

LRWA Watershed Report

Editor & Layout: Linda Fawcett

Opinions expressed herein are not necessarily shared by LRWA



UPDATES ON UNPERMITTED IMPOUNDMENTS

The James River Dam - First, a quick review (from the Oct.2.23 LRWA Newsletter) ... “Mid-August [2023], it was revealed by neighbors that a dam was being built on the James River, a major feeder into the Llano River near Mason. No permit whatsoever. The landowner was listed as NEUSCH MASON, a limited liability company that bought the land earlier [in 2023]. TCEQ and TPWD were duly alerted and construction paused. In a timely fashion, the cities of Mason and Llano passed resolutions against the James River dam. TCEQ leveled a \$10,000 fine and TPWD followed with a notice to the landowner to submit a plan (within 2 weeks) to tear down the dam and also file with TPWD Sand and Gravel a restoration plan for removal of all construction materials to restore flow to the original channel of the river, and to stabilize the exposed earthen bank with native vegetation seed. Then ensued a lengthy negotiation period between both sides, until FINALLY - On April 2, we received word from **Scott Zesch of Mason** (who

has been providing updates) that a “deal had been struck” between TPWD and the landowner, Bill Neusch (who works for Gibraltar Perimeter Security). Neusch stated that he had started the project to enable a ranch road giving access to the his property because it bounded both sides of the James River. Apparently there is no existing alternate access to the property on the north side of the river.

The following are excerpts from TPWD’s “Executive Summary” concerning the impoundment:

The existing structure within the James River consisted of steel reinforced concrete, approximately 10 feet at the top of the “road structure” and 12-13 feet at its base, spanning the length of Ordinary High-water Mark (OHWM) of the river (approximately 400 feet across).

Construction began late March to remove about 310 feet of materials from the middle of the “roadway.” This removal, centered at the **thalweg** (new word! - “lowest elevation of the riverbed”) of the river will allow for normal flow conditions, along with partial removal/regrade of two proposed concrete ramp areas on either bank to allow safer slopes for trucks to cross the riverbed. (TPWD added that driving across the river could only occur during low-flow conditions, not during high-water or floods.)

TPWD’s summary also contained many requirements for removal and relocation of relevant construction materials (to outside the floodplain), treatment of aquatic vegetation nearby during reconstruction, performance standards of

all structures and integrity of stream flow, protection of natural bedrock, and adaptive management of anticipated remedial or corrective measures over time, approval of which will be handled by both TPWD and the U.S.Army Corp of Engineers (USACE). The final sentence read as follows: “This project will not be released from monitoring until USACE has provided written confirmation that the restoration plan objectives have been met and that no additional monitoring reports are required.”

On April 27, Scott Zesch said that neighbors Priscilla and Mark Krauss reported removal and restoration work on the streambed was ongoing daily (see picture below).



Leon Creek (Mason County) - The situation on Leon Creek in western Mason County remains unresolved but is being addressed. Neighboring landowner Kerry Hofmann reports that both TPWD and TCEQ have conducted investigations. Neither agency has responded directly to Kerry's inquiries, but she has learned through other sources that TPWD has determined that the dam is in violation and that the landowner will have to obtain a permit if he wants to keep it in place. So the investigation is still active (per **Scott Zesch**).

Pedernales dam (Gillespie County) - Some positive news on the Pedernales dam in Gillespie County. The landowner has signed an agreed order with TCEQ to stop impounding state water without authorization. Although the order does not require removal of the dam at this time, it does require the landowner to keep the outflow valves open to ensure that "all inflows of state water into his impoundment are passed downstream." The landowner filed an application for a water right with TCEQ last November, and the agreed order, once effective, will require him to restore the normal flow pending the outcome of his application. Senator Pete Flores has requested a public meeting on the water right.



Development construction site beside the Guadalupe Northfork River, Kerr County

UPDATE ON VIOLATIONS FOUND ALONG THE GUADALUPE NORTHFORK

(West Kerr County) - based on information provided by the newly organized [Kerr County Water Alliance](#) and **Ron Duke** of [Guadalupe River Keeper](#) ...

In early March, 1.2 miles northwest of Hunt, locals spotted bulldozers operating on a hilltop above the Guadalupe NorthFork, an area not easily visible from nearby County Road 1340. Closer inspection revealed significant environmental damage and a looming threat to the natural surroundings.

The disturbed site included a freshly carved road descending from the hilltop down to the floodplain and the river itself. This abrupt alteration to the landscape sparked immediate action; the residents quickly notified the Upper Guadalupe River Authority (UGRA) and the Texas Commission on Environmental Quality (TCEQ), hoping to draw attention to an unauthorized development.

More Hunt locals explored the new road, which had been roughly bulldozed and was accessible only by four-wheel-drive vehicles. Their discovery was unsettling. The hilltop had been transformed into a chaotic maze of new roads, potential homesites, and piles of felled trees awaiting incineration. The evidence pointed clearly to plans for a large subdivision.

Further investigation revealed that the land, originally divided into 19 small tracts, had been recently purchased and consolidated by River House Development LLC, a high-end custom home and subdivision developer based in Houston. The new title for the property was filed with Kerr County on January 30th of this year, signaling the start of a major development project, owner listed as Matthew Powers.

According to the TCEQ investigator’s report, at first Mr. Powers said the 19 small tracts were to be condensed into 3 smaller ones for ranching by himself and his family, and that his activities were an agricultural exemption to a Construction General Permit (CGP). However, based on another statement that this was an investment property and that new roads were being built at the time of inspection, the TCEQ did not agree that an agricultural exemption was met, instead, the ongoing activities went beyond maintenance of existing roads and instead met the definition of new construction activities, therefore, a violation was cited for failure to obtain CGP authorization prior to the beginning of the operation. The other violation was for failure to prevent an authorized discharge of sediment into state waters (see below). Concern was also raised related to outdoor burning regulatory requirements. Other than that, it now seems the TCEQ has little jurisdiction over hillside use.

Violations List

Status	Date	Abbreviated Description	Regulation	Specific Citation
ACTIVE	03/26/2024	Failure to prevent an unauthorized discharge of sediment into waters of the state. (Category B13 Violation)	TWC Chapter 26	26.121(a)(2)
ACTIVE	03/26/2024	Failure to obtain Construction General Permit (CGP) authorization prior to commencing construction activities. (Category B4 Violation)	30 TAC Chapter 281, SubChapter A	281.25(a)(4)

One major concern about what appears to be a new development is the impact of such developments on local water supplies. The Texas Hill Country, including the area around Hunt, is particularly vulnerable to water issues. The region’s unique karst aquifers, which store and transmit groundwater, are susceptible to contamination and depletion from development activities. For example, increased impervious surfaces, such as roads and homes, reduce the land’s natural ability to absorb rainfall, leading to higher runoff and lower recharge rates for aquifers.

Meanwhile, the Guadalupe River, a crucial water source for local ecosystems and communities, could face increased sedimentation and pollution from construction runoff. This not only threatens aquatic habitats but also the quality of water available for human use.

In response to these threats, the local community has mobilized. On a recent weekend, Ann Witherwax, a member of the Kerr County Water Alliance (KCWA), set up a table outside the Hunt Store to gather signatures for a petition aimed at stopping the development. The petition has gained significant support, highlighting the community’s commitment to preserving the natural beauty and ecological health of the Guadalupe NorthFork. If you want to add your support to Hunt’s fight, please [contact the KCWA](#).



ALERT:

The Llano River Watershed Alliance NEEDS YOU TO HELP US HELP YOU (and the river!)

1. If you live in Kimble County and have Arundo cane on or near your riverbank, please [contact us](#) so that we may visit with you about it *(see INFOGRAPHIC Last Page).
2. If you live anywhere along the Llano Rivers or their tributaries, LRWA consultants will do a FREE assessment of your riparian condition and vegetation to give suggestions on how to better achieve your objectives!

DATEBOOK (THREE OPPORTUNITIES!)

1. The Texas Water Resources Institute and the Texas Riparian Association will be hosting one more riparian workshop before the summer:

[Texas Riparian & Stream Ecosystem Workshop – Pedernales River Watershed](#)

Thursday, June 6th, 2024, 8 am – 4:30 pm

Gillespie County Extension Office, 38 Business Ct, Fredericksburg, TX 78624

2. OPEN HOUSE, South Llano State Park, to celebrate the new headquarters, amphitheater and river bridge! (business casual attire) **Please RSVP to deana.lackey@tpwd.texas.gov by June 7, 2024**

Friday, June 14, 2024, 10 am

1927 Park Rd 73, Junction, TX 76849

3. LRWA Volunteer Day!

Friday, June 21, 2024, 9 am - Noon

1927 Park Rd 73, Junction, TX 76849

Come and assist the Llano River Water Alliance with our demonstration riparian restoration project (part of a grant from US Fish & Wildlife) at the South Llano State Park. It is located in the Main Day Use area and designed to capture stormwater runoff from the parking lot and also to help prevent further erosion of the nearby cut bank of the river. HCTMN volunteers may report their hours of service under the site code “KM-010A-NPA South Llano River State Park.” Volunteers will need to bring hand tools such as shovels, sharp shooter or forked spades, garden rakes, and chopping hoes. Dress for the heat, cold water will be provided! **Note: there is a \$5 Park entrance fee.**

In April, the City of London lost potable drinking water for several days

(based on excerpts from Junction Eagle story, April 24, by Kimble County Judge Hal Rose and a May 20 update) On April 18, Kimble County was notified by members of the London community and TCEQ about issues related to the London water system operated by Aqua. TCEQ imposed a no-use water restriction for 30 households (approx. 90 people). No impact on those getting their water from private wells. County Judge Hal Rose signed a disaster declaration in order to get state resources if needed from the Tx Div. of Emergency Management. Local responders included the London Volunteer Fire Dept., the Kimble County Sheriff's Office, County Commissioner Dunagan, and Randy Millican, Junction's Emergency Management Coordinator. A public meeting was held in London on April 19. The problem was believed to be related to an existing water tank/standpipe and did not appear to be the two wells operated by Aqua. Water samples were being tested by TCEQ via the Lower Colorado River Authority (LCRA). As a result, water use was upgraded to everything but consumption. Meanwhile, Aqua continued remedial work. TCEQ had them bypass their standpipe/tank system and flush it several times, whereas TCEQ retested and declared the water passed their standards for usage. Some users have still had issues since then, so the water has been retested and again passed by TCEQ. At this point, further issues will have to be resolved between the users and Aqua who operates the water system. A final TCEQ report is expected within 60 days.

DID YOU KNOW? PART 1

Along the Llano River, how far does a riverfront property owner's ownership rights go into the river?

The Llano River is a navigable public river, so a property owner's ownership rights go to the gradient boundary, which is the line between state-owned and private land along rivers, or according to TPWD is the usual dividing line between public ownership of a stream's bed and lower bank area, and private ownership of the higher bank area and the uplands beyond. The river bed between the gradient boundary on each side of the river belongs to the state, whether there is water flowing over it or it's dry. For more clarification go to https://tpwd.texas.gov/publications/nonpwdpubs/water_issues/rivers/navigation/riddell/gradientboundary.phtml

Does actual property owned in the Llano River bed fall under a "public access" right of way?

As stated above, the river bed itself, between the gradient boundary on both sides of the river, regardless of the water level, is state or public property. To access the state or public property between the gradient boundary on both sides of the river, one must have permission from a private landowner or access the river at a public road crossing or public lands, such as a state park.

If a landowner has such questions about their river front property, they can contact their local Game Warden for an approximate location of their property line along the river. The exact location of the gradient boundary requires a survey by a Licensed State Land Surveyor and usually is then determined by a court of law.

For an Overview of Laws Regarding the Navigation of Texas Streams and the gradient boundary go to:

https://tpwd.texas.gov/publications/nonpwdpubs/water_issues/rivers/navigation/riddell/index.phtml



DID YOU KNOW? PART 2

HOW TO PROTECT YOUR SURFACE WATER RIGHTS WITHOUT USING THEM

Did you know that you can amend your existing surface water rights to add instream use? Instream use is defined as flows dedicated to the river and not diverted on your property. In this way, your use of your water rights will not diminish flow downstream, often done for conservation purposes. This option is related to an assumed legal right to a free-flowing stream for biological, recreational, and esthetic purposes. To amend your water right you will need to apply to TCEQ for an amendment, which can require experienced assistance. If you are interested in adding instream use to your permit, we can put you in contact with someone who can help!

WASTEWATER NEWS...

(note: to enhance networking and sharing of resources, LRWA has joined as organizational member of the [Greater Edwards Aquifer Alliance](#) (GEAA), the [Wastewater Conservation Coalition](#) (WCC, formerly named No Dumping Sewage), and of course we remain allied with the [Hill Country Alliance](#).)

Selected Hill Country Wastewater Permit Updates

1. The Village at Grape Creek (a development) has a draft permit in progress, into the Pedernales, near Fredericksburg. Not good – maximum phosphorus level is listed as 1000 mcg! There is a Public Meeting on June 13. This is the first time a *private* subdivision along SH 290 wants

GOOD NEWS: *Historic ranch in fast-growing Hill Country to be permanently preserved from development*

San Antonio Express News March 13, 2024

by Madison Iszler. A chunk of the Maverick Ranch-Fromme Farm is now protected under a conservation easement. After 30 years of fighting off attempts to develop it, the Maverick Ranch-Fromme Farm — a 329-acre property in northwest Bexar County — will now be protected in perpetuity. The property has served as a habitat for endangered bird species such as the golden-cheeked warbler and for indigenous flora. It is in the recharge zone of the Edwards Aquifer and has four springs.



to use direct discharge wastewater (note, however, the City of Fredericksburg direct discharges). All the breweries along 290 so far have chosen TLAPs. Therefore, individuals are trying to convince these developers (and Archway, see below) to go TLAP also.

2. Madeline Estates (development) to discharge into Onion Creek, Dripping Springs, contesting in progress.
3. Archway (development) to discharge into the Pedernales. A wastewater plant is already under construction in violation of TCEQ rules. Negotiations for an alternate strategy ongoing.
4. Gram Vikas development to dump into Hondo Creek in Medina County has a very problematic draft permit in progress (see LRWA Newsletter Jan. 25, 2024). Contesting underway.
5. **NEW PROBLEM for Texas streams:** draft permits for Produced “Pure” Water (treated water by oil companies from fracking, etc). One example: a

cohort of oil companies wants to discharge this water into Independence Creek (a spring-fed creek considered pristine and an important tributary of the lower Pecos River). For more information, [click here](#) and choose *Texas Tribune Article*.

6. Per **San Antonio Express News, March 28, 2024, by Liz Teitz:** Vulcan Quarry is applying for an EAPP (Edwards Aquifer Protection Plan) permit to expand to “land (a 1,110-acre parcel) in the Edwards Aquifer recharge zone, where water enters the groundwater system that San Antonio relies on.” The TCEQ does not currently allow Public Meetings for EAPP permits - an unfortunate inconsistency in their rules.

GEAA and OTHERS PROTEST THE WASTEWATER DISPOSAL PLAN PROPOSED FOR MIRASOL SPRINGS

On May 22, representatives from GEAA, Save Our Springs (SOS), neighbors and environmental activists protested current plans for the Mirasol Springs Development, outside a press event and property tour hosted by the University of Texas and honoring the Mirasol Springs Developers, Dallas billionaire Steve Winn and his family (who own the property). At first glance, Mirasol Springs (located on the Hays/Travis County line near the Pedernales River) is a conservation-minded development, planned as low-density housing, less than 5% impervious cover, and a centralized wastewater system using a TLAP instead of direct discharge of its on-site treated wastewater.

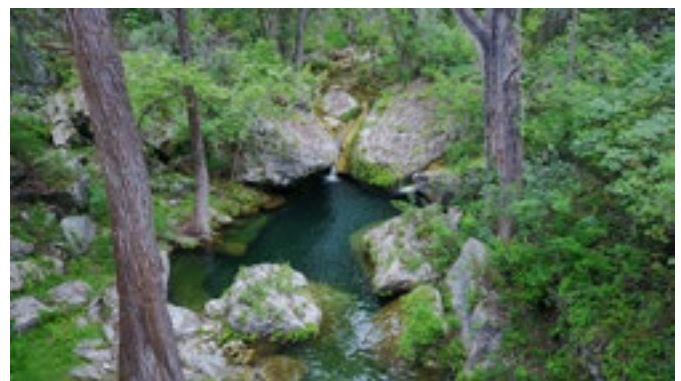
So what's the problem?

The **Greater Edwards Aquifer Alliance**, representing 57 member groups, requested of TCEQ a contested case hearing about the wastewater permit submitted by Clancy Utility Holdings LLC, that will service the proposed Mirasol Spring Development with a TLAP plan for treated domestic wastewater via subsurface area irrigation in designated fields. In their Public Comment to TCEQ on Feb. 12, GEAA asked for modifications of the proposal as outlined below.

First of all, the treated wastewater disposal site would be located in the drainage basin of the Pedernales River (in Segment 1414 of the Colorado River Basin). The treatment disposal facility is located in an environmentally-sensitive area, home to several species classified as endangered or potentially endangered under the federal Endangered Species Act. The treatment and disposal facility are also nearby and uphill of several sensitive springs and in an area with thin soils that are unsuitable for a TLAP.

Under the current plan, the area topography is problematic for irrigating treated sewage over land. Besides not having a dependable year-round water supply in the area, the area is peppered with steep hills sloping down to the Pedernales River, facilitating rapid stormwater runoff during rain events. Also, because of the 105-foot elevation difference between the Pedernales River and the edge of the proposed effluent fields, the soils in the effluent fields are thin, rocky and sandy, NOT of absorbent alluvial quality. Such a soil type would become saturated relatively quickly during the subsurface irrigation, failing to hold the effluent and instead releasing it into a nearby drainage ditch that flows directly into the Pedernales.

In addition, some of the proposed "Hillside Conservation Lots" located across Roy Canyon within the development are located far enough away from the proposed wastewater treatment plant to need connection via a raw sewage pipe. If the pipe ever leaked, untreated sewage would spill into pristine Roy Creek and then the Pedernales River, fouling this environmentally sensitive area.



Roy Creek located in Roy Canyon

The proposed wastewater permit also does not set limits for Phosphorus, Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS), disappointing considering the potential contamination of a large number of springs in the area downslope from the irrigation fields as well as the Pedernales River. The Pedernales River is already under nutrient stress, demonstrating excessive algae growth especially in warm weather. For example, in July of 2022, Texas State Parks Dept. issued a warning to the public to stay out of the Pedernales River at Pedernales State Park. This section of the river is just 2 miles upstream from the proposed Mirasol Springs location.

As an alternative, GEAA wondered why no effort had been made by Mirasol engineers to reuse some of the effluent from the wastewater plant with selected [One-Water](#) techniques, in order to reduce the potential of over-saturating the TLAP effluent fields.

NOTE: To download the Mirasol Springs Proposed Texas Land Application Permit, go to the [Mirasol Springs website](#) and click on the Permitting tab>TCEQ Presentation. There is also a downloadable Fact Sheet under this tab containing the developer's explanation of the project.

In KIMBLE COUNTY, a happy reminder about the THE COKE STEPHENSON SOUTH LLANO RIVER SCENIC RIVERWAY!

... that is a new designation per House Bill 1688 passed during the 88th Legislative Session by Representative Andrew Murr. This legislation addresses the crucial issue of water quality protection, specifically targeting the water quality standards of the South Llano River, the primary drinking water source for the City of Junction. Through a combination of pilot program oversight, increased inspections, and a dedicated fund for reclamation and restoration, this bill aims to safeguard our precious water resources unlike nearly anywhere else in Texas.

The target of this legislation focuses squarely on the South Llano River in Kimble County. This area of the Hill Country is a natural treasure and has long been cherished by Texans for its scenic beauty, recreational opportunities, and vital ecological role. Easily considered one of the cleanest rivers in Texas, these waters are the primary source of drinking water for the City of Junction and, consequently, a majority of all Kimble County residents. Downstream users also rely upon these waters for municipal, domestic and livestock use. To ensure the continued well-being of this waterway, this bill designates this defined "scenic riverway" as a statutorily protected area, with new water quality protections provided to ensure the future water quality of this river segment.

House Bill 1688 requires that the Texas Commission on Environmental Quality (TCEQ), the Lower Colorado River Authority, and the Texas Parks and Wildlife Department coordinate efforts to inspect the riverway and test water samples on a routine basis (at least twice annually). Inspections must occur from both the surface of the water and from aircraft flying over the riverway. All of these efforts are intended to detect any potential violations from quarrying (surface excavation) in a water quality protection area of the

riverway. Murr is not currently aware of any quarry activities in or near the South Llano River.

Further, a funding mechanism is also in place that collects penalties, grants, and gifts received by the TCEQ as a result of enforcement actions and then makes those funds available to the reclamation and restoration of riverbeds, bottoms, and banks affected by unlawful discharges or other violations.

The protective measures set forth in this new law have additional significance, further enhancing the South Llano River State Park, our 2600-acre oasis that beckons with its clear running waters and truly rural Texas setting.

The river's unique ecosystem teems with biodiversity and its ecological importance extends beyond its imme-



diately surrounding. By protecting its beds, bottoms, and banks, House Bill 1688 ensures that the intricate web of life that relies on the river's health remains vibrant and intact. As readers are well aware, the Texas Parks and Wildlife Department has for years worked to enhance and protect our state fish – the Guadalupe bass – in the South Llano River, in part because the river is pristine and the species genetics remain pure (bass hybridization is a threat in many river basins).



NEW TEXAS REPORT PREDICTS EXTREME WEATHER< DROUGHT CONDITIONS TO WORSEN, by Kelsey Thompson, posted 4/22/24 for KXAN, Austin

AUSTIN (KXAN) — A new study released Monday by the Office of the Texas State Climatologist and public policy think tank Texas 2036 pointed to an anticipated bump in 100-degree days in Texas and worsening drought conditions in the future.

The study marked the latest edition of “Future Trends of Extreme Weather in Texas,” an ongoing analysis of the changing environmental landscape in the Lone Star State. The newest findings also follow a record-breaking volume of wildfires statewide last year and the Smokehouse Creek Fire in late February, the largest wildfire in Texas history. Some of the significant takeaways of the report’s update centered around the rise in extreme heat patterns and strains those present for the state’s electricity supply, as well as the possibility of more urban flooding.

1. The report anticipates 100-degree days will be four times as common in 2036 compared to the 1970s and 1980s; an increase in extreme temperatures will lead to further dependency on lower thermostat temperatures, increasing electricity demand
2. Parts of Texas, particularly the western and southern portions of the state, will likely see heightened wildfire risks and changes to property insurance rates.
3. Anticipated 7% increase in “summertime evaporative losses” by 2036 will result in worsening drought conditions and accelerated drying up of existing surface water
4. Projected 15% increase in “extreme one-day

precipitation events” since the late 1900s could contribute to a more pronounced rainfall pattern that leads to more urban flooding by 2036.

5. Texas’ agricultural growing season has lengthened over the past 50 years, starting approximately a half-month earlier and wrapping up a half-month later.

“Our summers have been growing significantly hotter and rainfall has become more sporadic, reshaping Texas’ weather patterns,” said Dr. John Nielsen-Gammon — the Texas State climatologist at Texas A&M University — in the release. “If current trends continue, Texans will face more intense and frequent heat waves, more erratic rainfall and an increasing fire risk in certain areas of the state.”

From a regional standpoint, the report found West Texas has seen a surge in the number of high-risk days for wildfires breaking out. Over in East Texas, it’s projected that rainfall intensity will jump roughly 10% compared to the 2001-2020 time-frame, and 20% higher than the 1950-1999 time period.

Infrastructure improvements in urban areas are recommended due to projected heightened flood risks and the possibility of extreme rainfall events growing. Relative sea level rises in the coastal bend portion of Texas could also yield heightened storm risks down the road.

Statewide, the report anticipates increased temperatures paired with more varied rainfall could elevate future severe drought risks, in turn presenting further strain on Texas rivers, lakes and reservoirs.

MEET ZACKERY BIRSCHWALE, new LRWA BOARD MEMBER!

Meet Zack, a proud native of the Texas Hill Country, and fourth generation resident of Junction. After graduating from high school, Zack opted to stay in Junction to support his mother and continue his work as a night-manager at a local restaurant. After a while, he was contacted to apply for a position at Junction National Bank, launching a career into banking. His now five years of experience at the bank, starting as a teller to becoming the Operations Assistant and an IT committee member, has given a Zack a deepened understanding of business and finance as well as the growing world of technology through his work on the committee.

By having the fortune to call the Hill Country his home and the opportunity to spend plenty of time at the river exploring the watershed as well as hiking to the



natural springs at his family's ranch, Zack had nurtured from a young age a fascination and passion for our local environment and more specifically, water. He had come to be fascinated by the herculean role water plays in all aspects of life, especially in an area where droughts are a regular occurrence. Whether it be for sustaining life, perhaps as enjoyment and recreation, or even to generate power that we rely on for our air conditioners, he's learned a deep appreciation for our most valuable resource.

Last year, Zack and his wife Serena welcomed to the world their daughter Eleanor, which only further deepened his drive to become an effective steward to our watershed, and to share the knowledge so that his family and other generations to come can continue to appreciate and utilize what we all share; water.

Zack's personal interest in native ecosystems, water conservation and the outdoors, as well as his hometown sitting on the Llano river, led him to join the LRWA and lend his effort to preserve our rivers for generations to come.



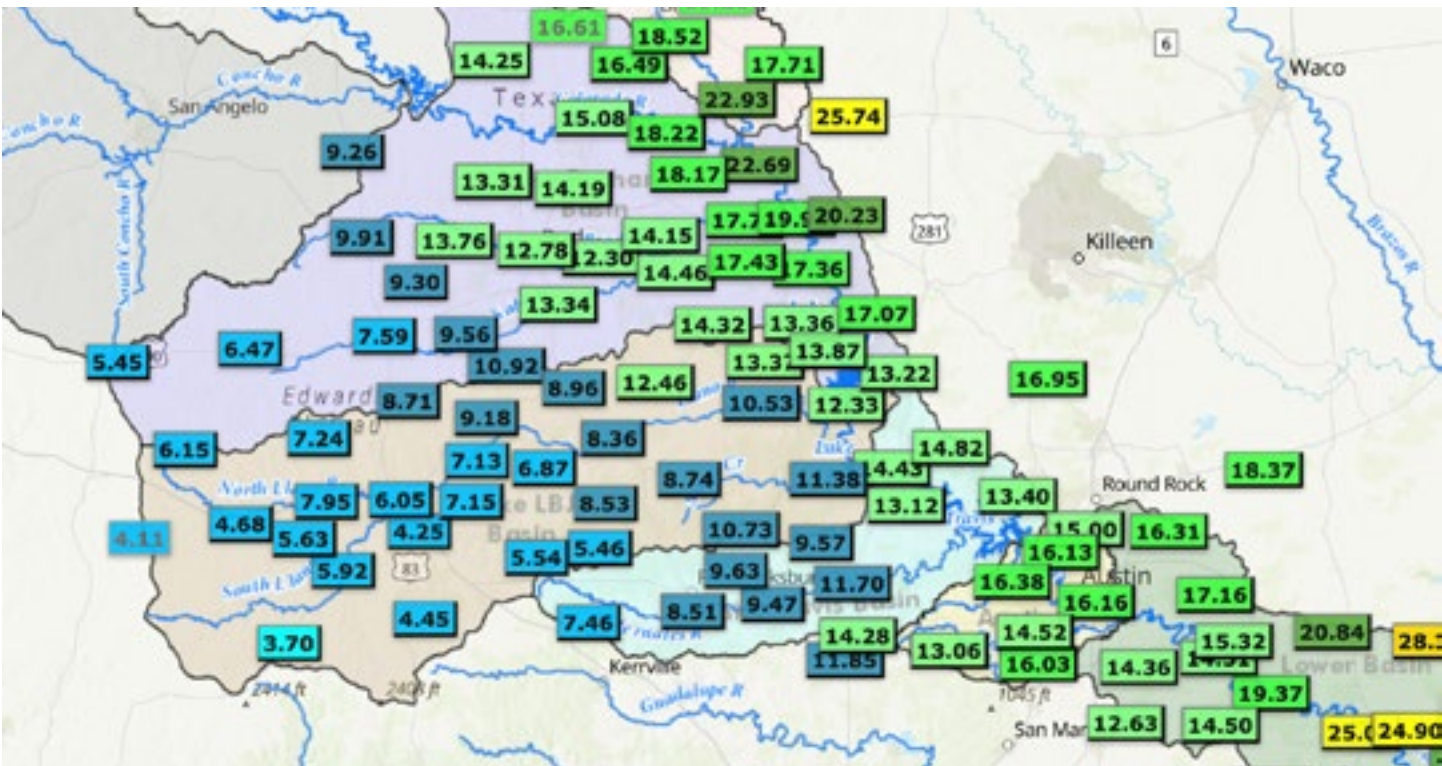
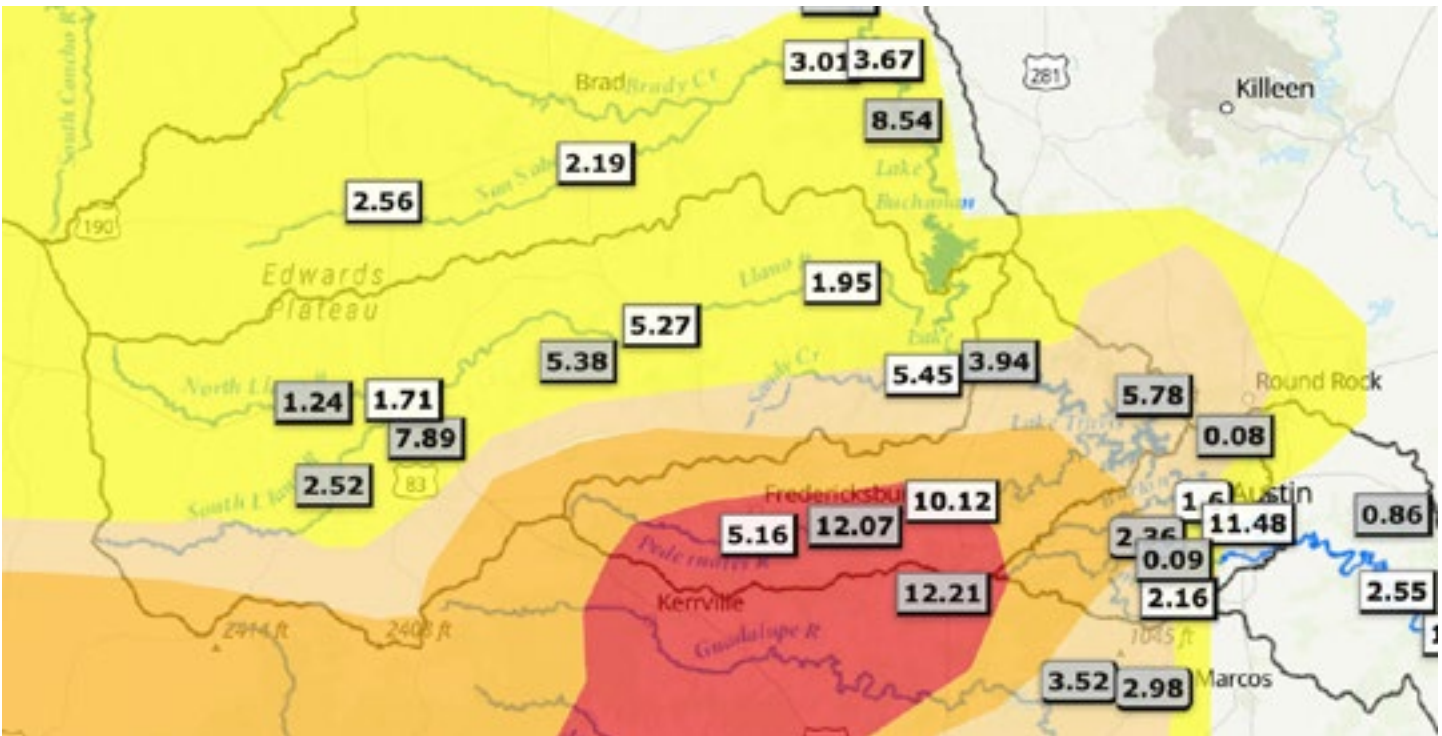
MEET SYDNEY HEAP, new LRWA BOARD MEMBER!

I am a Texas native who grew up in Granbury, with the Brazos river running through my backyard. Upon graduating from Texas Tech University in 2019, I moved to Junction to begin my short-lived career in journalism at The Junction Eagle, followed by my current occupation as the owner of South Llano Floral on Main street in Junction.

When I'm not surrounded by blooms, my husband, Andrew, and I spend our free time on the river with friends and family or cooking out at home with our pets. Seeing as rivers have been such a vital part of my entire life, I am looking forward to contributing to the education and protection of the North, South, and Main Llano rivers through my service on the LRWA board.



TOP: LCRA Hydromet River Stage and Drought Monitor for this year as of 5.29.24
BOTTOM: Rainfall this year as of 5.29.24 (the LLano River system in beige)



Lower Colorado River Authority’s Hydromet is a system of more than 275 automated river and weather gauges throughout the lower Colorado River basin in Texas. The website displays gauges maintained by the City of Austin and USGS. The Hydromet provides near-real-time data on stream-flow, river stage, rainfall totals, temperature and humidity. <https://hydromet.lcra.org>

INVASIVE SPECIES IN TEXAS


ARUNDO DONAX IMPAIRS CREEK HEALTH.

Invasive species like Arundo (giant cane), privet and others can harm Texas creeks and rivers. They devastate habitat and keep our waterways from providing essential ecosystem services, such as recreation, fresh water supply, and drought and flood protection.

DOCUMENTED IN


136+

Texas counties,
most problematic in several Hill Country rivers and along the Rio Grande.




Arundo can grow up to
2 INCHES PER DAY,
crowding out and replacing native plants.

FISHING & BOATING IMPACTS




Arundo and other invasive plants degrade habitat for fish such as Guadalupe bass, the official state fish of Texas.




Blocks access for bank, wade, and kayak fishing, a **\$14-32 million industry** in the Hill Country.

DAMAGE TO RIVER BANKS




Arundo roots are very weak below the surface, causing river bank erosion.



They crowd out native grasses whose roots reach more than **6 times** deeper, stabilizing banks. An unmowed native buffer acts as a sponge and helps absorb water.

DROUGHT & FLOOD RISK



Arundo's high wax content makes it a wildfire hazard—particularly during drought.

Can increase the area impacted by flooding up to **10%**

Keep our creeks healthy. Prevent invasives:

1 Don't mow, let it grow
2 Let woody debris be
3 Plant natives

Join the Healthy Creeks Initiative: tpwd.texas.gov/HealthyCreeks

TEXAS PARKS & WILDLIFE

Healthy Creeks Initiative to Combat Invasive Arundo

FOR COMPLETE INFORMATION, Please go to <https://www.llanoriver.org> and then click on the link that reads: **Healthy Creeks Initiative to Combat Arundo**