Prairielands eLine

The Newsletter of the Prairielands Groundwater Conservation District Summer 2020 | Vol. 6, Iss. 3

Prairielands GCD's New Office Building Nears Completion and Prepares to Host Board Meeting

The District offices will be moving in August 2020 to a new office facility located just down the road from the Liberty Hotel where the District has been officed for several years. This new office building will be home to District board meetings, education and outreach events, staff offices, and meeting rooms.

One of the features at the new office facility is an 11 foot-tall and 6-foot-round rainwater harvesting cistern. This cistern collects rainwater off the roof of the shop building, where the rainwater is then fed by a pump to a soaker hose system to the front flowerbeds and bushes. The District is excited to have this system on-site to help conserve water resources and to use as an education resource for the public.

As mentioned above, the District's Board of Directors Meetings will be held at this new facility beginning with the meeting on August 17, 2020. The building includes a large conference room for board meetings and public hearings, allowing members of the public to come and hear about business and developments happening within the District.

The District's Water Education Trailer will also be stored on-site at the building, allowing for year-round presentations and demonstrations about your local aquifers, indoor water conservation, rainwater harvesting, and water well basics. Please contact the District if you would like to schedule a tour of the WET and see the rainwater harvesting system at the building.

If you haven't done so, we encourage you to **please update your records to reflect the new location of our office.** The new mailing address is:

208 Kimberly Dr
Cleburne, TX 76031

Our phone and fax numbers will remain the same. We look forward to having you at our new building soon!

In This Issue:

Seeing Higher Temperatures and a Higher Water Bill? 12 Ways to Conserve Water and Your Wallet This Summer

There is no doubt that the summertime heat in Texas is the stuff of legend. Many of us have heard of (or maybe even tried) frying an egg on the sidewalk in July. And while it is not likely that a swimming pool ever boiled or an ice cream truck ever melted from the heat, a Texas summer can definitely wreak havoc on the landscape.

However, have you ever wondered why these months also bring along that dreaded high water bill? Summer's rising temperatures often coincide with rising outdoor water use, primarily due to an increase in lawn and landscape watering. While using water efficiently is important throughout the year, sometimes the timing of water use can make a big difference for community water supplies—and your water bill.

In most areas, the amount of water homeowners use to keep their lawns green or gardens lush spikes in the summer—two to four times as much water than they use the rest of the year! You can help use less water and create a healthier landscape by using and sharing these facts about overwatering and tips for reducing outdoor water use.

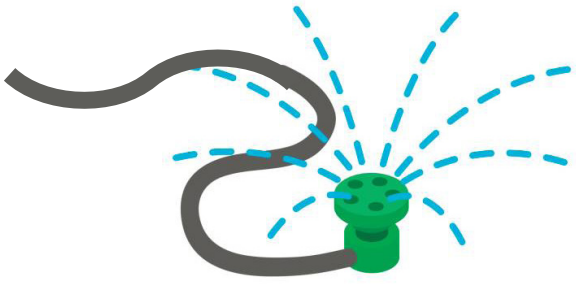
High temperatures and lack of rainfall can stress plants and create real challenges for maintaining a healthy landscape. Fortunately, there are water-responsible ways to encourage and maintain a healthy and aesthetically pleasing landscape and lawn. Before you begin soaking your plants with water from the hose and sprinklers, consider ways to maintain your landscaping while making the best use of precious water supplies.

Facts about Summertime Overwatering

Depending on the region, homeowners can use up to 70% of their water outdoors. Experts estimate that 50% of the water we use outdoors goes to waste from evaporation, wind, or runoff due to overwatering. Review your water bills and compare your winter water use with your summer use to get a sense of how much extra water you use outdoors when it's hot.

Simple Tips for Saving Water Outdoors

Timing is everything: Know how much water your landscape actually needs before you set your sprinkler. Your local utility can offer recommendations for how much water certain plants need in your region and best times to water. Generally, it's best to water lawns and landscapes in the early morning and evening, after the sun goes down, because significant amounts of water can be lost due to evaporation during the heat of the day.

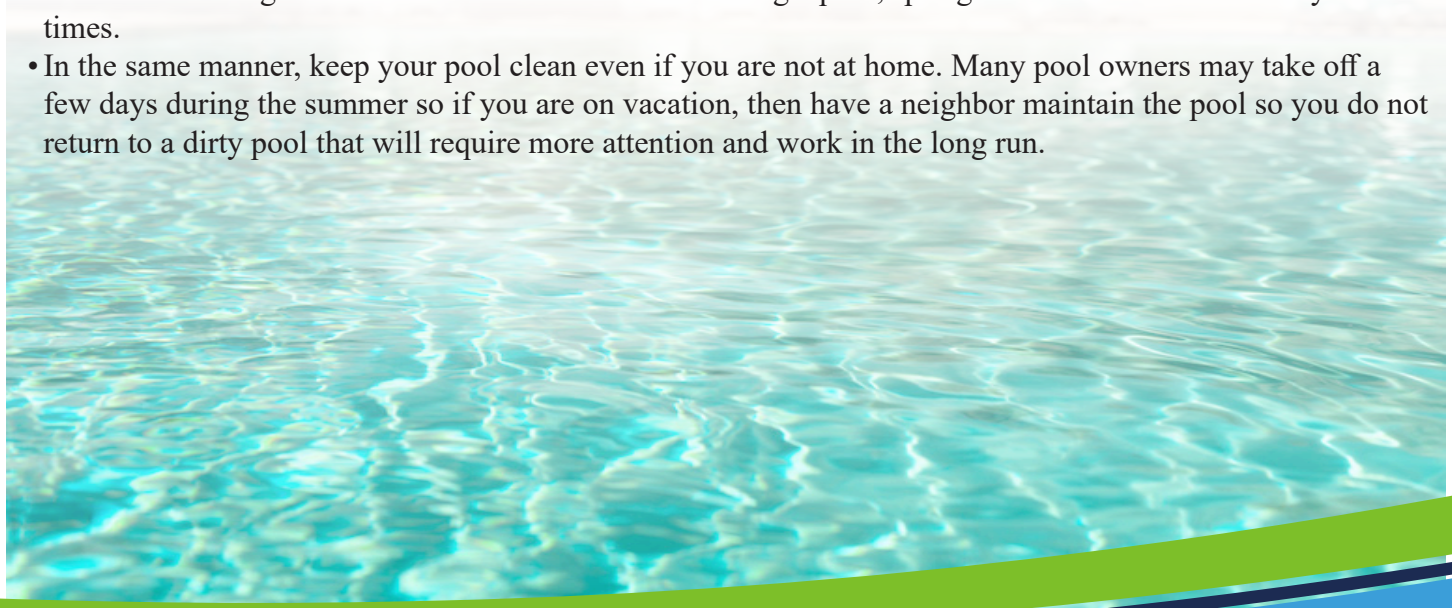


- **Look for the label:** If your system uses a clock timer, consider upgrading to a WaterSense labeled controller which acts like a thermostat for your lawn, using local weather data to determine when and how much to water, reducing waste and improving plant health. Replacing a standard clock timer with a WaterSense labeled irrigation controller can save an average home nearly 8,800 gallons of water annually.
- **Tune up your system:** Inspect irrigation systems and check for leaks and broken or clogged sprinkler heads. Fix sprinkler heads that are broken or spraying on the sidewalk, street, or driveway.
- **Play zone defense:** When planting, assign areas of your landscape different hydrozones depending on sun/shade exposure, soil and plant types, and type of sprinklers, then adjust your irrigation system or watering schedule based on those zones' specific needs. This helps you avoid overwatering some areas or underwatering others.
- **Step on it:** Grass doesn't always need water just because it's hot out. Step on the lawn, and if the grass springs back, it doesn't need water. An inexpensive soil moisture sensor can also show the amount of moisture at the plant's roots and discourage overwatering. The District has soil moisture meters available for residents.
- **Leave it long:** Raise your lawn mower blade. Longer grass promotes deeper root growth, resulting in a more drought-resistant lawn, reduced evaporation, and fewer weeds.
- **Give your hose a break:** Sweep driveways, sidewalks, and steps rather than hosing them off. And don't forget to check for leaks at your spigot connection and tighten as necessary.

Protect your Pools

Pools, spas, hot tubs, fountains, and other types of decorative water features can waste large volumes of water if not properly designed and equipped for efficient operation.

- Use a swimming pool cover to help diminish evaporation and keep away debris. Landscaping is also another technique to help in pool water conservation as shrubs or fences can aid in wind evaporation.
- If you have a fountain or water feature, only run when it is not windy. This will help reduce the amount of water that is blown away and lost to evaporation.
- Only backwash and rinse when pool pump pressure is 8-10 pounds above normal. In most cases, this should only take place every three to four months.
- Maintain clean water. This reduces the need to vacuum to waste, backwash, rinse or drain your pool which can all waste a significant amount of water. When refilling a pool, spring and fall months are usually the best times.
- In the same manner, keep your pool clean even if you are not at home. Many pool owners may take off a few days during the summer so if you are on vacation, then have a neighbor maintain the pool so you do not return to a dirty pool that will require more attention and work in the long run.

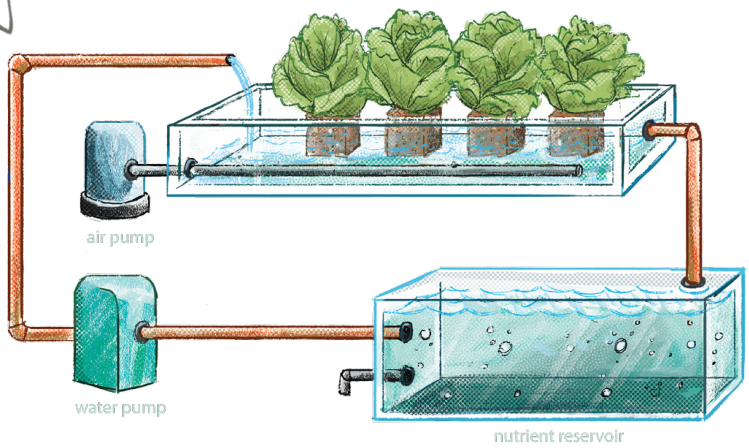


Aquaponics vs Hydroponics: Using Soilless Systems to Grow Plants

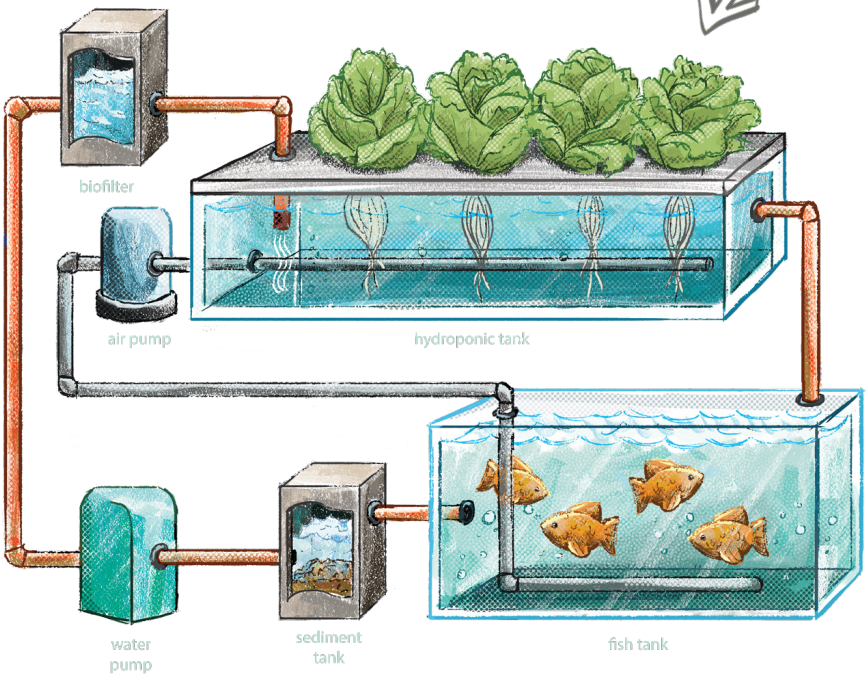
Growing plants in soilless systems is becoming increasingly popular and provides the grower with many distinct advantages over traditional methodology. Two basic systems are popular among homeowners: hydroponics, which grows plants within its contained system, and aquaponics, which combines hydroponics with raising fish.

What is Hydroponics?

For plants to flourish they need two things: essential nutrients and water. Due to this, if the nutrients are provided within the water and delivered to the roots, there isn't any need to have soil present in the growing system. In a hydroponic growing system, a nutrient-charged, aquatic solution is flushed through the root zone to provide the plants with the resources needed for optimal growth.



There are many benefits to using hydroponic grow systems: fewer resources are consumed, arable land isn't needed, and the harvestable plants are of higher quality than when grown using traditional methods. In the last 60 or 70 years, these benefits have increased the popularity of hydroponics, and have expanded the limited possibilities of indoor and urban gardening.



What is Aquaponics?

Aquaponics is the combination of growing plants hydroponically and the practice of aquaculture (raising fish). Instead of adding fertilizers to the water to provide nutrients, like what is done in hydroponics, fish are grown simultaneously in the aquatic environment to create a symbiotic relationship. In aquaponics, the microbes convert the ammonia from the fish waste into nitrites and then into nitrates. Plants then take in the nitrates through their roots using them as a source for plant essential nitrogen. This combination of hydroponics and aquaculture allows aquaponics to draw upon the benefits of both systems while minimizing the individual drawbacks of each.

Similarities between Hydroponics & Aquaponics

- **Longer growing season:** Most hydroponics and aquaponics setups are housed indoors, protected from the climate and have supplemental lights for growing, allowing plants to grow longer than the season permits outside.
- **Lessened negative environmental impacts:** Plants grown indoors have a much lower incidence of pest and weed pressure as a direct result of a contained system that can't be infested due to the wind, soil transfer, migration of pests, etc. Lower pest and weed pressure mean fewer chemical applications that could potentially have negative environmental impacts.
- **Water conservation:** Even though plants are grown directly in water in both systems, they use less water overall than traditional gardening because the aquatic solutions are recirculated and reused. An aquaponics system uses about 10% of the water consumed in soil-based gardening.
- **Plants grow faster:** Plants grown in soilless systems grow on average 30-50% faster than those sown directly into the soil. The thought behind the faster growth is due to the extra oxygen available to the roots in an aquatic solution. This extra oxygen stimulates root growth and encourages quicker, more efficient nutrient absorption.

Differences in Hydroponics vs. Aquaponics

- **Design Differences:** Hydroponics typically utilize 6" deep grow beds as roots can easily spread out within the aquatic solution with little worry of root compaction. Aquaponics needs a minimum of 12" deep grow beds to allow room for the fish to move within their environment.
- **Costs:** The big difference is the cost of purchasing fish to stock the aquaponics grow beds. Hydroponics systems need fertilizers purchased throughout the entire growing season to keep replenishing the nutrient solution. Aquaponics has a higher electricity cost since the system requires a higher level of oxygenation in the water to support the fish.
- **Plants:** Hydroponics growing systems can be used for plants with high nutrient needs because the nutrient solution can be adapted to meet plant needs; aquaponics systems typically work best to support plants that have lower nutrient needs such as lettuce, other leafy greens, and herbs.
- **Maintenance needs:** After the system is stabilized and running at its prime, there is much less monitoring needed in growing with aquaponics than hydroponics. The aquatic solution in hydroponics needs to be monitored much more closely to check pH, total dissolved solids, and the nutrient concentrations; an aquaponics solution needs to be checked for pH and ammonia levels weekly or if the fish seem stressed.

Which one is better?

Now comes the big question, is one of the two systems better than the other? Both hydroponics and aquaponics have clear benefits: lessened adverse environmental impacts, reduced consumption of resources, faster plant growth, and higher yields. As a grower, you should choose which system you'd prefer based on your needs or your liking. The most important factors are what you can get from the system you build, and how much you enjoy it.

You can grow a large variety of vegetables, fruit, herbs, and flowers with hydroponics and aquaponics

Wondering When to Water Your Yard? There's an App for That

Heading into the heat of the summer, homeowners begin asking, "how much do I need to water my yard." Texas A&M AgriLife Extension Service's WaterMyYard program has a new, free mobile app just for that purpose. The WaterMyYard app allows users to access up to date watering recommendations in a mobile friendly environment while incorporating new and advanced features and tools to maximize landscape water conservation. Advanced features include the option for push notifications in addition to text and email. Users can also enter onsite measured rainfall and adjust runtimes for landscape conditions.

Over 50% of landscape water is wasted due to overwatering, inefficient watering practices and broken or poorly maintained irrigation systems. Water My Yard will help you determine exactly how much to water, conserving water resources for the future and saving you money right now.

The science behind the app

WaterMyYard uses the best science available to determine how much water plants need based on local climate, soils and other factors. The website and app employ simple, intuitive images and information prompts to guide users in setting up a profile, which allows them to receive watering recommendations for their own irrigation system and local climate, including rainfall. Users can choose to receive weekly watering recommendations by push notification, email and text messages.

Weekly watering recommendations provide the amount of water needed and how long users should run their irrigation systems. The messages also include information on current local watering restrictions, if any. Whether a region is suffering from drought conditions or has had too much rain, the WaterMyYard app helps take the guesswork out of when and how much to irrigate.

Making WaterMyYard Available Across the State

WaterMyYard started in collaboration with North Texas Municipal Water District in 2013 in response to the severe drought year of 2011. Today the program is offered around the state in cooperation with local sponsors. The program utilizes 57 specialized weather stations installed by the program sponsors to provide the localized climatic data needed to calculate daily evapotranspiration, or ET, which is the amount of water used by plants. Knowing how much water plants are using and how much rain you receive allows WaterMyYard to determine irrigation is needed. The program currently has over 25,000 subscribers statewide receiving weekly notifications.

People across America rely on groundwater every day, and groundwater relies on us to protect it. Protect Your Groundwater Day is an annual observance established to highlight the responsible development, manage-ment, and use of groundwater. The event is also a platform to encourage yearly water well testing and well maintenance. This year, Protect Your Groundwater Day will be held on September 1, 2020.

Simple ways everyone can act to protect groundwater

Everyone can and should do something to protect groundwater. We all have a stake in maintaining its quality and quantity. For starters, 99 percent of all available freshwater comes from aquifers underground. Not only that, most bodies of surface water are connected to groundwater, so how you impact groundwater matters. Furthermore, many public water systems draw all or part of their supply from groundwater, so protecting the resource protects the public water supply and impacts treatment costs.
If you own a well to provide water for your family, farm, or business, groundwater protection is doubly important. As a well owner, you are the manager of your own water system. Protecting groundwater will help reduce risks to your water supply and ensure you have a safe and reliable source of water.

There are two fundamental categories of groundwater protection:

Keeping it safe from contamination: Contamination caused by human activities - Human activities can pollute groundwater, and this is where every person can help protect groundwater — both in terms of groundwater quality and quantity. Some common human causes of groundwater contamination are: Improper storage or disposal of hazardous substances, improper use of fertilizers, animal manures, herbicides, insecticides, and pesticides, improperly built and/or maintained septic systems, and improperly abandoned wells (these include water wells, groundwater monitoring wells, and wells used in cleaning contaminated groundwater

Water conservation: Americans are the largest water users, per capita, in the world. In terms of groundwater, Americans use 79.6 billion gallons per day — the equivalent of 2,923 12-oz. cans for every man, woman, and child in the nation. At the household level, the greatest amount of water used inside the home occurs in the bathroom. The remainder of indoor water use is divided between clothes washing and kitchen use, including dish washing, according to the U.S. Environmental Protection Agency.

How Can You Help Protect Groundwater?

ACT — acknowledge, consider, take action.

1. Acknowledge the causes of preventable groundwater contamination

2. Consider which apply to you

3. Take action to prevent groundwater contamination

National Groundwater Association Debuts New and Improved WellOwner.org Website

A water well is an expertly engineered and constructed method of delivering groundwater for drinking, irrigation, and other purposes. The new and improved Wellowner.org debuted on August 10, 2020. This site is a great resource for information relating to private water well systems and groundwater. The new WellOwner.org is full of updated resources and content. The site has an easy-to-navigate format to find the same educational guidance, tips, and materials for all of your water well needs.

Wellowner.org

Some of the New Information and Features Include:

Water Well Basics

Knowing the basics about water wells is important whether you are planning a well, are a new well owner, or have owned a well for a long time. Knowing the basics can equip you to make sound decisions about your water well system. Also, learning about Learning more about groundwater and appreciating this valuable resource can guide you to becoming a better steward of groundwater.

Water Well Maintenance

Regular water well system maintenance is important. Knowing and practicing the basics of regular well maintenance can reduce risks to your water supply and prevent costly and inconvenient breakdowns. Learn about maintaining your water well system including annual checks, monitoring well performance, and protecting groundwater. Also, learn how to address old and unused wells to mitigate safety and threats to groundwater quality.

Water Quality and Quantity Basics

Having a basic understanding of groundwater quality will help ensure that your well is supplying potable water for your household. Americans are some of the largest users of water, per capita, in the world. There is something every person can do to conserve water. Try the simple water calculator on Wellowner.org to get a reference for your family water use. Just fill in the blue boxes and watch the water usage change.

Upcoming Events and Meetings

August 17 — **PGCD Board Meeting**
9:00 a.m.
208 Kimberly Dr
Cleburne, TX 76031

September 1 — **National Protect Your Groundwater Day**

September 1-3 — **Virtual Texas Groundwater Summit**

September 7 — **Labor Day**
PGCD Office Closed

September 21 — **PGCD Board Meeting**
9:00 a.m.
208 Kimberly Dr
Cleburne, TX 76031

October 12 — **Columbus Day**
PGCD Office Closed

Be sure to visit the homepage of our website to sign-up to receive our e-blast notifications so you never miss out on the latest news, events or updates about Prairielands GCD!

Stay in the Know: State and Local Water News at a Glance

- **Dallas-Fort Worth Planners Want New $4.4B Resevoir. Northeast Texas is Pushing Back -**A decades-long battle over how to best meet Dallas-Fort Worth's growing water needs has entered a contentious phase, with urban water officials and rural landowners clashing over a reservoir project that would cost at least $4.4 billion and 65,000 acres of resource-rich land in Northeast Texas. Read more.

- **City of Glen Rose is Working on Water, Sewer, Street Projects** - For the City of Glen Rose, this is the year for infrastructure projects, including a recently awarded contract for re-drilling a well. Read more.

- **Remember the Value of Water -** The process of turning groundwater and surface water into safe water for your home is complex and goes largely unseen. Read more.

- **EPA Awards State of Texas More Than $3.8M to Manage Water Pollution -**The U.S. Environmental Protection Agency (EPA) recently announced a grant of $3,887,500 to the Texas State Soil and Water Conservation Board. The funding will support management programs for nonpoint source (NPS) water pollution, which is caused when rainfall or snowmelt carries pollutants into rivers, lakes, and other waterbodies. Read more.

About Prairielands GCD

The Prairielands Groundwater Conservation District was created in response to a finding by the Texas Commission on Environmental Quality that groundwater shortages were expected in Ellis, Hill, Johnson, and Somervell counties over the next 25 years. The TCEQ finding required local residents to create a groundwater conservation district, or else TCEQ would mandate one. Enabling legislation for the Prairielands GCD was passed in 2009.

The Mission of the Prairielands Groundwater Conservation District is to develop rules to provide protection to existing wells, prevent waste, promote conservation, provide a framework that will allow availability and accessibility of groundwater for future generations, protect the quality of the groundwater in the recharge zone of the aquifer, insure that the residents of Ellis, Hill, Johnson, and Somervell Counties maintain local control over their groundwater, and operate the District in a fair and equitable manner for all residents of the District.

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