

## Water Use and Conservation

Welcome to the Texas Hill Country, aptly noted as a land of continuous drought punctuated with the occasional flood. The longer that you are a resident of this part of the world the more you will come to appreciate the value of water. The following information will hopefully give you some data to understand regarding the wisdom of water conservation both within your home and for your landscaping.

***Drought in Central Texas:*** In 2009 Central Texas, including Cordillera Ranch, was in the midst of one of the worst droughts in history. 2008 was the third driest year on record, with rainfall 42% below normal. According to the National Drought Monitor classifications, Central Texas is in exceptional drought, the worst of the four classifications. The Texas Climatic Divisions utilize the Palmer Drought Severity Index, which has nine classifications. Central Texas again is determined to be in extreme drought, the worst of these classifications. Rainfall in Central Texas between September 2007 (when the current drought began) and July 2009 was only 24.38 inches. This is the worst period of drought since the historic drought of the 1950's. (The first 8 months of 2007 recorded an above average amount of rainfall for the area) As a property owner you should be planning your water use on the next drought cycle.

***Source of our Water in Cordillera Ranch:*** Most residents have wells on their property and as such are governed by the Cow Creek Groundwater Conservation District (CCGCD). Residents on the central water and sewer system are governed by the Guadalupe Blanco River Authority (GBRA). Depending on groundwater supply and storage conditions both of these bodies have the authority to dictate water conservation and implement plans that either highly restrict or potentially eliminate lawn irrigation. During 2008 and 2009 residents of Cordillera Ranch were subject to these kinds of Drought regulations and restrictions.

Use Restrictions for Cordillera Ranch (Per CCGCD and GBRA requirements) are updated regularly based on the status of the aquifer and river respectively. While Cordillera Ranch will usually alert residents to changes in the water usage situation, the current status can be checked by visiting the websites of these regulatory bodies. CCGCD: <http://www.ccgcd.org> and GBRA: <http://www.gbra.org> both of these sites have an abundance of good information about the water supply and helpful ideas for water conservation.

***Family Water Usage:*** Most households have been pretty well schooled about water use in the home. We know the wisdom of shortening showers, using water conservation appliances or systems and utilize the simple steps like turning off the tap while we brush our teeth or rinse our dishes. Many however are surprised to learn what a large portion of the water usage for an average household goes to landscape irrigation. According to the Texas Agricultural Extension Service, 25% of the urban water supply is used for landscaping. Much of that water is used to maintain high water-demanding landscapes, including lawns. According to the U.S. Environmental Protection Agency, an American family of four uses an average of 400 gallons of water per day. Approximately 30% of the water used by that family is to

irrigate landscaping. Considering the importance of water conservation, one of the easiest ways to conserve is through choices you can make about your landscaping design.

***Xeriscaping Design Encouraged:*** Cordillera Ranch Community Design Guidelines, Cow Creek Groundwater Conservation District and Guadalupe Blanco River Authority all have objectives or regulations that encourage water conservation within your landscaping design. These encouragements are found both in the stated objectives of their documents and in times of drought the restrictions placed on irrigation. Long term residents have learned that it is not a matter of “if” irrigation restrictions will occur but “when and for how long”, with that understanding most have turned to Xeriscaping designs for the areas around their homes. You may also be surprised to learn just how much greenery and flowering plants fit into Xeriscaping.

***Water Usage comparison for Conventional Landscape VS. Xeriscaping:*** It takes .623 gallons of water to irrigate a square foot of lawn. The lawn grasses (zoysia and bermuda) approved for Cordillera Ranch require an inch of water each week. Although buffalo grass requires less water, it still needs 1 inch of water every two weeks to maintain a green color. As an example a relatively small grass lawn of 3,000 square feet would require 1,869 gallons of water per week to provide an inch of water for those 3,000 square feet of lawn. Over the course of a year, lawn watering could use as much as 129,584 gallons of water per household. To put this number in perspective a lifetime supply of drinking water for one human is approximately 16,000 gallons.

Once established (1-2 years), a xeriscape garden uses little to no additional water. Xeriscapes use native plants and non-natives with water needs similar to natives. During the first 2 years while plants are establishing root systems, a 3000 square foot xeriscape landscape would need approximately 152 gallons of water per week or 7,904 gallons of water per year. After the xeriscape is established, watering needs would drop to less than 100 gallons of water per month applied only during the hottest summer months, for a total of 400 gallons of water per year. Many native plants would require no additional water, even in the hot summer months.

It is easy to see how minimizing the turf in your landscaping plan and increasing your use of native shrubs, perennials, trees, ornamental grasses, succulents and ground covers to appoint your lawn design can provide very significant reductions in water usage and also position you for better results when irrigation restrictions are implemented by the governing bodies. It also helps everyone to see the validity of one of the Cordillera Ranch Community Design Guidelines objectives which is to: “Foster the use of native, indigenous and xeric plants”. Choosing Xeriscaping design is a wise move for this area.

***The Growing Demand for a Finite Resource:*** In 1975, Kendall County withdrew 1,795 acre-feet of groundwater from the Edwards Group and the Upper and Middle Trinity aquifers. By 2000, the county withdrew 4,358 acre-feet of groundwater and the projection for 2010 is a withdrawal of 5,582 acre-feet of groundwater, a 300% increase since 1975. At the same time we live in one of the fastest growing areas of the state. According to the Guadalupe-Blanco River Authority, by the year 2040, twice as many people will be competing for the same amount of water we currently have available in Central Texas.

Clearly each of us as residents of this area must make water conservation a priority in both how we train ourselves regarding water today and how we plan for our future usage. Groundwater in the Central Texas aquifers is finite.

***Water Conservation is the Smart Move:*** Make it a point to begin implementing conservation thinking in all aspects of your water usage plan. While decisions about your internal home usage are important and should not be overlooked, it is clear that significant savings can be made by focusing on the design of your lawn and garden areas. If you do not already have a Xeriscape design landscape then consider the significant improvement in water usage that can be possible through implementation on your property. The following webpage will provide a starting point for learning about the simple ideas that can help you move to Xeriscaping and the water conservation benefits you will achieve. <http://aggie-horticulture.tamu.edu/extension/xeriscape/xeriscape.html>

Finally, as you learn more about the benefits of water conservation, we hope you will make it a point to help share this knowledge with your family and friends. Each household will play an important part in the success of this conservation, but ultimately for the sake of our area we need the whole community to be actively involved in the execution of this behavior.

(A special thanks to our neighbor, **Jill Manske** for researching and organizing most of the data noted above)