the power to restrict groundwater withdrawals as a method to minimize subsidence and to help give aquifers an opportunity to recharge. The combination of subsidence in northwest Harris County and evidence that aquifers were declining confirmed the need to convert to surface water for this area. The Subsidence District extended its groundwater regulation to include north and west Harris County in 2000.

The WHCRWA has to construct an entirely new infrastructure to deliver surface water to the MUDs to supply their commercial and residential customers within their boundaries. The MUDs continue to use their groundwater wells to supplement the new surface water supply.

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## CONSTRUCTION PRICE TAGS



**LUCE BAYOU INTERBASIN TRANSFER PROJECT**  
**APPROXIMATE COST: \$350 MILLION**  
**WHCRWA SHARE: \$70 MILLION**



**NE WATER PURIFICATION PLANT EXPANSION**  
**APPROXIMATE COST: \$1.973 BILLION**  
**WHCRWA SHARE: \$488 MILLION**



**SURFACE WATER SUPPLY PROJECT**  
**APPROXIMATE COST: \$1.2 BILLION**  
**WHCRWA SHARE: \$660 MILLION**



## *Rising Cost Continued...*

The Texas Legislature did not give WHCRWA taxing authority. In order to generate the necessary revenue to pay Authority operating and construction costs, the Board adopted a rate order to charge fees for water pumped by the well owners within their boundaries and for surface water delivered.

### **What are the WHCRWA fees that appear on water bills and what are they used for?**

The WHCRWA fee that appears on residents' water bills is charged for water pumped by the utility districts (well pumpage fee) and for surface water (surface water fee) provided to them by the WHCRWA. The utility districts in turn charge their individual customers for the water they use, and sometimes modify the fee charged them by the WHCRWA as pass through cost on the retail water bill to cover such things as leaks in their system, and fire hydrant use.

The WHCRWA uses the fees collected to fund its capital, operations/maintenance and debt service budgets. The vast majority of budgetary allocations go toward debt service, buying surface water, and paying for the system needed to deliver surface water from City of Houston-owned drinking water sources to the MUDs within WHCRWA's boundaries.

### **Pumpage and Surface Water Rates effective 1/1/2020**

Groundwater – \$3.20/1,000 gallons and  
Surface Water – \$3.60/1,000 gallons

The first phase of the HGSD's groundwater reduction mandate was met in 2010, which reduced reliance on groundwater in the area by 30 percent. The next deadline is 2025 and requires 60 percent conversion to alternate (or surface) water.

### **Will we have enough water for the future?**

Fortunately, the Houston region can rely on the surface water resources secured more than 50 years ago with the construction of the water storage reservoirs fed by the San Jacinto and Trinity Rivers. The City of Houston has over 1.2 billion gallons per day of reliable surface water rights. Combined with its groundwater supply, this is enough to meet the

needs of the region through approximately 2050 and beyond.

To meet future demand, the WHCRWA is partnering with the City of Houston and other area water Authorities to utilize the available water supply on the Trinity River and get it to where it is needed most – in west, central and north Harris County and north Fort Bend County. That involves constructing new pipelines, pump stations and expanding the water treatment plant's capacity.



The **Luce Bayou Interbasin** Transfer Project will bring raw water from the Trinity River in a system of canals and pipelines. Construction is underway on the Capers Ridge Pump Station on the river's west bank that, when fully functional, will be able to divert up to 500 million gallons of water a day from the river, pump it into side-by-side pipelines to flow underground to a storage and sedimentation basin. Then it will flow into a canal that runs to the northeastern tip of Lake Houston.



With the availability of more raw water coming into the Lake Houston reservoir, there was an urgent need for additional treatment capacity. The City's **Northeast Water Purification Plant (NEWPP)** is being expanded by the City of Houston, the

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## Rising Cost Continued...

WHCRWA, and its partners. This multi-billion dollar project — to be accomplished in phases over the next 4 to 6 years —will add 320 million gallons a day of treatment capacity.

The **Surface Water Supply Project** is a huge, landmark project that will deliver water treated at the Northeast Water Purification Plant through large diameter transmission lines (as large as 8 ft.) across almost 54 miles to west Harris and Fort Bend counties. The pipeline is a joint project between WHCRWA and the North Fort Bend Water Authority.

The WHCRWA will also fund its **Capital Improvement Plan** that includes constructing new water distribution lines within their boundaries to convert an additional 43 MUD water plants to surface water.



### So where are we now?

These massive construction projects take years to plan, design, and construct, and the bonds must be sold before we can start these projects. WHCRWA sold \$265MM in bonds in 2019, with another ~\$412MM scheduled for 2020. As we sell more bonds to fund the 2025 conversion projects, the debt service will continue to rise. Without a rate increase, these costs cannot be met.

Fortunately, we also have access to the State's SWIRFT program or the State Water Implementation Revenue Funding Program. The TWDB approved WHCRWA loan requests in 2015, 2017 and 2018. This multi-year, low interest loan commitment is for a total of \$999,105,000.

We know that the cost of water will continue to rise. The Board of Directors is committed to keeping the cost of water as low as possible for as long as possible and will keep the periodic rate increases reasonable and consistent with this commitment. 🕒







# Are You Over-Watering Your Lawn?

## Just because you have an irrigation system doesn't mean you're saving water...

How often does your irrigation system come on when your grass doesn't need any water? Have you been putting off checking the system? Perhaps you rationalize that it isn't hurting the grass, so what's the harm? Actually, besides the obvious answer that it is wasting water and money, too much water DOES harm your lawn. Overwatering encourages turf to grow shallow roots which cause the grass to stress if water isn't available. And, if your system is still on during the winter months when St Augustine and other native grasses are DORMANT and need no more water than Mother Nature provides, the waste factor multiplies.

Experts point out that the basic recipe for growing healthy grass while saving water is tied to selecting the right grass for the location, having really good soil, and understanding exactly how to take care of it. That means knowing specifically how much water it really needs to thrive.

About half of the lawns in Texas are planted with St. Augustine grass, which many believe is especially

“thirsty”. According to the experts at Texas A&M AgriLife Extension, however, that might be a “bad rap” since all grasses use about the same amount of water at the same rate when it is available in the soil. The ability of a turfgrass to survive if water is restricted depends on its drought tolerance and the type of soil — how deep it is, and how appropriate it is for growing the type of grass that is planted. The deeper the soil, the more likely the grass can survive even 60 days without water.

Throw out the old “inch of water a week” advice that may or may not be the formula for your lawn. Most yards can get by with less than half of the irrigation currently applied. Water moves into clay soils at a rate of about 0.09 inches per hour...not very fast. An irrigation system, on the other hand, may apply water at a rate of 0.25 to 1.5 inches per hour or more. Delivering water faster than a soil can absorb during one application results in water moving across the soil surface, running into the gutter, and down into the storm drain – and that causes another problem altogether.

“Lawns don't waste water, people do!”

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### **Stop training your grass to be a water hog!**

Start by accepting the fact that “lawns don’t waste water, people do!” If you water your yard only when it needs it, for example, you could save between 750 and 1,500 gallons of water a month. Encourage the grass to grow deeper roots by watering it sparingly. Here are some common sense suggestions to help you implement a realistic, cost-effective irrigation efficiency plan:

- Use native plants and shrubs whenever possible in landscaping your yard. They tend to be more drought-tolerant, require watering less frequently, and are often low maintenance, too.
- Different varieties of grasses, plants and soils use different amounts of water. Experts suggest that grass be watered separately from flower beds and landscaped areas so, whenever possible, “zone” plants according to their water requirements.
- Set the system controller to complete the watering cycle before 4:00 a.m. to avoid peak demand for household water use, and avoid the excessive evaporation that occurs in strong sunlight.
- Set the controller for “Cycle and Soak”. This method applies water slowly so the soil can actually absorb it. Each lawn has different components – soil quality and content – but the key here is to water only as long as it takes to get moisture down into the soil, and that could be as little as 10 minutes or as many as 20 depending on the soil. It will take at least 30 minutes for the water to percolate into the soil,

so wait an hour to schedule the next cycle. Do a test run; turn on a zone to discover at what length of time water is no longer soaking into the soil and begins to run off. Use that amount of time to set the first “cycle.” Set the timer to come on again after an hour, to deliver a similar amount of water. Technically, while you may be watering more often, the system is delivering the same amount of water...only it is being utilized more efficiently!

- Avoid cutting the grass too short. Longer blades of grass will reduce evaporation and root stress since shaded soil will not dry out as quickly. Raising the lawn mower blades just one notch higher can save between 500 and 1,500 gallons a month.



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## Over-Watering Continued...

- Apply fertilizer sparingly to develop the root system and to help keep the lawn healthy. Too much fertilizer, however, will lead to excessive growth...which will then require more watering. Many experts recommend leaving the grass clippings on the lawn, which will minimize the need for additional fertilizer.
- Stormwater runoff can carry fertilizer directly to streams and rivers, where it can seriously harm water quality. Take care to keep any fertilizer you use on the grass and not on concrete driveways or streets.
- Use a sprinkler that emits large drops of water that remain close to the ground instead of one that sprays a fine mist into the air. Don't water on windy days; this can waste up to 300 gallons in just one watering! Also set the sprinkler so that the lawn is watered...not sidewalks and driveways.
- If you have a sprinkler system, add a rain sensor that will not allow the system to come on if Mother Nature has already watered the lawn for you.
- For any small areas of grass, consider using a hose to water by hand to keep waste to a minimum.
- Use plenty of mulch in the landscaped areas. Not only does this provide a nice, “manicured” look, but the mulch helps keep the ground from overheating, holds moisture that would otherwise evaporate, and helps to discourage weed growth. A good mulch layer can save up to 1,500 gallons of water a month.
- Use the kind of watering equipment to suit your “target.” Use sprinklers for the lawn areas, and soaker hoses or drip irrigation systems for trees, shrubs, and flower beds.
- Use drip or trickle irrigation — the slow, frequent application of small amounts of water to the soil area directly surrounding the plant roots — to take care of container plants, small gardens, and landscaped areas. Drip irrigation can save up to 60 percent of the water delivered by other systems. ☹

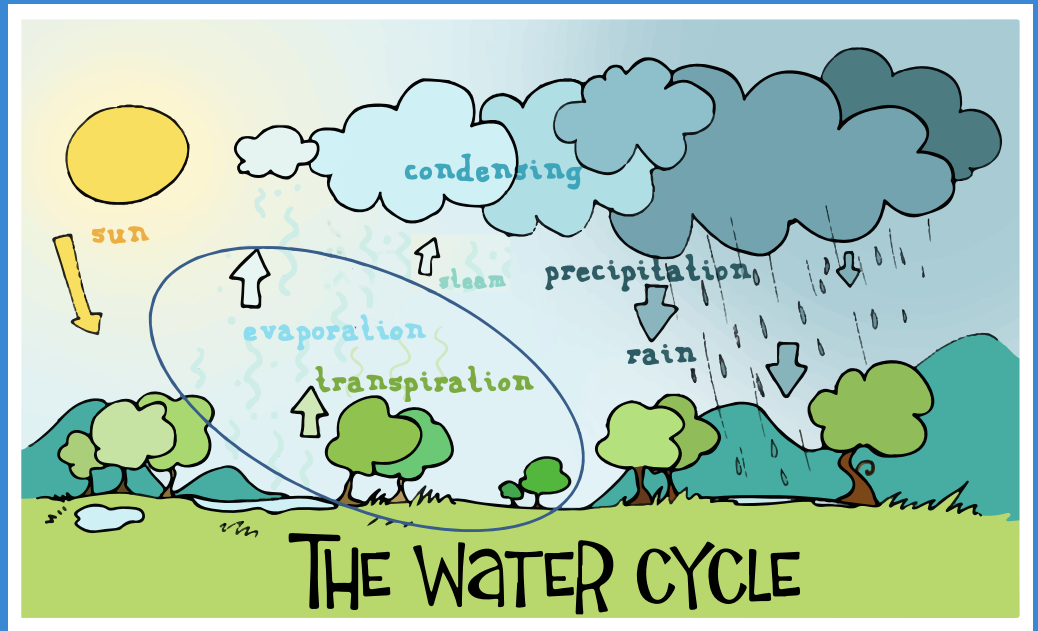




# WHCRWA invites area residents to access “tech support” for making irrigation decisions using the new WATER MY YARD system.

Summer is just around the corner and temperatures are already rising. Once again, with the prospect of uncertain weather patterns, homeowners’ thoughts turn to coaxing their yards into lush turf and restoring seasonal color to landscaped areas.

The overarching question is will the warm months bring deluges of rain, or will it be dry as the proverbial bone. With the horrific specter of the 2011-2012 drought still in recent memory, will Mother Nature provide all the rain needed by lawns and landscape? Or will we have to make the water-or-not-to-water decision ourselves? And how do we know when to water? And how much?



The WHCRWA invites you to participate in a FREE program designed to take most of the guesswork out of this decision! WATER MY YARD is based on a scientific process – EVAPO-TRANSPIRATION (or E.T.) – that’s as old as time.

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E.T. is a measurement of the total amount of water needed to grow plants and crops. The term is a combination of the word evaporation (loss of water from the soil in the form of a vapor or gas) and the word transpiration (the loss of water from the plants and grasses themselves). Instead of phoning home...this E.T. sends subscribers a watering alert via text or email!

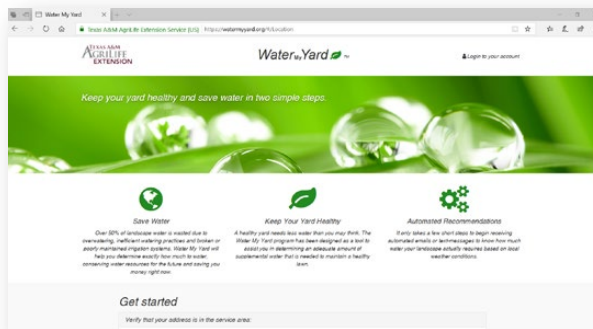
### Critical link to water conservation...

Turf grass – primarily St. Augustine — is the largest irrigated “crop” in America. A study by NASA scientists estimates there is a total of more than 63,000 square miles of lawn in America — about the size of Texas. During spring and summer months, about 80 percent of residential water use is for lawn and garden irrigation; almost 50 percent of that (potable) drinking water is wasted on lawns that aren’t even “thirsty.” Overwatering ‘tricks’ the turf into growing shallow roots, which then crave more frequent watering.

Combined with other water conservation strategies – like installing a “smart” irrigation controller and a rain sensor, completing watering before dawn, and cutting back the length or number of irrigation cycles – following the weekly WATER MY YARD irrigation suggestions will help you achieve a trifecta – having a great looking lawn, avoiding wasting a valuable resource, AND saving money on your water bill.

### Sign up TODAY...

**Visit [watermyyard.org](http://watermyyard.org)  
then enter your address to  
view your typical watering  
recommendations.**





# KRAFTY KIDS PROJECT...

## CREATE A WONDERFUL INSECT HABITAT

Here's a great opportunity to create something useful and attractive, to provide a home for beneficial insects that can help pollinate your herbs, veggies, and flowers, and to help control unwanted pests in your landscaped areas, too. Insect homes/habitats/hotels are easy to make from all kinds of recycled materials and things you can find in the garage (scraps of wood) or garden (bark, seed pods, sticks, pine cones, and moss). Your "bug barn" will provide shelter year 'round and give you an excellent way to observe the bugs up close..



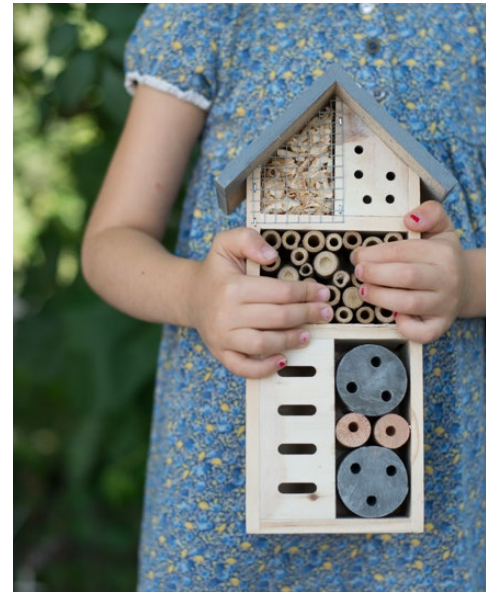
Keep in mind that different insects have unique types of home requirements, so be sure to incorporate a variety of natural materials. Your home building project can be as simple or as elaborate as you have time and materials to create. Be creative! Let your imagination loose! Find a good

location so that your new "residents" will easily find their home, where you and your family can easily observe the critters that move in. If you get a group of bees, however, be sure to move slowly around the habitat so you can avoid getting stung by guests defending their home!

Gather up many different kinds of natural materials (e.g., bamboo rods, straw, clay pots or broken pieces, logs and/or pieces of wood for drilling holes in, broken bricks, rolled tubes of cardboard or large leaves, straw, dried corn cobs, etc.). And, you'll want to invite some adult supervision to help you use an electric drill, screwdriver, hammer, and some kind of saw to cut the materials. (Kids...NEVER use power tools unsupervised!) If you plan to add a splash of color to the structure, you will also need outdoor paint and brushes.

Your new "apartment" will attract a variety of beneficial insects to help control pests in your garden or landscaped areas. Common guests include wasps, dragonflies, lacewings, ladybugs, moths, spiders and a variety of bees... and even some frogs.

After you create your own insect home, you'll probably have some materials left over. Make some for gifts to gardeners...they will appreciate this great way to reduce, reuse, recycle!







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These days pre-moistened “wipes” are available for virtually every household and personal hygiene purpose. The original moist clean-up product was meant to be folded into the disposable diaper and discarded in the trash. During the last decade; however, marketers have targeted adults to offer products intended to supplement or replace toilet paper. Convenience and “clean” appear to trump all other purchase motivations. We are suckers for products that promise to save time and money, and still get the job done with little or no effort. Unfortunately, when it comes to supposedly “flushable” wipes, many of these man-made fiber products turn out to be nearly indestructible, so they ‘flush down, but they don’t flush out!’

“People are flushing all kinds of things down the toilet!” Patty points out. “It’s not a trash can, you know! Wipes don’t decompose. They get tangled up in wastewater treatment plant screens and filters, creating giant



WIPES-BERGS that cost hundreds of thousands of dollars each year to clear and repair!”

Toilet paper is supposed to come apart in water. It is fragile by design. A premoistened wipe, on the other hand, is intended to be tough enough to hold up while soaking in its own liquid, and to still be sturdy when used. The wipes are made of very strong fibers, and like a spiderweb...and they look deceptively delicate.

“There is nothing wrong with these products,” she continued. “I use them myself! The problem is how people dispose of them, so we’re asking folks to trash ‘em, don’t flush ‘em!”

### Take Patty’s Pledge..

Please join Patty’s “Potty Patrol” and take the NO WIPES PLEDGE to help prevent costly plumber bills and water treatment plant repairs. For more information about how you can help, visit [www.PattyPotty.com](http://www.PattyPotty.com).

