THE WATERSHED ASSOCIATION

LAND · WATER · CONNECTION

A publication of the Watershed Association, highlighting critical Watershed initiatives, Education, and Reflections about the Water and Land that connect us all.

Photo by Matthew Guthrie: Twin Creeks Historical Park

SPRING/SUMMER 2024

Photo by Matthew Guthrie: Pedernales Falls

Protecting our most precious resources

For decades, the Watershed Association has protected and advocated for the most ecologically significant places across Central Texas.

Dear Friend of the Watershed,

I am excited to share our current initiatives and the Watershed Association's remarkable progress over the last year in this Seasonal Update. Our ongoing efforts to protect and nurture the environment and the health of our community continue to make a significant impact in the face of rapid growth and persistent drought.

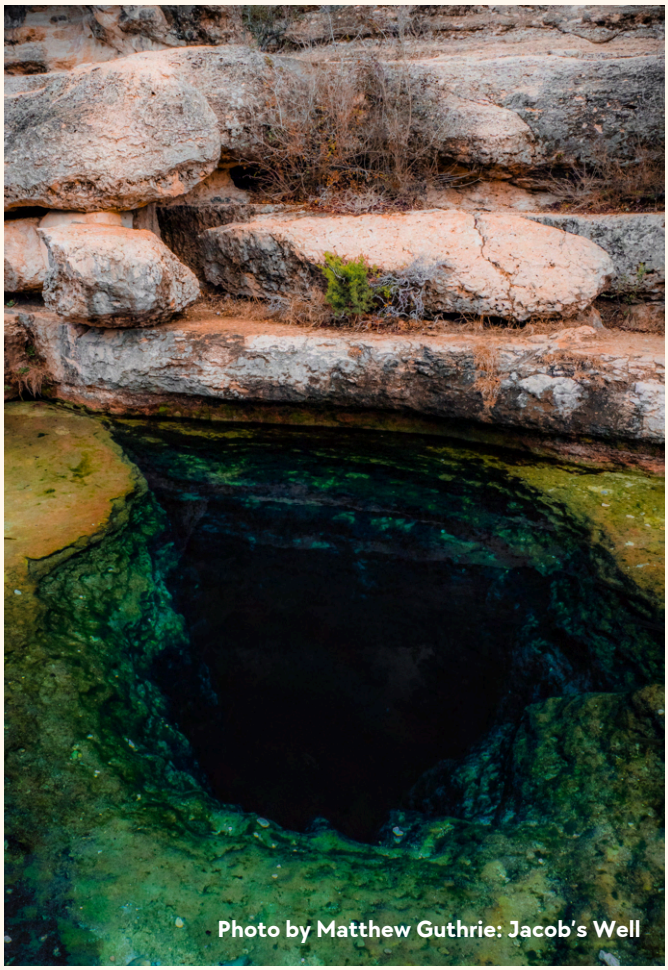
Photo by Matthew Guthrie: Jacob's Well

At the heart of our work is the belief that collaboration is the key to ensuring the rights of nature and our community are aligned through shared stewardship. This year, more than ever, we are recognizing the critical need of a multi-generational approach to environmental stewardship and the necessity to cultivate resilient, resourced, and devoted young leaders to withstand all they will face in conservation in the years to come. Explore the report to find out more about our incredible new educational opportunities for the environmental leaders of tomorrow.

Through regional planning, conserving land, adopting sustainable public policies, and visionary education, we strive to create a future where our watersheds thrive and our communities flourish. The Watershed Association's impact is far-reaching, protecting over 500 acres of land in conservation in the Cypress Creek Watershed to engaging over 167,000 people through experiential learning initiatives and media outreach. In this report, you will find updates on our Watershed Protection and Conservation Science programs, including our ongoing efforts to defend the authority of Groundwater Conservation Districts (GCDs) to protect water in Texas.

We are partnering with the Trinity Edwards Spring Protection Association (TESPA) to assist the Hays Trinity Groundwater Conservation District in their legal battle with Aqua Texas, a case that could have implications for groundwater protection across the state. We are also thrilled to announce a historic milestone for watershed protection in our region – an interlocal agreement formed between Hays County, the cities of Wimberley and Woodcreek, The Watershed Association, and Meadows Center for Water and the Environment at Texas State University. The groundbreaking agreement establishes a long-term sustainable plan for significant investment in watershed protection and collaborative watershed governance to sustain clean water standards across our region.

In addition, we have included an insightful hydrological report that sheds light on the intricate relationship between our karst landscape, the Middle Trinity Aquifer, and the iconic Jacob's Well. Understanding this delicate balance is crucial for informed decision-making and effective policy and conservation efforts. We have so much to celebrate, however, the challenges we face are immense. The recent lawsuit by Aqua Texas against the HTGCD threatens to overturn the rules that protect groundwater in Texas. We cannot allow this to happen. Our aquifer is so fragile that a mere few inches of change in water levels can cause Jacob's Well to stop flowing, as it did for a staggering 222 days in 2023.

We invite you to join us in this critical effort. We must work together as responsible stewards to create a future where our springs, creeks, and rivers are protected and sustained. Your engagement and investment in our initiatives enables us to continue to conserve land, defend our water, advocate for responsible stewardship through public policy, conduct research and water quality monitoring, and educate our next generation of leaders to ensure that the land and water of the Texas Hill Country are preserved for years to come.

David Baker, Executive Director, The Watershed Association

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The Watershed Association would like to acknowledge contributors that made this report possible. A special thank you to Kira Dell, Doug Wierman, Charlie Flatten and Brian Zabcik who contributed their knowledge and expertise to this report.

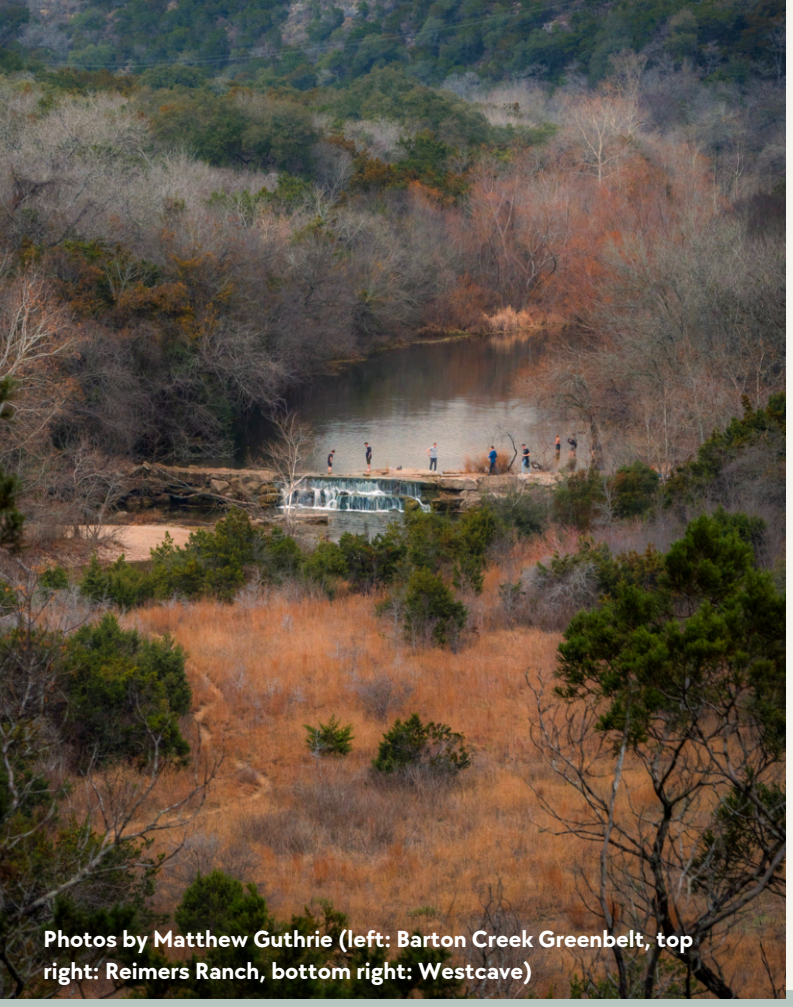
Gratitude to Aliya Rosenbloom & Amber Smith for the design and layout of this seasonal report.

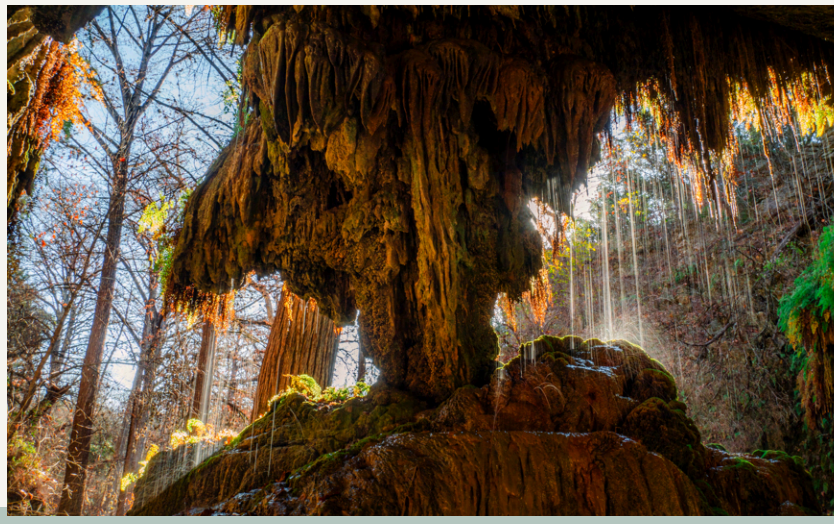
Photo by Matthew Guthrie: Blanco River

OUR AREAS OF IMPACT

LAND. WATER. CONNECTION.

- Land Conservation & Sustainable Development Initiatives
- Watershed Protection & Conservation Science
- Policy, Advocacy, and Environmental Planning
- Regenerative Connection & Education
- Art4Water
- Partnerships and Community Support





Photos by Matthew Guthrie (left: Barton Creek Greenbelt, top right: Reimers Ranch, bottom right: Westcave)

LAND CONSERVATION & SUSTAINABLE DEVELOPMENT INITIATIVES

Why is protecting land important for protecting water?

Conserving land in the Texas Hill Country is crucial for safeguarding drinking water supplies, spring flows that feed our streams and rivers, and critical wildlife habitat that sustains the quality of life and economy of Central Texas. The region's unique geological features, karst limestone formations, and recharge zones play a vital role in recharging underground aquifers and sustaining spring flows and clean drinking water for our local communities. When recharge features are covered with impervious surfaces including roads, homes, and parking lots that prevent stormwater from infiltrating into the ground, we significantly limit the ability of the aquifer to recharge.

The Watershed Association is continually engaged in efforts to preserve conservation lands across the region. The State of the Hill Country report calculates that as of the 2020 year-end, 546,301 total acres have been conserved to protect our region’s critical wildlife habitat, water quality, and drinking water supplies. Ecological restoration projects on these lands by community partners enhance their ability to filter and absorb stormwater to ensure an abundant supply of clean water in our aquifers and springs.

By conserving land within critical aquifer recharge zones, forest habitats, and riparian zones, communities can safeguard the health and integrity of their water resources, reduce the risk of water pollution, flooding, and water shortages, and maintain the wildlife habitat and ecological services provided by natural ecosystems. Land conservation is an essential component of sustainable watershed management and plays a crucial role in ensuring long-term water security and environmental protection for everyone.

LAND CONSERVATION

News, Updates, & Looking Ahead

From the Watershed Association's inception in 1996, we have held the vision to protect land in the Texas Hill Country to ensure the availability of water and wildlife habitat, and to provide public access to our region's most beautiful natural areas. Over the past three decades, the Watershed Association has utilized scientific research to identify the lands that are most critical to our region's ecosystem and aquifer recharge and has protected sensitive areas through conservation easements and land acquisitions. Over 500 acres of the Cypress Creek Watershed are currently conserved and we are continuing our efforts to protect more land across the region by securing both public and private investments in parks and open space. Hays County is one of the fastest growing counties in the US, and the population is projected to grow by 464% by 2050, with more than 666,900 new residents swelling its population to 825,070 over the next 35 years. Our commitment to conserving critical recharge lands protects spring flows while creating new opportunities for public education through place-based learning and recreational access for residents and visitors to the area.

Photo by Jonathan Ogren: Karst Canyon Preserve

KARST CANYON PRESERVE

Photo by Jean Krejca: Karst Canyon Preserve

The Watershed Association has dedicated over a decade to conserving the unique 176-acre Karst Canyon Preserve (Coleman's Canyon). With more than 118 karst features, including the iconic Wimberley Bat Cave, this land plays a vital role in capturing rainfall and recharging the Middle Trinity Aquifer that feeds Jacob's Well. While typically only 3-5% of rainfall in the Hill Country region finds its way into the aquifer, the unique geology above Jacob's Well allows for up to 30% of rainfall in Karst Canyon Preserve to be captured by its many karst features. In collaboration with Hays County and the Nature Conservancy, we are expanding the Jacob's Well Natural Area to include the Karst Canyon Preserve to safeguard its significant environmental, community, and economic benefits. In addition to replenishing the Middle Trinity Aquifer and sustaining the flow from Jacob's Well, Karst Canyon Preserve's wide open spaces, lush grasslands, and oak-juniper woodlands make it a crucial site for protecting golden-cheeked warbler habitat. The Preserve will also provide public-access hiking trails and function as a natural research laboratory. We are grateful to Hays County for their leadership in protecting parks and open space and are looking forward to our continued partnership to realize the vision for Karst Canyon as a sanctuary where the natural beauty of the Hill Country is uplifted and protected for the health and wellbeing of future generations.

FOSTERING RESILIENCE AND SUSTAINABILITY THROUGH INNOVATIVE ONE WATER DEVELOPMENT

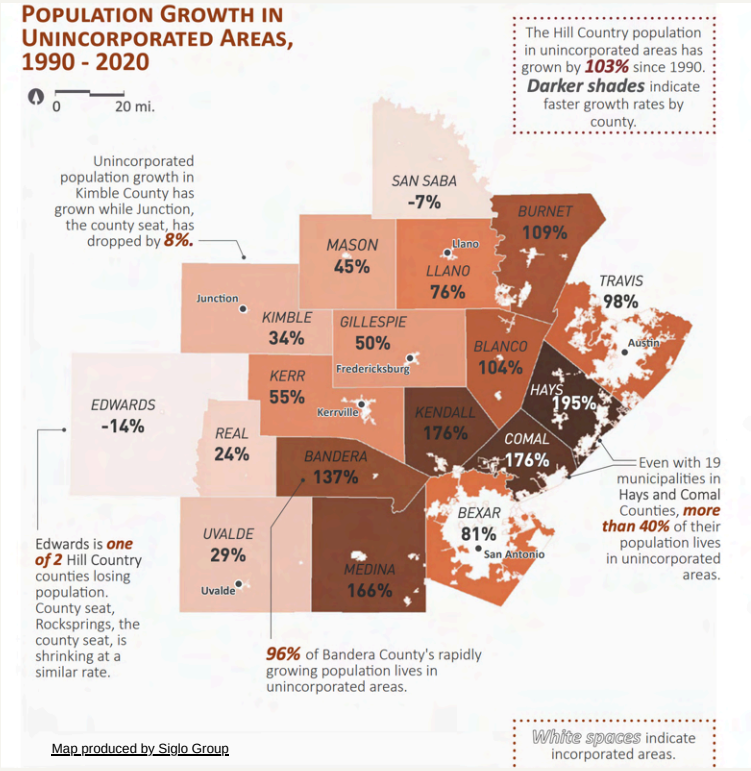


Photo by the Watershed Association: Blue Hole Primary

The Texas Hill Country and the San Antonio-Austin Corridor are at a critical juncture as the region's population is projected to surge from 5.2 million to nearly 12 million by 2050. As urbanization replaces natural landscapes, impervious surfaces disrupt the water cycle by impeding rainwater absorption and increasing runoff into nearby streams. This is particularly problematic in the aquifer recharge zone, which covers much of the San Antonio-Austin corridor. Rapid growth in this area necessitates a strategic approach to development that protects our stressed aquifers and streams.

To address these challenges, the Watershed Association is advancing a water management paradigm called One Water, where buildings generate their own water supplies. One Water buildings capture, store, and treat the water sources available onsite in a closed-loop system. These sources can include rainwater, stormwater, greywater, blackwater, and more. One Water systems also minimize water consumption and protect water quality with natural infrastructure like rain gardens and pervious pavers reducing nonpoint source pollution.

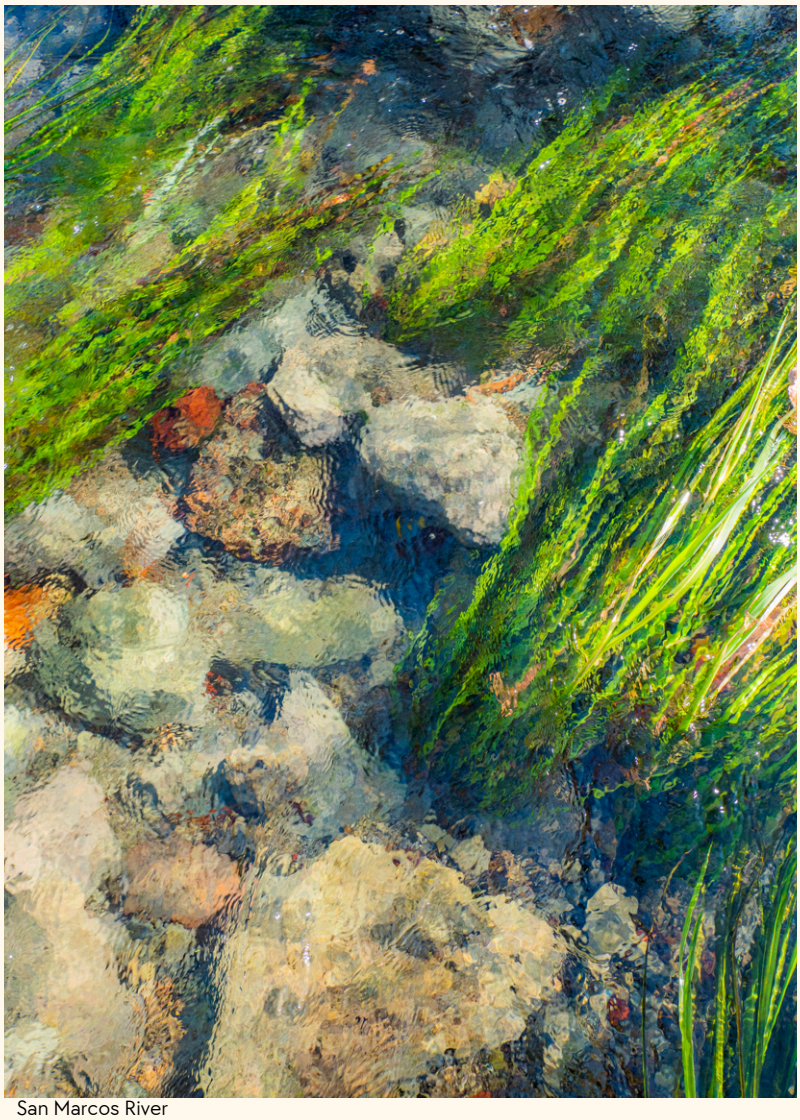
The Watershed Association is promoting the adoption of One Water by developing projects that demonstrate the viability, reliability, and affordability of these systems. Our flagship One Water project is the Blue Hole Primary School, where 200,000 gallons of rainwater and air conditioning condensate are captured, stored, and reused onsite for flushing toilets. Through an onsite system, greywater and blackwater are treated for use in irrigating the school's landscape and sports fields. Low-flow fixtures reduce overall water usage in the school and exposed plumbing and signage create an immersive, educational experience for the students. By developing groundbreaking One Water projects, the Watershed Association seeks to create a scalable model for addressing the water demands of a burgeoning population while safeguarding our region's ecological health and resilience.

CONSERVATION EASEMENTS: PROTECT THE LAND YOU LOVE

LAND OWNERS JIM SHULTZ & RIKKY RIVERS ON THEIR CONSERVATION EASEMENT

> We find great peace in knowing that the land we've cherished for over 30 years will remain protected from development long after we're gone. The conservation easement fuels our commitment to uphold its underlying values and instill them in future generations.

For more information, visit the Texas Land Trust Council's Guidebook on Conservation Easements:

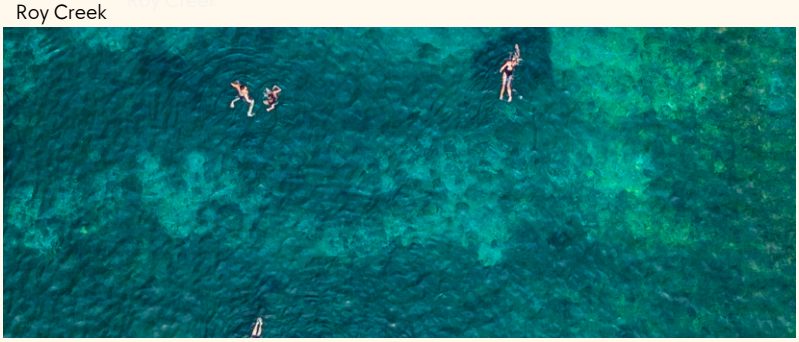


San Marcos River

Jacob's Well

Barton Creek Greenbelt

Roy Creek



All photos by Matthew Guthrie

Barton Creek Greenbelt

WATERSHED PROTECTION & CONSERVATION SCIENCE

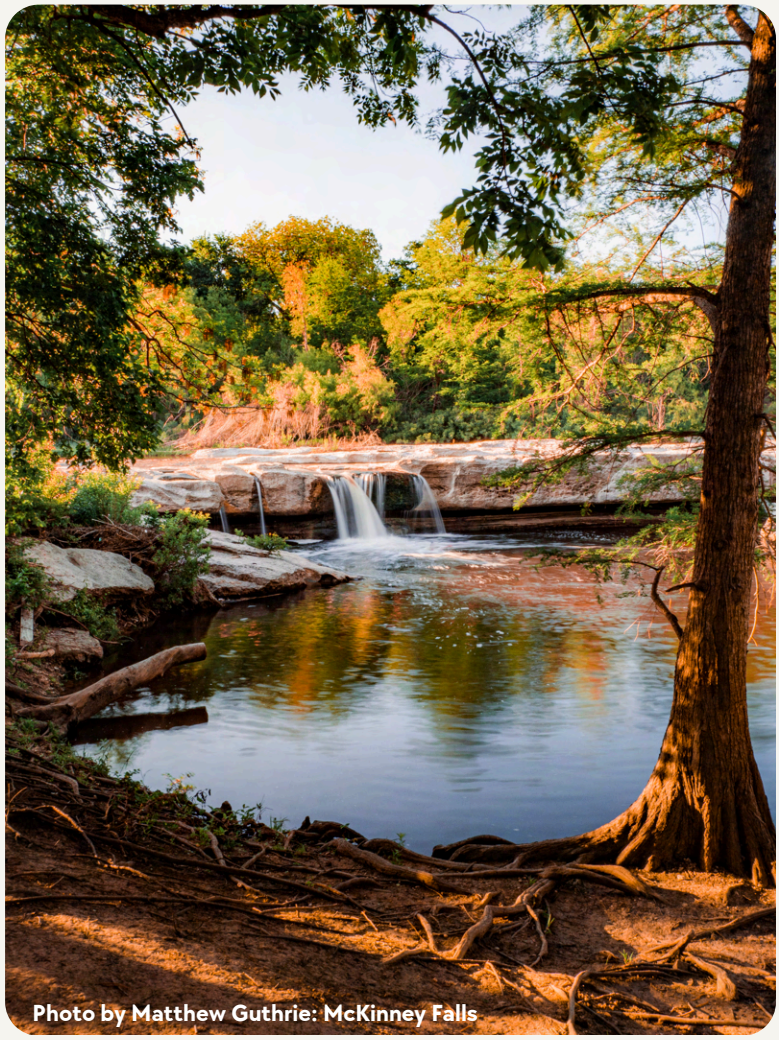


Photo by Matthew Guthrie: McKinney Falls

Photo by Matthew Guthrie: Jacob's Well

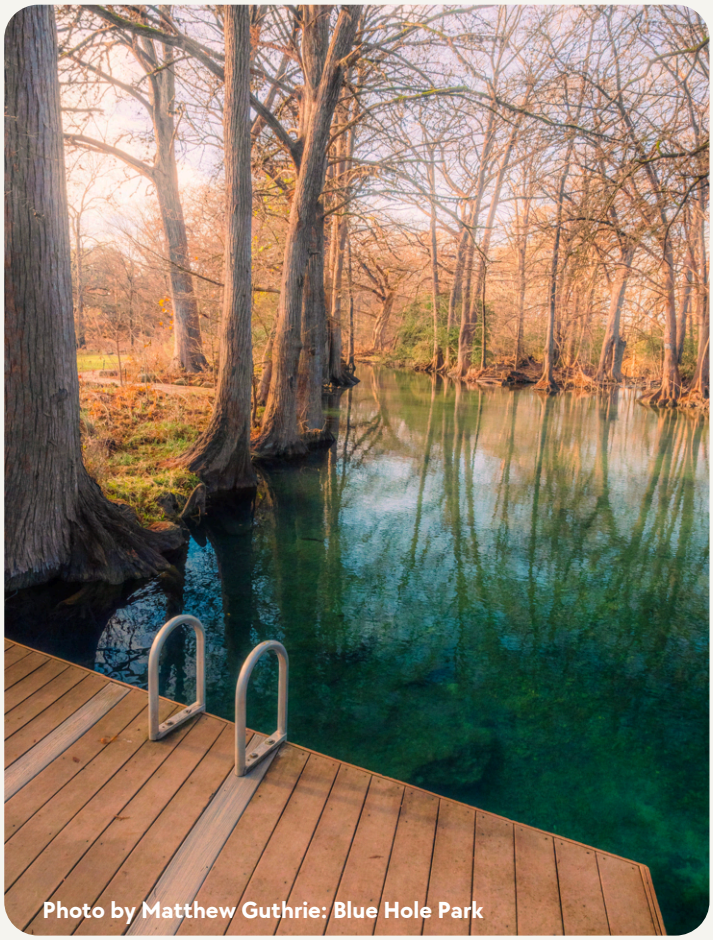


Photo by Matthew Guthrie: Blue Hole Park

Vibrant and healthy spring flows are the lifeblood of water quality in the Hill Country ecosystems. When flows wane, it's as if the region holds its breath – dissolved oxygen levels drop precipitously, while pollutants from wastewater and runoff sources accumulate, threatening fragile aquatic ecosystems as well as our drinking water supply. Recognizing this intricate connection, the Watershed Association has conducted scientific monitoring and data collection since 2003–meticulously documenting the health of these ecologically sensitive areas so that we can collectively respond to changes in the health of the springs, creeks, and rivers.

The collected data, comprehensive analysis, and our strong conservation network help inform education programs and policy development to ensure a future where these life-giving flows continue to sustain our communities.

WATERSHED PROTECTION PLAN: A NEW ERA OF COLLABORATIVE CONSERVATION

We are thrilled to announce a historic milestone for watershed protection in our region. Earlier this year, the Hays County Commissioners unanimously voted to approve an interlocal agreement with the cities of Wimberley and Woodcreek, the Watershed Association, and the Meadows Center for Water and the Environment. This agreement establishes a three-year pilot program to fund the Clean Rivers Program water quality monitoring for Cypress Creek and the Blanco River and to implement the Blanco Cypress Watershed Protection Plan.

This groundbreaking collaboration marks the first of its kind in the state of Texas, bringing together diverse stakeholders to share collaborative watershed governance to sustain clean water standards across our region. Shared watershed management and significant investment in regional watershed protection fosters a balanced, holistic approach that serves as a powerful example and model for watershed management for other counties and regions.

Importantly, this agreement recognizes that water transcends jurisdictional boundaries and it represents a collective effort where everyone contributes toward a common goal, to ensure water availability. Only through a collaborative approach can we effectively address the complex challenges of watershed protection and promote sustainable practices for our shared resources.

Photo by David Baker: Blanco River

Protecting a Texas Hill Country Gem: Roy Creek Canyon

For over 80 years, the pristine 50-acre Roy Creek Canyon has remained an untouched natural gem in the Texas Hill Country, sustaining a rare cypress sycamore forest and endangered species. But its future is currently threatened by the proposed 1,400-acre Mirasol Springs luxury development. While touting environmental practices, Mirasol has requested permits to pump a staggering 108 acre-feet yearly from the Pedernales River and 85 acre-feet from groundwater wells to support amenities using up to 82,880 gallons daily. This semi-arid region already faced 40% cuts in groundwater use during last summer's drought.

The recent discovery of the Pedernales fat Mucket at the mouth of Roy Creek, the species, along with other species will be officially listed as endangered and highlights critical concerns-- that massive additional water demand could deplete river flows that sustain cherished parklands like Hamilton Pool, dry up springs feeding the canyon's fragile ecosystems, drain wells, and further threaten this newly recognized endangered species whose presence is attributed to the fresh water supply from the springs and creek flow.

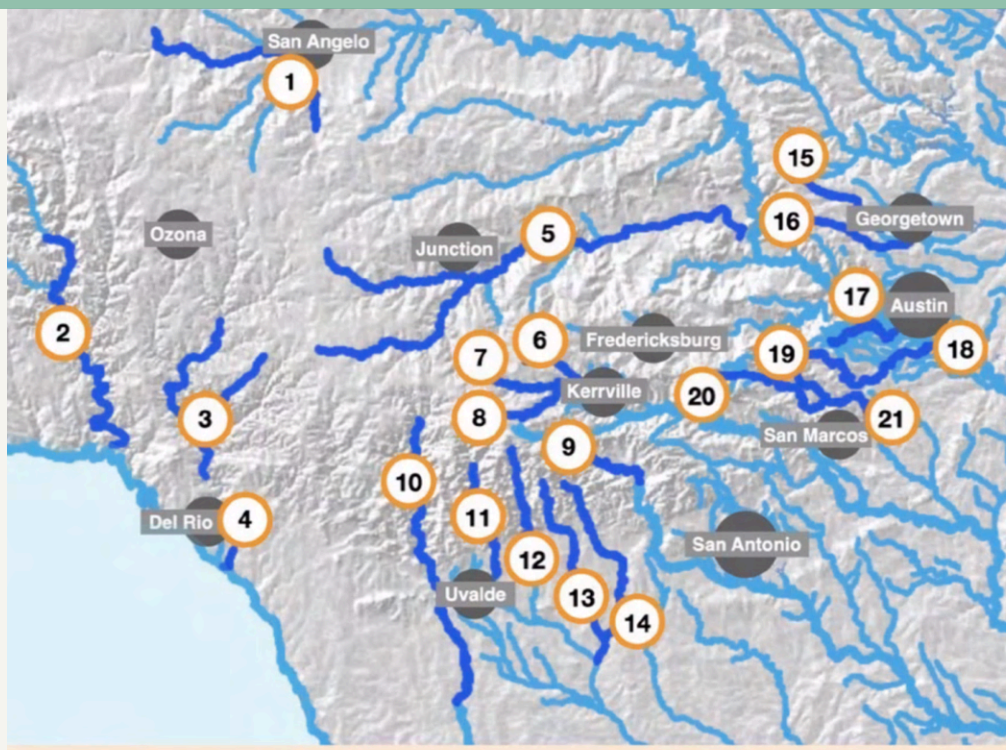
To preserve Roy Creek Canyon, the Hays County has pledged $1 million towards a conservation easement. Mirasol Springs has also pledged to donate a 1000 acre conservation easement and reduce the number of lots in the subdivision. Meanwhile, Travis County, nonprofits, and well owners won the right to legally challenge Mirasol's groundwater and wastewater permits.

As negotiations precede to a formal permit fight, critics question whether enough water truly exists for Mirasol's plans. Some urge fully halting river and aquifer use, arguing the project should rely solely on rainwater. Others seek stricter safeguards in draft permits. The heated battle has sparked pleas to safeguard this natural treasure and its long-term water supply. With almost 3 years of scrutiny already, major questions remain about the full impacts of Mirasol's proposed water use as the contested case process wages on.

PROTECTING HILL COUNTRY WATERWAYS: THE PRISTINE STREAMS PROPOSAL

Much of the Hill Country's beauty comes from its pristine rivers and creeks, which are an important contributor to the region's thriving tourism and recreation businesses. The visitors who come to enjoy these streams spend billions of dollars annually in the Hill Country.

Unfortunately, pristine streams are threatened by the discharge of treated wastewater that contains phosphorus, which causes excessive algae to grow in these rivers and creeks. According to water quality scientists, pristine streams contain no more than 10 micrograms of naturally occurring phosphorus. However, the Texas Commission on Environmental Quality (TCEQ) has allowed treatment facilities to discharge wastewater with 15 to 100 times more phosphorus. The result? Thick blankets of algae that have suffocated these streams and that have prevented humans and wildlife from using and enjoying them.



1 Middle/South Concho River
2 Lower Pecos River
3 Devils River
4 San Felipe Creek
5 Llano River
6 Johnson Creek
7 North Fork Guadalupe River
8 South Fork Guadalupe River
9 Medina River above Medina Lake
10 Upper Nueces River
11 Upper Frio River
12 Upper Sabinal River
13 Seco Creek
14 Hondo Creek
15 North Fork San Gabriel River
16 South Fork San Gabriel River
17 Barton Creek
18 Onion Creek
19 Cypress Creek
20 Upper Blanco River
21 Lower Blanco River

This happened on the Blanco River in 2019, and it has been happening for almost a decade on the South San Gabriel River.

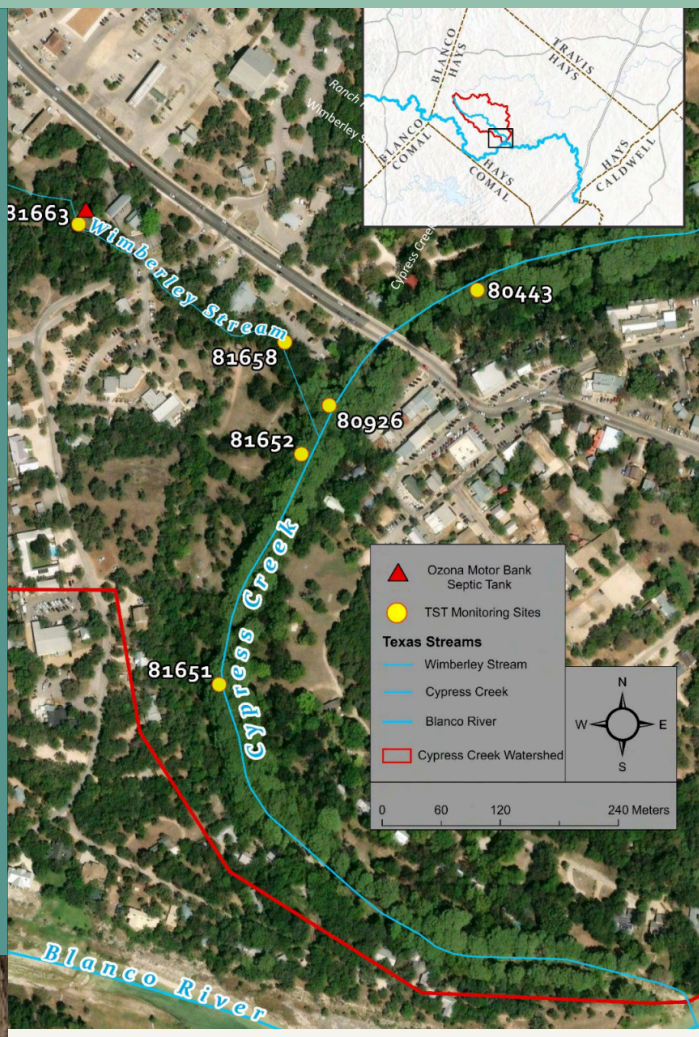
That's why conservation groups have been promoting the Pristine Streams Proposal, which would require TCEQ to stop issuing new wastewater discharge permits on rivers and creeks with very low levels of naturally occurring phosphorus. A total of 21 streams in the Hill Country meet the Proposal's criteria for protection, including the Blanco, Guadalupe, and Llano Rivers, as well as Barton, Cypress, and Hondo Creeks.

Supporters of the Pristine Streams Proposal have worked to advance this initiative as a bill in the Texas Legislature and as a rulemaking petition at TCEQ. Advocates are continuing to work to persuade state officials to stop issuing new wastewater discharge permits on these rivers and creeks. Public support and donations are needed to preserve our state's last remaining pristine streams for future generations.

DYE TRACE STUDY REVEALS MULTIPLE SOURCES OF BACTERIA IN LOWER CYPRESS CREEK

The Meadows Center for Water and the Environment conducted a dye trace study to investigate the long-standing high levels of E. coli bacteria in the lower reach of Cypress Creek from Wimberley Square to the confluence with the Blanco River. The study, conducted from July to October 2023, aimed to determine if a nearby anaerobic sewage septic system was contributing to the pollution.

Researchers from MCWE, Sandra S. Arismendez, Ph.D., and Desiree Jackson, MS, injected non-toxic fluorescent dye into the septic system and monitored six sites along Cypress Creek and its tributary, the Wimberley Mill Race Stream. They found that the dye was detected at three sites on Cypress Creek, suggesting that lateral groundwater flow in the karst geology beneath the area plays a role in transporting treated water from the septic system to Cypress Creek. However, no dye was detected at Mill Race Spring or downstream at the confluence with Cypress Creek.



E. coli levels exceeded standards at three sites, likely due to bats residing under a nearby bridge and nonpoint source pollution from runoff.

Dissolved oxygen levels were below standards at all sites.

Optical brightener fluorescence was used as a surrogate for human fecal contamination and was present at most sites, but was more frequent at the Cypress Creek sites.

While the septic system may contribute to the contamination under certain conditions, the study highlights the importance of addressing multiple sources of pollution to protect water quality in Cypress Creek.

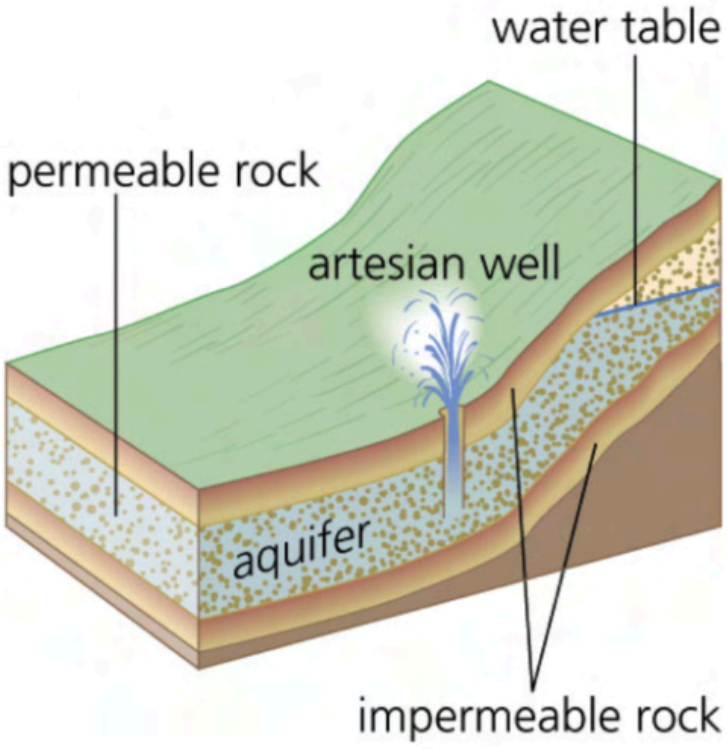
Recommendations include implementing practices to reduce nonpoint source pollution from runoff, evaluating strategies to address bat colony impacts, engaging with septic system owners in maintenance and upgrades, expanding the sewage central collection system to other parts of Wimberley, and continuing to monitor water quality parameters.

CURRENT STATE OF OUR WATERSHED: 2024 HYDROLOGICAL REPORT

The Wimberley Valley is a *karst landscape*, meaning that over millions of years, rainwater falling in this region dissolved the limestone rocks, carving out intricate passages and chambers that allow water to flow deep into the Earth. Among these natural wonders is Jacob's Well.

Jacob's Well is a type of spring called an "artesian well." The drawing at right is not an accurate portrayal of Jacob's Well, but it demonstrates how artesian wells work.

The aquifer is a layer of porous rock sandwiched between solid rock layers that water cannot flow through, except where there is a hole or crack. Geologists have many names for openings in the impermeable rock layer, depending on their size, how they were formed, and whether water flows into or out of them. In our region, these openings are known collectively as *karst features*. If water flows out of a karst feature, it is a *spring*. If water flows into it, it's a *recharge feature*.



An artesian well is a type of spring that only flows when the water in the aquifer is under pressure.

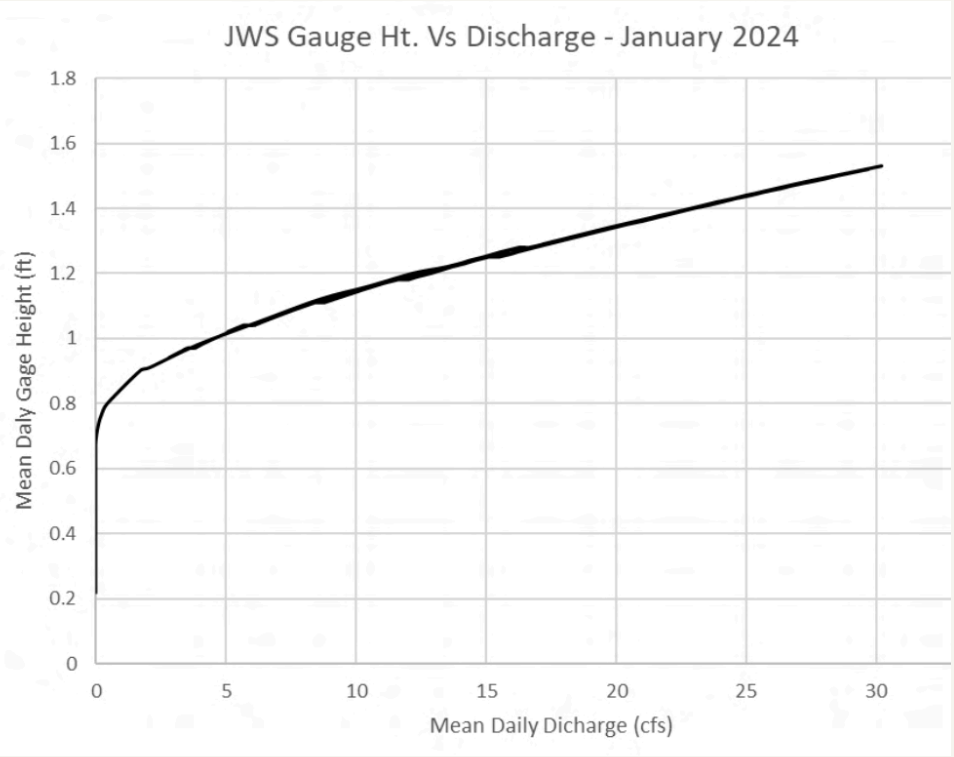
Terms like sinkhole, cave, seep, artesian well, fault, and others, all denote distinct types of karst features. As you probably noticed, some places are full of karst features, while others may have none that we can see at the surface.

Just as the only natural way for water to leave the aquifer is through a spring, it only enters the aquifer through recharge features. The Watershed Association conserves land with recharge features that supply water to the Middle Trinity Aquifer, which is connected to Jacob's Well through a vast network of underground caverns. As the drawing above shows, an *artesian well* only flows when the water level in the aquifer is higher than the surface of the spring. Thus, Jacob's Well is a window into the Middle Trinity Aquifer. The rate at which water flows from Jacob's Well indicates the water level in the aquifer. The more water there is in the aquifer, the more water flows from Jacob's Well. If Jacob's Well stops flowing, the stagnant water visible at the surface is the actual level of the water in the aquifer.

How do we know how much water is flowing from Jacob's Well?

Since 2005, the United States Geological Survey (USGS) has monitored the water level at Jacob's Well using a gauge that automatically sends a measurement to a database every 15 minutes. We use this data to calculate how much water is flowing from Jacob's Well. To understand the relationship between the gage height and the amount of flow from Jacob's Well–also called *discharge*–we first have to compare the two. The discharge is measured manually in cubic feet of water per second (CFS). 1 CFS is about 450 gallons per minute.

CURRENT STATE OF OUR WATERSHED: 2024 HYDROLOGICAL REPORT



Over time, we have gathered enough data to create a graph comparing the flow rate from Jacob's Well (x-axis) to the gage height (y-axis).

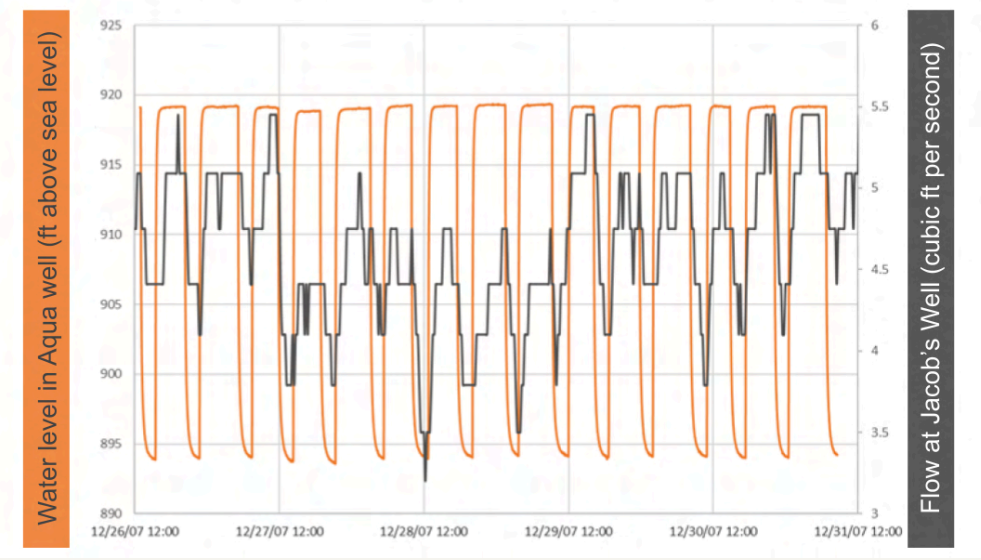
This graph creates a unique *rating curve,* which is the signature of the flow at Jacob's Well. Since finding this rating curve, we no longer need to measure the flow rate manually because we can calculate it based on the gauge height.

As evident from the rating curve, a small change in the gage height means a big change in the flow. For example, when the gage height rises from 0.8 ft to 1.0 ft, the flow increases by 5 CFS– that's 2,250 gallons per minute!

Numerous studies have shown that small declines in aquifer water levels from pumping at nearby wells can significantly impact the flow from Jacob's Well. In particular, pumping from Aqua Texas' main supply well in Woodcreek North, Well 21, is known to cause significant declines in flow.

Impact of Aqua Texas Pumping on Jacob's Well Spring Flow

The graph on the right shows how the flow from Jacob's Well is diminished by pumping at Aqua Texas' Well 21 during a typical 5-day period. The orange line represents the water level in Aqua's supply well. Aqua's pumps cycle on and off at fairly consistent intervals to keep its supply tanks full. When Aqua is pumping from Well 21, the water level in the well declines; when they stop pumping, it fills back up. The dark gray line represents the flow from Jacob's Well, during the same 5-day period.

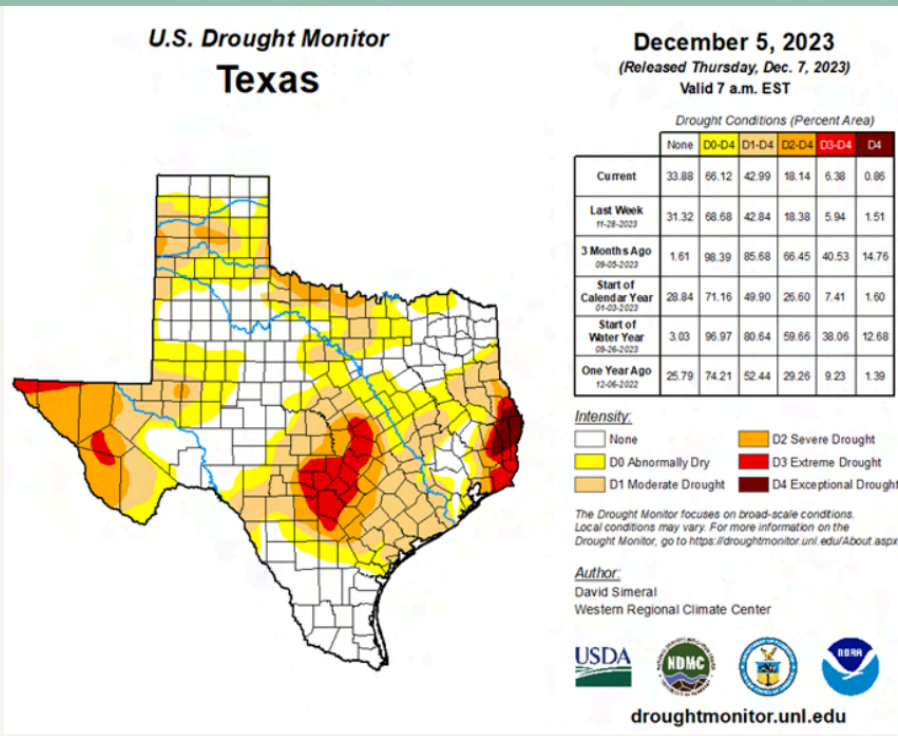


Notice that the downward dips in flow from Jacob's Well align precisely with the orange dips from Well 21. Each time Aqua's pump turns on, the flow at Jacob's Well declines by approximately 1.3 cubic feet per second (CFS), which is about 585 gallons per minute. When the water level in the aquifer is high, this decline may go unnoticed, but during drought conditions, it can cause Jacob's Well to stop flowing altogether.

CURRENT STATE OF OUR WATERSHED: 2024 HYDROLOGICAL REPORT

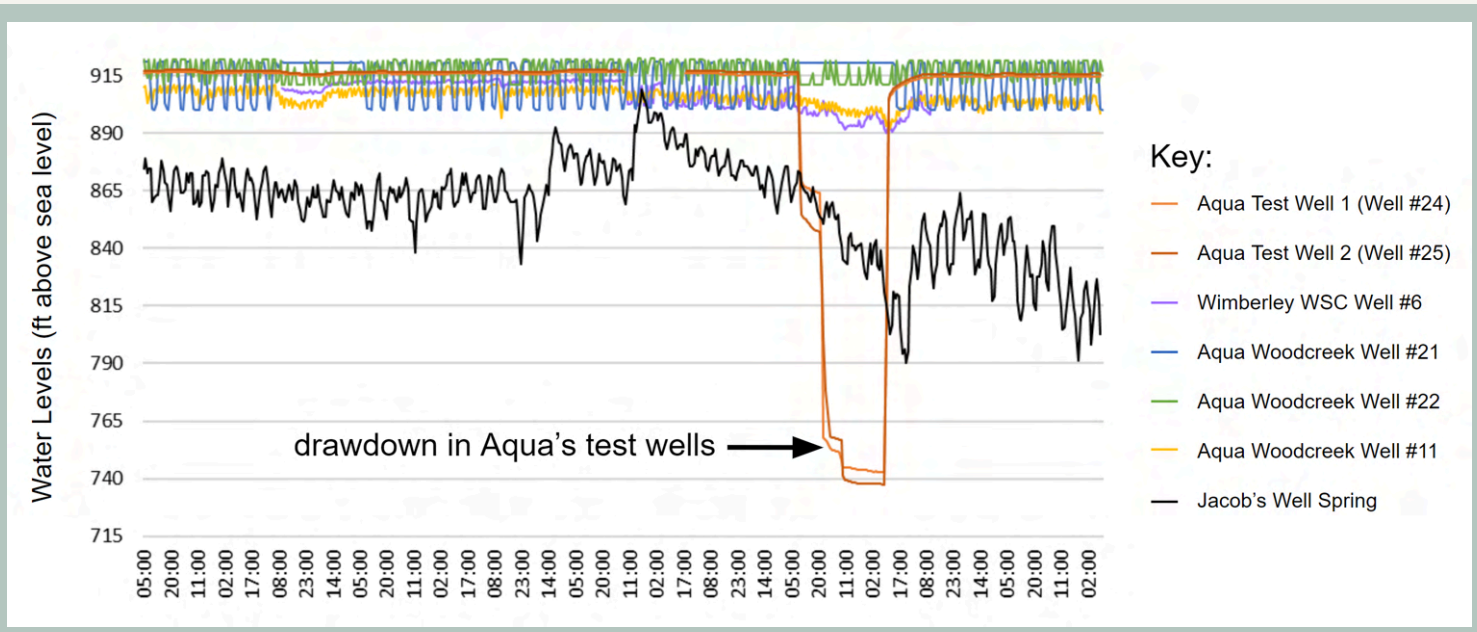
According to the US Drought Monitor, drought conditions persisted across the recharge zone of the Middle Trinity Aquifer throughout all of 2023, ranging from “Extreme Drought” to “Exceptional Drought.”

The Hays Trinity Groundwater Conservation District (HTGCD) restricts groundwater pumping during drought to ensure that the community has enough water to meet its needs. However, **in 2022, Aqua Texas pumped 90 million gallons more than their HTGCD permit allowed. They leaked about 30% of the water they pumped– more than 55 million gallons.** For comparison, about 51 million gallons flowed from Jacob’s Well in water-year 2022.



In 2023, Aqua continued to ignore drought restrictions and pump at similar rates as in 2022. As a result of Aqua’s disregard for drought restrictions, coupled with the ongoing drought, Jacob’s Well did not flow for many summer days. Aqua Texas continues to violate the regulations that protect Jacob’s Well today.

Aqua claims that it is investing in conservation by drilling two new test wells. The purpose of drilling these wells was to *test* whether pumping from them would impact Jacob’s Well and others in the vicinity. If not, then they might be used as an alternative to Well 21. The graph below shows some of the results of the pump test. During the two-day test, the Watershed Association coordinated monitoring of 27 other wells in the area. Each colored line on the graph represents the water level in one of these wells. The black line represents the flow from Jacob’s Well. As described on the previous page, when a well turns on, it draws the water level down. Compare the typical drawdown cycles of 15-20 feet in the other monitored wells to the drawdown in Aqua’s test wells. The water level in the test wells dropped about 170 feet during the pump test, indicating that these wells are not viable for public water supply wells. In addition, pumping from these wells caused notable declines in flow from Jacob’s Well and other wells in the vicinity.



DEFENDING GROUNDWATER CONSERVATION DISTRICTS' AUTHORITY TO PROTECT WATER IN TEXAS

After refusing to comply with drought restrictions and over-pumping its permit by a total of 150 million gallons in 2022 and 2023, Aqua Texas sued the Hays Trinity Groundwater Conservation District (HTGCD) in Federal District Court on the grounds that Groundwater Conservation Districts (GCDs) have no authority to limit utilities' groundwater pumping. **If Aqua were to win this lawsuit, the rules that protect groundwater in Texas would be effectively overturned.**

Photo by David Baker: Jacob's Well, July 26, 2023

The Watershed Association and the Trinity Edwards Spring Protection Association (TESPA) are partnering to support HTGCD in defending its right, and the rights of all GCDs across Texas, to protect water through science-based regulations.

In addition, TESPA filed a formal complaint with the Public Utility Commission (PUC), requesting that it either revoke Aqua's exclusive right to provide water and sewer service in the vicinity of Jacob's Well, or mandate that Aqua bring its operation into compliance. This action stems from Aqua's public statements that it cannot meet the community's water demand while complying with regulations, as well as the revelation that Aqua's application for the CCN was approved under the false premise that it would serve fewer than half the customers that it currently does.

Drilling at one of Aqua's test wells

Finally, the Woodcreek Property Owners Association, the Watershed Association, TESPA, and utility customers in Woodcreek North are contesting Aqua's application at the Public Utility Commission (PUC) to raise residential customers' monthly water and sewer bills by more than $50 per month. Aqua claims that these rate increases are needed to recover its investments in infrastructure upgrades and service improvements. We are intervening in this case to ensure that Aqua does not offload the costs of multi-million-dollar projects like the new test wells onto the communities of Wimberley and Woodcreek. Unless Aqua can prove that the funding was allocated toward projects that legitimately reduced the strain on our aquifer and improved utility services metrics like line loss, pressure, outages, response time, and water quality, we must insist that the PUC reject this rate increase.

In response to these actions by TESPA and the Watershed Association to protect our water, Aqua Texas subpoenaed both organizations for their communications with Hays Trinity Groundwater Conservation District.

THE PEOPLE VS AQUA TX

OUR WATER. OUR TEXAS.

> **"TESPA is fully committed to finding and using every legal and regulatory avenue available to defend the Wimberley and Woodcreek communities against the reckless actions of Aqua Texas."**
>
> – Jim Blackburn, TESPA board president

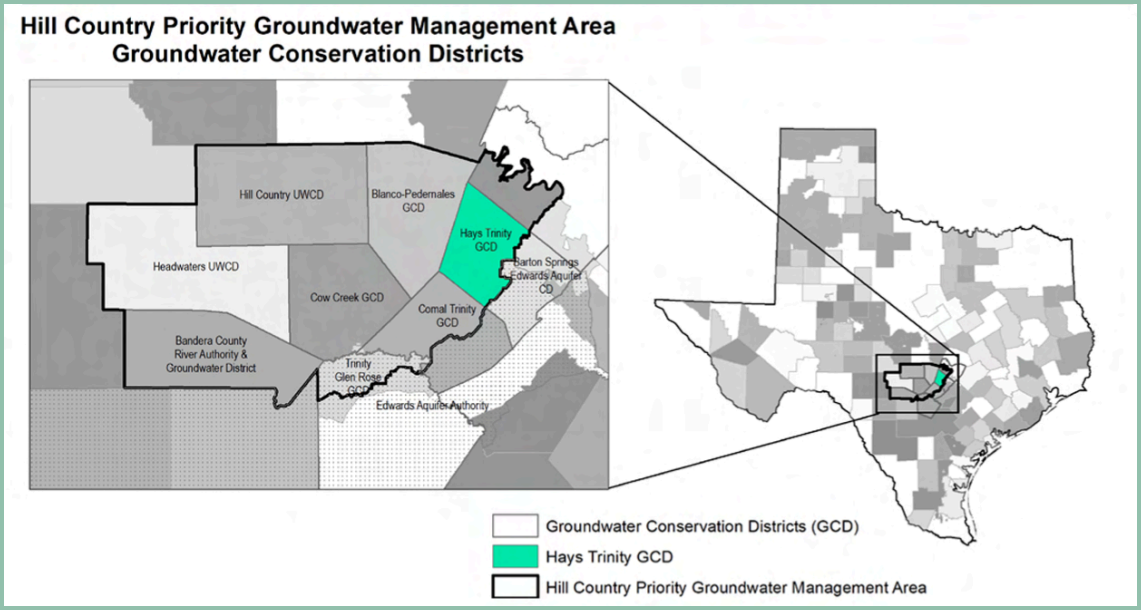
WHAT GROUNDWATER CONSERVATION DISTRICTS *CAN* REGULATE

Recognizing that aquifer conditions vary across the state, the Texas Legislature authorized Groundwater Conservation Districts (GCDs) to regulate water resources locally. The Texas Water Code says GCDs "are the state's preferred method of groundwater management in order to protect property rights, balance the conservation and [use] of groundwater to meet the needs of this state, and use the best available science in the conservation and [use] of groundwater through rules developed, adopted, and promulgated by a [GCD] in accordance with the provisions of [Chapter 36]." Each GCD aims to achieve unique long-term goals for its water resources, with varying levels of authority, based on their enabling legislation.

Examples of Typical GCD Activities

1. Study the local aquifer in order to make science-based decisions
2. Prescribe how far apart wells should be, and how large a property must be to have a well
3. Require permitted wells to report how much water they pump
3. Limit the amount of water pumped by permitted wells
4. Enforce stricter rules during droughts, like stopping new well permits
5. Limit groundwater pumping to meet long-term water supply goals
6. Divide the GCD into zones to manage water based on local conditions
7. Educate the public on water conservation and reuse
8. Support efforts to reduce groundwater demand supplies

The Hays Trinity Groundwater Conservation District (HTGCD) manages groundwater in the region where Jacob's Well is located. HTGCD issues permits that specify the volume of water each well may pump. During drought, pumping limits are reduced and adjusted to accommodate the drought's severity. While HTGCD can levy fines on permit holders who exceed these limits, it cannot shut down their pumps. If a permit holder fails to comply with their permit's terms and conditions, the GCD must pursue legal action.



Ways You Can Help

- Get to know your local GCD. Use their water conservation resources and ask how you can support their work.
- If you live in the Hays Trinity GCD, thank the board members for their efforts to hold Aqua accountable for their permit violations, and encourage them to stand strong.
- Stay informed. Support legislative efforts to grant GCDs and counties more authority to protect water.
- Contact your elected officials. Ask them to create a long-term regional plan to reduce our reliance on groundwater by transitioning to rainwater, reclaimed wastewater, and aquifer storage and recovery.
- Conserve, Conserve, Conserve: Do not underestimate your impact. Every drop truly counts. Use your water meter to keep a log of your usage and find ways to cut back. Tip: outdoor water usage accounts for up to 70% household water consumption.

CLEAN RIVERS PROGRAM

For over two decades, the Watershed Association has been collecting water quality data through the Texas Clean Rivers Program (CRP). Currently, the Watershed Association funds 14 quarterly monitoring sites along Cypress Creek and the Blanco River. The program's objectives are to provide quality assured data to the TCEQ for use in decision-making to identify and evaluate water quality issues, promote cooperative watershed planning, recommend management strategies, inform and engage stakeholders, and maintain efficient use of public funds. Along with the Meadows Center for Water and the Environment, the Watershed Association sponsors two monthly monitoring sites on the Blanco River above and below the Blanco Wastewater Outflow to measure changes in water quality associated with direct wastewater discharges. We are excited to announce that this program will continue to thrive through our new Interlocal Watershed Protection Plan.

Testing Sites Across Central Texas

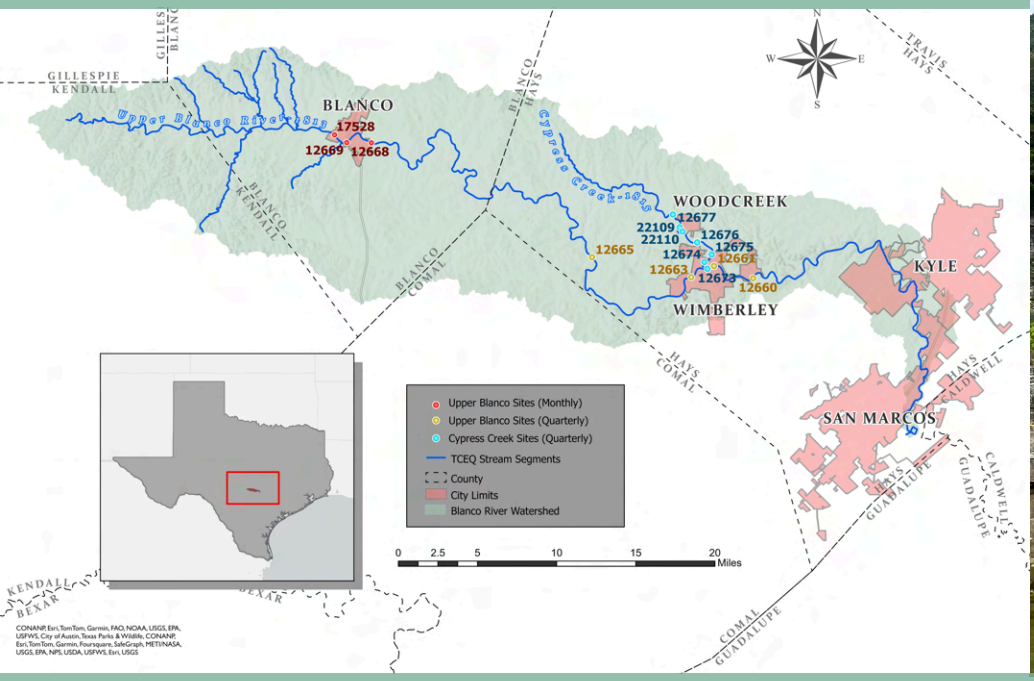


Photo by Sandra Arismendez: Desiree Jackson, measuring flow in Blanco River, August, 2023

Bacteria Sampling Results, March/April 2024

The Wimberley Water Advisory Group, a group of volunteers, has monitored both Cypress Creek and the Blanco River near Wimberley for E. Coli bacteria for decades. The monthly swim-season bacteria sampling began in 1984 with support from the Wimberley Chamber of Commerce, The Wimberley Community Civic Club, and The Wimberley Lions Club. Results are on file at the Chamber office and are published in the Wimberley View. Samples are analyzed at the Edwards Aquifer Research and Data Center Lab at Texas State University.

The US Environmental Protection Agency uses E.coli bacteria counts as an indicator of how many pathogens could be in the water. If E.coli counts are over 394 colonies per 100 ml of water sample at any one time OR a geometric mean of 126 colonies per colony over time, there is a greater chance that pathogenic organisms are present. EPA set the standard for contact recreational use in freshwater as a geometric mean below 126 colonies per 100 ml.

Cypress Creek	3/4/24	4/15/24	5/6/24	6/3/24
Jacob's Well Flow	***3 cfs***	***0.4 cfs***	***0.1 cfs***	***2.3 cfs***
Site 0 – Jacob's Well	3	1	10	28
Site 1 – Cypress Creek at Jacob's Well Road	2	1	3	32
Site 2 – Cypress Creek at Woodcreek	10	1	142	12
Site 3 – Cypress Creek at north RR12	96	64	196	145
Site 4 – Cypress Creek at Blue Hole	24	35	115	116
Site 5 – Cypress Creek below bridge at Square	NR	24	194	NR

Blanco River	3/4/24	4/15/24	5/6/24	6/3/24
Blanco River at Fischer Store Rd Flow	***4.3 cfs***	***4.7 cfs***	***6.4 cfs***	***10.9 cfs***
Site 6 – Blanco River at Paradise Valley	30	28	109	89
Site 7 – Blanco River at bridge on south RR12	46	25	158	228
Site 8 – Blanco River above Cypress Creek	28	17	44	52
Site 9 – Blanco River at 7A Ranch	21	1	5	5
Site 10 – Blanco River at River Meadows	NR	162	37	NR
Site 11 – Blanco River below Sentinel Peak	31	66	26	79

NR = No Reading
cfs = cubic feet per second

Photos by Erich Schlege: Art4Water

REGENERATIVE CONNECTION & ENVIRONMENTAL EDUCATION

We are deeply connected to our land and water. The environment we live in supports our lives on every level. At the core of our work is the belief that genuine care and concern for our environment arises when we have an intimate understanding and direct relationship with it. Simply being exposed to information is often not enough to inspire lasting commitment but a strong personal connection to a place and experiential knowledge, leads to a deeper desire to protect and care for the places we live and the challenges we face.

This philosophy guides our community engagement and education efforts. We strive to create opportunities that allow people to get to know the remarkable natural environment of Central Texas on a deeper level. In addition to our own program offerings, we are passionate about uplifting and partnering with other organizations that focus on experiential learning.

By facilitating these transformative experiences, our goal is to inspire a groundswell of environmental and civic consciousness - a true community united by care for this special place and its inhabitants. Only then can we collectively work to create a thriving, sustainable future for Central Texas.

ART4WATER

The Art4Water Program and our cornerstone exhibit, The Sacred Springs Kite Exhibition serves to provide inspiration and education at the intersection of conservation and art. This exhibit launched in 2022 with a residency at the Austin Public Library and has since moved around the region capturing the attention of thousands of people. Our inspiration for Art4Water was born out of a desire to captivate and educate in a unique and inspiring way, to capture the attention of diverse audiences through inspiring imagery.

The Sacred Springs Kite Exhibition, a collaboration between The Watershed Association and Terry Zee Lee, features the work of 35+ national and local artists to raise awareness of threatened Texas springs and the vital connection of water to life. Hanging like an oasis in the sky, these 50+ water-inspired art kites bring together diverse communities around the respect for Texas' great springs–their history, their value, and the threats to their existence. After the Art4Water Kites made their debut in the Austin Central Library in the Spring of 2022, they then moved to the San Marcos Public Library (April 2023 - October 2023), The Austin Airport (October 2023 - Jan 2024), and now have found their temporary home at the St.Edward's University Library through December 2024.

FOLLOW FOR VIDEOS FEATURING OUR ARTISTS

BUY ART, SAVE WATER

The Watershed Association has launched an online storefront where you can purchase an array of Sacred Springs Art.

All proceeds from the purchases go towards protecting Texas Land and Water and helping expand Art4Water programming.

Visit the Watershed Association's Artist Storefront!

ADVANCING EDUCATION THROUGH PARTNERSHIPS: ENGAGED ECOLOGY INITIATIVE

To expand our on-the-ground experiential education programming, we are partnering with the Engaged Ecology Initiative (EEI) at Texas State University. The initiative represents a holistic approach to fostering environmental stewardship and seeks to find harmony based on a growing understanding of ecology, systems theory, and the natural world as an interdependent whole. We aspire to expand our partnership with the EEI through a comprehensive, three-year plan aimed at advancing socio-ecological research and immersive educational experiences. We look forward to inviting EEI along with other inspired partners to help us co-create portfolios of living laboratories and transform our existing properties into biocultural field sites. Our partnership with Texas State recognizes the critical need to develop a multi-generational approach to environmental stewardship and the necessity to cultivate resilient, resourced, and devoted leaders who can withstand all they will face in the conservation space in the years to come.

Photo by David Baker, Jacob's Well

STUDENTS SUPPORTING WATER RESEARCH

The Watershed Association collaborated with students and faculty from Texas State University's Research and Communications Department to survey our local community about their water usage. The survey provided valuable insights for shaping future conservation efforts and policies in our community.

Key findings show:

- 96% of respondents are year-round residents, with 90% owning their homes.
- 82% have lived in the area for over 4 years, with 34% being multi-generational residents.
- Primary water sources include wells (29%), Aqua Texas (29%), or Wimberley Water Supply Corp (22%).
- 95% noticed significant and extreme changes in local water bodies over the past year.
- 92% rated the current drought as extreme.
- 94% expressed high concern about environmental and community impacts.
- 89% believe local authorities/companies are not taking sufficient conservation measures, indicating support for more regulation.
- 95% are willing to participate in no-cost conservation activities, with 90% willing to participate even if some effort is required.

Scan the QR code to take the survey

UPLIFTING THE NEXT GENERATION OF ENVIRONMENTAL LEADERS

Photo by Aliya Rose

The Watershed Association is thrilled to announce a new partnership with the One Village Project and their program, The Institute for Emerging Visionaries. This December, we will partner to bring a 5-day immersive Visionary Incubator to Central Texas for young leaders ages 18-28.

Born out of 25+ years of transformational education, the Visionary Incubator is a unique and transformative initiative that empowers the next generation of environmental and humanitarian leaders to develop and implement innovative solutions to address the pressing challenges facing our planet.

Throughout the visionary incubator, participants will embark on a transformative journey of self-discovery, capacity building, leadership development, personal growth, and the practicalities of program implementation. Backed by the support of a team of dedicated mentors and experts, Visionary Delegates are invited to enliven their deepest visions for themselves and humanity and curate a life that reflects those visions.

Photos by Heather Brovsky

"This is legacy work, this is true education, this is a sustainable movement to restore sentience and authentic connection to the wisdom of the land and a commitment to standing in allyship with it."
-Vanessa Stone, Founder of One Village Project

Stay tuned for more details and the launch of our Visionary Incubator application. For questions or more information please contact aliya@watershedassociation.org

BLANCO RIVER ACADEMY

We are thrilled to partner with **Blanco River Academy** (BRAc), a small nonprofit Environmental Stewardship School located just steps away from Blue Hole Park. Since its inaugural school year in 2015, the Blanco River Academy has prided itself on remaining responsive to the needs of its students and community and dedicated to its purpose to provide a robust academic learning environment that fosters a lifelong love of learning and a sense of purpose in its students.

The Watershed Association is invested in educating youth and supporting BRAc to sustain and expand its programs to inspire the environmental leaders of tomorrow. A primary focus of our collaboration is to facilitate access to outdoor spaces that serve as vibrant, hands-on learning environments. These spaces are integral to providing students with immersive experiences, fostering a deeper understanding of and commitment to conservation practices. By enabling students to engage directly with nature through practical, experiential learning, we anticipate developing a keen sense of responsibility and stewardship toward preserving our fragile ecosystems.

The Watershed Association was also a proud sponsor of the 2024 Blanco River Songwriter Festival featuring Eliza Gilkyson. The annual Songwriter Festival was born out of an inspiration to bring the community together through music, art, and creativity and to nurture and support the important work of the Academy to cultivate our youth.

Blanco River Academy aligns with the Watershed's vision of a community actively engaged in sustainable environmental practices to ensure the long-term health and vitality of the Wimberley Valley's unique ecosystems. By emphasizing experiential education, this collaboration aims to impart knowledge and inspire action among students, encouraging meaningful conservation efforts and raising community awareness about environmental issues.

Virtual Education & Outreach

Austin local ***Matthew Guthrie*** embarked on a journey of landscape photography and outdoor exploration in his hometown, initially sharing his adventures on Instagram under @HikeAustin. What began as a quest to generate extra income through guided hikes and photography services quickly transformed into a viral sensation, leading Guthrie to focus on providing educational content about Austin's hiking trails, particularly those in need of support for their preservation.

With over 108,000 followers on @HikeAustin and 18,000 followers on @Guthrie.ATX, Guthrie's platform has become a staple for Central Texas outdoor enthusiasts. His dedication to promoting outdoor exploration has extended beyond social media, as he now serves on the board of directors at Westcave Outdoor Discovery Center and as president of the board at Austin Wildlife Rescue. Despite his growing public persona, Guthrie remains steadfast in his mission to inspire people to embrace nature and embark on their outdoor adventures.

****All images in this edition of the Seasonal Program Update, unless indicated, were captured and graciously shared by Matthew Guthrie-- Thank you, Matthew!!**

COMMUNITY OUTREACH

Over the past few years, we have shifted our outreach approach to diversifying our education and engagement strategies to expand our impact through engaging the public through more creative outlets, at the intersection of multiple disciplines. Our Art4Water Program is an example of a program that engages at the intersection of visual arts and conservation and has enabled us to share the mission with millions of people through the medium of art and expression displayed in public spaces.

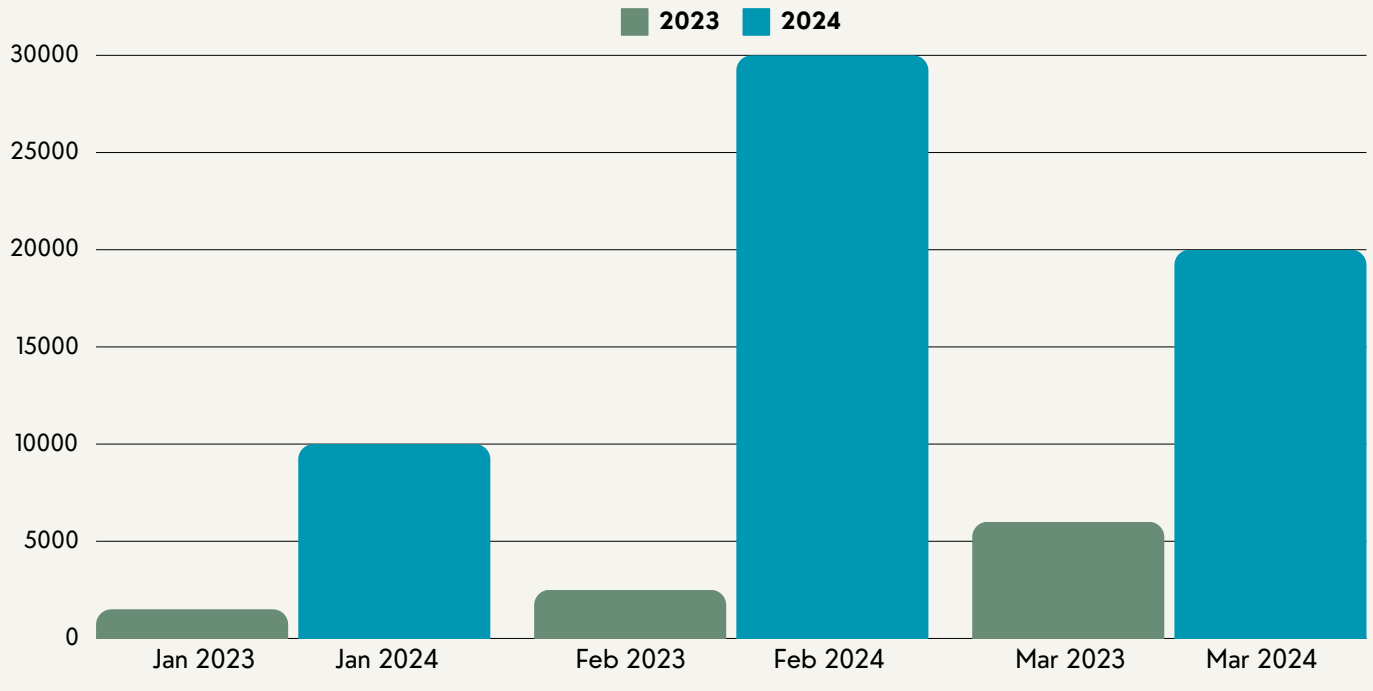
Additionally, social media has emerged as a valuable educational platform, especially for younger audiences who increasingly rely on these platforms as primary learning tools. We are dedicated to cultivating a stronger social media presence to better educate and maintain relevancy with younger generations, allowing us to form meaningful connections across a larger demographic, and have successfully increased our engagement by thousands of followers.

8 Million — People reached through Art4Water exhibitions

10K — Followers across Facebook & Instagram

Photo by Abby Jones: Alexa King's Sacred Springs Kite, "Above and Below"

Social Media Reach 2023-2024



A SPECIAL THANK YOU TO OUR 2024 RAINMAKERS

Our donors play an invaluable role in making our programs and initiatives possible. The Rainmakers Club was created to honor our generous supporters who have contributed significantly and consistently to our mission.

Adele Gunnarson
Alan & Valerie Nies
Andrew & Lin Weber
Art Crowe
Austin Community Foundation
Austin Together
Barbara Turley
Bill Johnson
Billy & Dodee Crockett
Brent Pulley
Charles Lamme
Charles McCord
Clayton Morgan
Collective Strength
Cynthia Beath
Cypress Valley & ArtisTree
Dain Dunston
David & Ellen Berman
David Gibson
Fred & Cookie Hagemeier
Gina Fulkerson
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The Way Family Foundation
Threshold Foundation
Tracy DiLeo
William Phillips
Winkler Family Foundation

We would like to acknowledge our Community Partners that joined together to create the *Interlocal Agreement for the Blanco Cypress Watershed Protection Plan.*

Special thanks to Hays County, The Meadows Center for Water & The Environment, The City of Wimberley, and The City of Woodcreek.

SUPPORT YOUR WATERSHED!

Become a part of a movement of people deeply committed to protecting our land and water for future generations. Your sustaining contributions make our important work possible across the region.

$500/yr
$42/mo
Water Keeper

$1000/yr
$84/mo
Spring Steward

$5000/yr
$417/mo
Groundwater Guardian

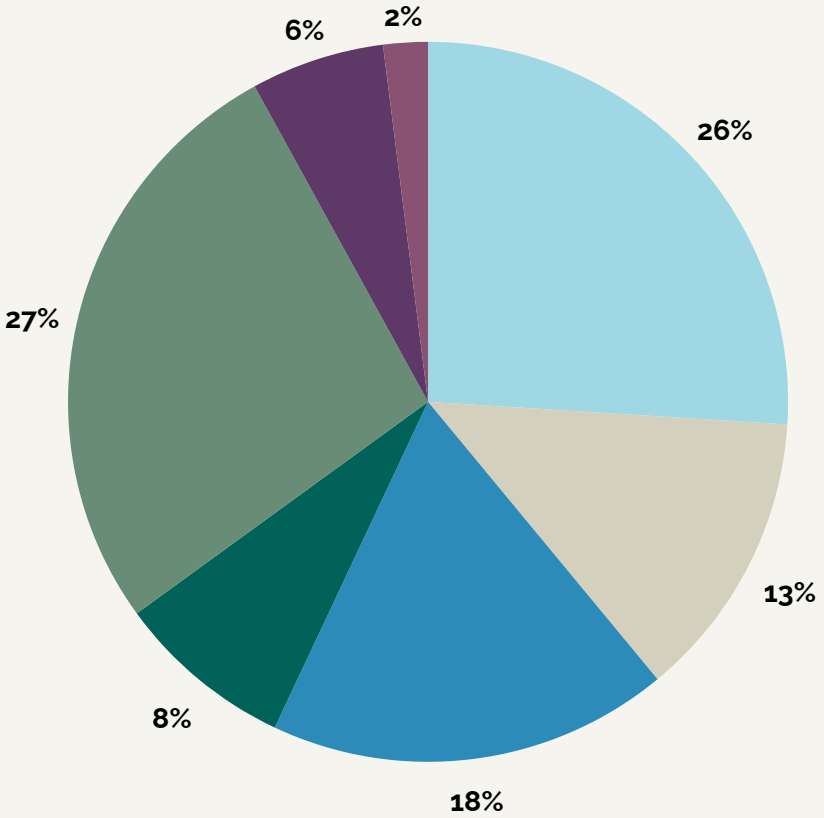
$2500/yr
$208/mo
Aquifer Advocate

$10,000+
yearly
Watershed Protector

Use your smartphone's QR code reader to learn about ways you can support or visit watershedassociation.org/membership

2023-2024 Expenses by Impact Area

Program allocations reflect expenses from Jan 2023 - April 2024



- Land Conservation & Sustainable Development Initiatives
- Watershed Protection & Conservation Science
- Policy/Advocacy & Environmental Planning
- Art4Water
- Regenerative Connection & Education
- Operations & Management
- Fundraising & Donor Relations

Photo by Carl Griffin

Support the Watershed Association to inspire responsible stewardship of our watersheds. Your investment is vital to engage and educate our communities and to preserve and protect the land and water of Texas Hill Country for future generations.

For more information and to stay in touch, please visit www.watershedassociation.org

@watershedassociation

@watershedassociation
@_Art4Water

Use your smartphone's QR code reader to learn more

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Photo by Andy Heatwole