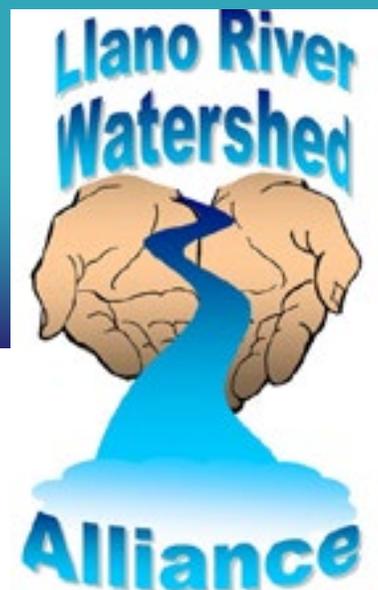


# Watershed Weeks In Review

**Water Reports, Dam updates, Water Workshops, Prop 6 and 14 (Nov. 7), Texas fatmucket, and more!**

Editor/ Layout: Linda Fawcett



## **Report: the first TCEQ Public Meeting on the Waterstone dam permit**

The TCEQ Public Meeting on the Waterstone Dam took place in the Rocksprings ISD Auditorium, beginning at 6pm on August 10. On stage, left to right, were the applicant's team

that included the applicant, Gregory Garland, his project and permit designers and an attorney, and representatives from the Texas Commission On Environmental Quality (TCEQ). A strict TCEQ timekeeper stood between them at center. A microphone was set up on the floor of the auditorium near the front for audience speakers. The order of the Formal Comment speakers was determined by their signing up with TCEQ staff upon arrival.

The meeting began with introductions and a 5-minute PowerPoint presentation by the applicant's team. Garland said that he bought the ranch in 2014 for his private use (non-commercial, non-ag) and stated that the purpose for the impoundment of 12.02 acre feet of water was to make an already existing pool larger, to provide more water for the fish and area wildlife. Upon questioning, the applicant team said that the design of the dam included a 12-inch pipe by which water would be released downstream when flow levels became too low (although the permit also said stream flow would only be measured by the USGS gauge at Llano, approximately 114 river miles downstream).

More than one speaker would later complain in their Formal Comment about the absence of reliable or official monitoring of water-release during low flow scenarios, since TCEQ only requires self-reporting. It was further argued that the Llano River measuring station was too far away; that streamflow could be assisted by hydrologic sources between Junction and Llano, allowing the dam impoundment to continue even if the stream flow of the South Llano were zero! TCEQ staff admitted that they had not yet visited the site of the dam, instead relying on a complex water availability model referencing gauge levels from 1940-2016 to justify allowing advancement of the dam application.

By TCEQ's count, 187 people were in attendance. There were representatives from all up and down the watershed, but the clear winner in numbers were the folks from the City of Llano, noticeable because most of them wore white. Admirable, because they drove the farthest to get there, some up to three hours one-way! Around 50 people signed up to make Formal Comments, limited to 3 minutes each and becoming part of the Formal Record, preceded by

an informal session of folks coming to the microphone and asking up to two questions of the TCEQ or the applicant’s team.

Kellie Early, District Director for Representative Andrew Murr, asked detailed questions about the permit. Junction Mayor Russell Hammonds, and Marion Bishop, Mayor of Llano, both made commanding Formal Comments, highlighting their city’s dependence on adequate stream flow for their city’s drinking water, and a historical struggle with continuing drought even before this dam became a possibility.

Another highpoint was when a City of Llano resident, Paula Graham, asked the TCEQ



**Paula Graham (Llano resident):**  
**“Because I drink water..”**

if she qualified as an affected person (by the dam). TCEQ staff answered vaguely about having to follow their rules, but then when they asked why the speaker thought she qualified, she said: *“Because I drink water.”* Which prompted applause from the audience.

Linda Fawcett, President of the Llano River Watershed Alliance, thanked Mr. and Mrs. Garland and the TCEQ for creating such solidarity of citizens from throughout the Llano River watershed, all because of their love for the Llano River kept in its pristine condition.

Larry Black, attorney from Llano, asked Mr.

Garland what he was planning to do in the next five years, since whatever it was, he (Garland) would likely be tied up in litigation over this dam at least that long.

Another speaker from Llano remarked that *“how could one man accrue all the benefits of this project, while so many people downstream would experience all the detriments..”*

During the question-and-answer part of the meeting, TCEQ said no new permit for water impoundment would automatically be approved based solely on precedent— instead each permit would be thoroughly vetted for water availability. But talking to KC Judge Hal Rose after the meeting, Rose brought up that this dam may not set a legal precedent, BUT it will set a “practical precedent,” meaning that there will likely be a radical uptick in the number of impoundment/dam applications to the TCEQ from landowners. Law of averages, that would translate to more applications being approved.

Rose also added that if this permit were approved, being that it only lists a 10-year Firm Water Contract for the requested impounded acre feet (12.02), it would set a dangerous precedent for future permits also being based on temporary ownership of water. There are too many what ifs and unforeseeable variables in these kinds of scenarios to allow such a precedent.

ALL Comments during the Public Meeting were AGAINST the dam. The meeting concluded around 9:30 pm.

**Another Public Meeting scheduled?**  
**See the top of page 4...**

## AS IF ONE DAM ON A NAVIGABLE STREAM ISN'T ENOUGH?

As noted in the story above, one of the worst fears the Watershed has if the Waterstone dam is allowed to happen, is that other impoundments will follow and choke off the Llano Rivers. ("Death by a thousand cuts...")

### But, SO SOON?

Mid-August, 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, they just did it. The landowner was listed as NEUSCH MASON, a limited liability company that bought the land earlier this year. TCEQ and TPWD were duly alerted and since then, TCEQ has leveled a \$10,000 fine but no indication yet of requiring dismantling of the illegal dam; still waiting on what TPWD is going to do.

But MAKE NO MISTAKE, if the James River dam is allowed to stay, then, as Mason resident, **Scott Zesch**, said: "... the clear message to future want-to-be dam builders will be to ignore the law and go ahead and build it without filing for any permits..."

*Note: the cities of Mason and Llano have passed resolutions against the James River dam and it is also referenced by the City of Austin's bill against the Waterstone Dam.*

... there was also a recent report of an eight-foot dam (no permit) across Leon Creek (built by new landowner) in Mason County, another feeder stream to the Llano. According to the neighbors, the streambed is more than 100 feet wide at that point, so it would easily be considered navigable by statute.

## Cheer Up: HERE'S SOME REALLY GOOD NEWS!!

LRWA Board member **Glen Coleman** was instrumental in putting together a delegation consisting of representatives from the LRWA (Glen), Greater Edwards Aquifer Alliance, the Hill Country Alliance, and the Save Barton Creek Association, who approached District 7 Council Member (Austin City Council) **Leslie Pool** about the dangers posed to the Watershed and the water supply of Austin if the Waterstone Dam was finalized. The result was a beautifully written bill submitted and accepted as Item 80 on the Sept. 14 City Council agenda. **IT PASSED by consent!** Among other things, this bill asks for a TCEQ Contested Case Hearing, so that the City of Austin joins the Cities of Junction and Llano as well as GEAA (Greater Edwards Aquifer Alliance) to fight together against the Waterstone Dam in a court of law if necessary!

**ANOTHER PUBLIC MEETING?** Yes, due to the high numbers of Public Comments, TCEQ has granted a second public meeting on the Waterstone Dam, probably to be in Llano. BUT as of now it has been postponed until the Spring (applicant's request). This is likely a tactical move to interrupt our momentum and the hope that a wet winter will soften our anger. LET'S NOT ALLOW THAT TO HAPPEN. No matter how much rain we get (please God...) before the next Public Meeting, as the old saying goes - "Never waste a good drought." The 2023 extreme heat and drought have been a wakeup call, and we must stand firm against any new impoundments on the Llano Rivers or their navigable tributaries!!

## ***DROUGHT SURVIVAL & RAINFALL COLLECTION***

*co-sponsored by the LRWA and the Upper Llano Soil and Water Conservation District #225, Sept. 27, Lyssey & Eckels, Roosevelt, TX*



On a Wednesday morning, 36 attendees experienced a 3-hour workshop garnering valuable information from speakers **Mark Moseley**, retired range conservationist (USDA-NCRS) and **Billy Kniffen**, retired Texas Agrilife Extension Service Water Resource Specialist in Rainwater Catchment Education. This workshop was the second of a series of workshops made possible by a LRWA grant from

the US Fish and Wildlife Service, a grant with the purpose of educating and working with landowners in the Llano River Watershed to understand, restore and maintain their part of the watershed.

### **Mark Moseley**

Moseley first discussed some statistics on past distinctive rainfall years and averages, from best (1971) to worst (1954) and with

an average of 25.53"/year for the period of 1913-2022. (But as we well know, 2023 was nowhere near that average!) Lesson to be learned: Don't base your stocking rate on rainfall averages.

Moseley then went on to explain how range grasses grow in upland and riparian zones, and more importantly, how grass re-grows (after grazing and/or extreme drought). Historically, ranchers have often waited too long to cull their stock during drought for a variety of reasons, with the hardest hit group being those who used leased land, because all their equity was in the livestock.

#### **Excerpts from Moseley's Advice:**

- Range recovery is possible, but can take several years – restock slowly and monitor, monitor...
- To prevent soil loss, rotate grazing every 90 days and maintain enough ground cover to prevent raindrops from splashing (splashing causes soil erosion).
- And here's to Hill Country rocks – rocky soil can mitigate splashing.
- Good root systems are also important to open up the soil.
- How many animals? A count that only grazes 25% of grass available, and figure in the needs of nesting and food for wildlife.

## **Billy Kniffen**

Kniffen emphasized that drought mitigation is centered around the concept that water runoff is wasteful, that rain should be slowed down (to soak in) or be captured and re-distributed.

Nature's first rain catchers are our grasses that capture moisture and send it to groundwater that feeds our

springs. Unfortunately, springs are drying up today because water is not going into the ground like it used to. Why?

Some of the problem is non-native annual grasses with short roots compared to natives that

have roots 3x as long (Examples: Big Bluestem, Indiangrass, Compass grass, Goldenrod).

But even the best native grasses cannot fight overgrazing. Grass needs its leaves to capture energy from the sun to rebuild both roots below and leaves/stems above ground. After each historical drought (1890s, 1930s, 1950s, 1980s, the present), root damage has occurred because we don't allow enough recovery time. Kniffen also advocated for controlled burns.

The rest of Kniffen's presentation centered on rainwater harvesting. He stated that 1" of rain collected from 1000 square foot of roof can result in 600 gallons of water. Similarly, 20" of rain/year can give us 12,000 gallons!

**KNIFFEN:** *"We are always in one of the 3 stages of drought, going in, in, and going out..."*

*Kniffen: "The rain barrel is the gateway drug to rainwater harvesting."*

*(editor's note: I can attest...)*

**TIP:** especially during drought, it is always best practice to try to keep your tanks half full in case of fire – to provide water for firefighting.

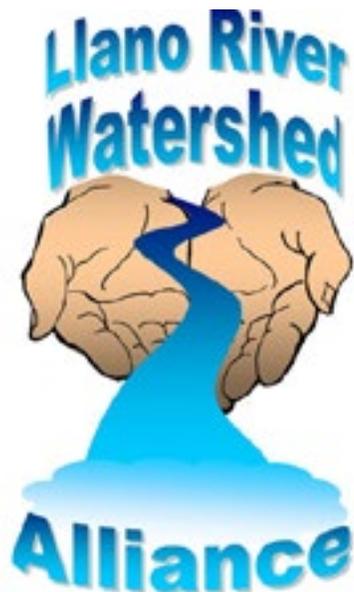
**Kniffen went on to give many tips** on planning for rainwater harvesting. For example, anticipation of high-volume rain intensity requires big enough and wide enough gutters, as well as having enough and wide-enough downspouts and horizontal carrier pipes that take the water underground to the storage tanks. Don't worry, the weight of the rushing water will push it up from ground level into the top of the tank. This by the way is called the **wet line method** of transferring rainwater to storage. The other method is called **dry line**, in which water goes straight into a lower storage tank located very close below the gutter.

As far as outflow, gravity feed is dominant in rain barrel collection by elevating the container. A lot of psi can be achieved by just elevating a barrel 2 feet off the ground for example. But a pump can also be installed to achieve higher pressure, common for potable household rain collection along with debris extruders (before the water gets to

the tank). Upon leaving the tank, the use of particulate filters and the all-important UV filter to clean the water makes it potable before entering the house. (A UV filter is capable of killing viruses, tiny parasites and protozoa. Kniffen also reported a new silver mesh product that does much the same thing.)

Kniffen gave various tips about every stage of the rainwater collection process be it non-potable or potable, rainwater barrel or rainwater tank. A few excerpts:

- It is important to note that whatever the collection container, it needs to block out sunlight (to prevent algae growth) and keep out mosquitos.
- Perhaps turn off potable rainwater collection during the Spring two-week Live Oak bloom period if the trees are located near your gutters (otherwise the blooms can discolor the water entering your tanks).
- Most 55-gallon rain barrels have a 6" hole in the top to let in water, but in order to keep out mosquitoes and debris, a plastic flower pot with a mesh filter is placed into this hole. Half-filling the pot with gravel can also efficiently filter debris from the water, much in the same way that the water we drink from our alluvial wells is commonly cleaned through several feet of gravel.



**WATER AND LAND STEWARDSHIP  
WORKSHOP**  
**Junction, TX,**  
**November 11, 9:00 am - 12:30 pm**

**Location:** Coke Stevenson Memorial Center, Junction

**Registration:** \$10 fee goes to [www.llanoriver.org](http://www.llanoriver.org) to register online or to download the registration form for mailing.  
**REGISTRATION CLOSING NOVEMBER 8.**

**CHECK-IN and Refreshment Social:** 9:00-9:30 am

**CONTACT Person:** Scott Richardson [scottr@ctesc.net](mailto:scottr@ctesc.net),  
 830-459-2271

*Would you like to be a better steward of your water and land and keep our springs and rivers flowing?*

Then learn:

1. What is an aquifer? The geology of our local karst limestone aquifers,
2. The best land stewardship to protect the riparian zones and keep the natural water cycle flowing, that in turn ensures groundwater recharge and stream flows, plus how these practices can be applied to land managed for livestock grazing, hunting, and recreation.
3. Groundwater and Surface Water laws in TX, the Role of Groundwater Districts, the impact of new developments, subdivisions and vanity ponds on groundwater.

Presenters:

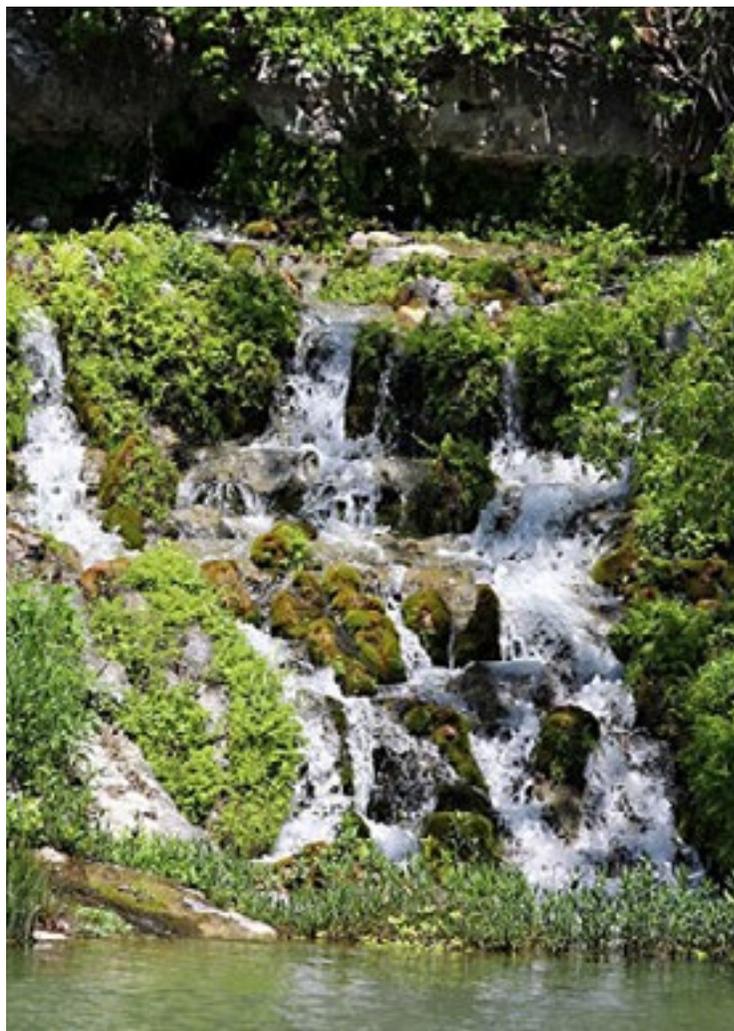
**Dr. Peter George**, Senior Hydrologist, Collier Consulting, the firm that does KCGD's groundwater availability study.

**Steve Nelle**, Natural Resource Specialist/ Wildlife Biologist, retired NRCS

**Meredith Allen**, General Groundwater Manager for Kimble, Sutton and Menard GWDs

AGENDA style:

Moderated panel presentations with Q&A



**Groundwater Becoming Surface Water at 700 Springs**

## Texas Water: Present and Future Needs 2023

(AUSTIN, Sept. 5) — With Texas voters preparing to weigh in on a proposed constitutional amendment to help finance water projects, Comptroller Glenn Hegar today announced the publication of his agency’s report, [Texas Water: Present and Future Needs 2023](#), (PDF) which echoes critical water issues highlighted in the Texas Water Development Board’s (TWDB) latest plan.

“This summer’s record-breaking heat has been absolutely brutal on all Texans and has clearly reinforced that our state must ensure we have adequate and reliable water supplies for the Texas economy to prosper and to guarantee economic opportunities for future generations,” said Hegar, a member of the board of advisers for the [State Water Implementation Fund for Texas](#) (PDF), a financial assistance program for water projects designed to conserve existing water supplies and create additional water supplies.

The 88th Legislature this year worked to support state and local stakeholders to ensure water needs are met. **Senate Bill 28, the New Water Supply for Texas Fund, was passed to provide financial assistance to TWDB to fund water supply projects that create new water sources for the state, including desalination projects, produced water treatment projects, aquifer storage and recovery projects and the development of infrastructure to transport water that is made available by the new water supply projects. *This fund will only be established if Texas voters approve Proposition 6 on Nov. 7.***

“Extreme weather patterns, aging infrastructure and Texas’ daily net migration of 1,000 people necessitate increased attention to the state’s water supply,” Hegar said. “The Statewide Water Plan and this report set forth actionable strategies and projects that clearly demonstrate how Texas will withstand future droughts, and the new **Water Supply for Texas Fund**, if implemented, will help ensure a more secure water future for Texas.”



## Also don't forget Prop 14 (SJR 74) On November 7 - to help our State parks

**SJR 74** proposes a constitutional amendment to establish the centennial parks conservation fund as a trust fund outside the state treasury. The fund could be used, in accordance with general law, only for the creation and improvement of state parks. The centennial parks conservation fund would consist of: 1) money appropriated, credited, or transferred to the fund by the legislature; 2) gifts, grants, and donations received by the Texas Parks and Wildlife Department (TPWD) or its successor for a purpose for which money in the fund may be

used; and 3) investment earnings and interest earned on amounts credited to the fund. The proposed amendment would authorize the legislature to appropriate money from the centennial parks conservation fund to TPWD or its successor for the creation and improvement of state parks.

This proposed amendment will appear on the ballot as Proposition 14: ***"The constitutional amendment providing for the creation of the centennial parks conservation fund to be used for the creation and improvement of state parks."***

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**On Sept. 28, LRWA Board Members Linda Fawcett and Melissa Burnard attended the Hill Country Alliance's Annual Summit in Dripping Springs as a Sponsoring organization. Needless to say, all of the presentations were amazing: highlighting common problems and solutions. Here is a synopsis of just one example:**

### **Panel: When Life Gives You Drought, Innovations for a Better Water Future**

*Summary: Droughts bring a myriad of extreme challenges to our region - from declining spring flows and low lake levels, to reports of dry wells and stressed community water supplies - but they can also be the catalyst for innovations that move us towards a more sustainable water future.* Moderated by **Marisa Bruno**, HCA Water Specialist.

*Question: How have you addressed the water crisis?*

**Representative Tracy O. King** (District 80) said he looked around the Texas Legislature and noted that former water advocates were gone or getting older, so he began working to build a younger group resulting in the **Water Caucus**, which then led to Senate Bill 28 (to be voted on in the November 7 election as Proposition 6.) Their budget began as \$3 billion, subsequently whittled down to \$1 billion, but nonetheless a good start.

**Dave Mauk** (Bandera County River Authority & Groundwater District) followed up and told a familiar story of phenomenal growth (new landowners) in the district coupled with too many exempt private wells. To combat

To Continue, [CLICK HERE and choose When Life Gives You Drought](#)

## DID YOU KNOW?

**The upper thermal limits of *Lampsilis bracteata* (Texas fatmucket mussel) from the North Llano and San Saba rivers can be used to inform water management practices in the Edwards Plateau.**

1. Overexploitation of freshwater resources coupled with climate change can affect the flow and temperature regimes in rivers, which can be catastrophic for aquatic biota. The San Saba and Llano rivers, located in central Texas, are experiencing low flows and stream dewatering owing to over-allocation. Both systems harbour imperilled species, including *Lampsilis bracteata*, Texas fatmucket, which has been proposed for listing under the US Endangered Species Act. It is suspected that elevated water temperatures are a contributing factor in its decline.
2. The upper thermal tolerances of glochidia and juvenile life stages were evaluated within each river. Mussels were acclimated to 80°F and tested across a range of temperatures (86–102°F) in 24 hour (microscopic larval stage) and 96 hour (juveniles) laboratory tests. The resulting tolerances were related to natural on-site water temperature and discharge using a uniform continuous above-threshold analysis.
3. In the Llano, the 24 hour LT50 (lethal temperature resulting in 50% mortality) was 89.24°F, whereas the 96 h LT50 was 90.32°F. In the San Saba, the 24 hour LT50 was 94.46°F, whereas the 96 hour LT50 was 90.5°F. LT50 thresholds were not exceeded for *L. bracteata* within the San Saba, but LT05 (lethal temperature resulting in 5% mortality) thresholds were exceeded. Water temperature loggers were lost in the Llano River as a result of a large flood; however, samples reported by the TCEQ show that the LT05 and LT50 for both glochidia and juveniles were exceeded.
4. Findings from this study indicate that thermal tolerances of *L. bracteata* vary by population and that low flows may be contributing to its decline. Our approach is non-species and region specific, which means that the methods presented should help managers

evaluate whether  
 tity and elevat-  
 exerting impacts  
 within their

[COMPLIMENTS  
 Natural Resources



and conservationists  
 reduced water quan-  
 ed temperatures are  
 on aquatic species  
 region.

OF TEXAS A&M  
 Institute (NRI)]

**TRANSLATION:** the endangered Texas Fatmucket mussels are one of the Hill Country's "canaries in the coal mine." This study says that some populations are dying from prolonged exposure to hotter water than normal, in turn caused by persistent low flow in the river.

**GOOD NEWS FROM OUR STATE REPRESENTATIVE:**

**A BIG CONGRATULATIONS TO Representative Andrew Murr, author of House Bill 1688 and the South Llano River's Scenic Riverway Designation!** <https://legiscan.com/TX/text/HB1688/2023>

FOR IMMEDIATE RELEASE - Contact Information September 22, 2023, Logan Harrison 512-463-0536:

Article by Chairman Andrew Murr

"Ensuring a Pristine Future: Protecting the South Llano River with A Scenic Riverway Designation"

As the author of House Bill 1688 during the 88th Legislative Session, I am excited to shed light on the significance of this bill and the positive impacts it will have on our region. 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... [CLICK HERE FOR THE COMPLETE ARTICLE \(choose Andrew Murr HB1688.\)](#)

**LATE BREAKING!****The LATEST (and GOOD) NEWS ABOUT THE NORTH FORK GUADALUPE RIVER PROPOSED DAM:**

Ron Duke of Kerr County reported on the proposed private recreational dam located on the North Fork Guadalupe River, which if permitted will be their 15th dam/obstruction in Kerr County alone. The update and attached TPWD Office Memorandum also offers helpful insight for the proposed private recreational dam on the South Llano River, TCEQ Permit Application #13524.

Ron Duke wrote the following:

"TPWD granted us Contested Case Hearing status on the proposed North Fork private dam permit. TPWD has referred the Permit to SOAH (State Office of Administrative Hearings) and they will give us a date for the Hearing on/after Sept. 29th."

But a TPWD attorney, Bridgett Meyer, also had this to say about the Permit:

"TPWD will neither grant nor deny the permit until the conclusion of the hearing. However, I have attached to this email TPWD's preliminary assessment of the application at issue. This document reflects the position that TPWD will take at the hearing."

A new dam limits fish being able to move through the site between deeper reaches that may serve as refuge during drought, or to recolonize upstream after dry periods. Flat Rock Creek has already experienced impairment and fragmentation from previously constructed dams, but this does not negate the potential additional impacts caused by an additional dam... **PLEASE READ THE REST > [CLICK HERE & choose North Fork...](#)**

**BELOW: LCRA Hydromet River Stage as of 10.1.23**

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 streamflow, river stage, rainfall totals, temperature and humidity. <https://hydromet.lcra.org>

**ALERT:**

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

(and so we can deliver our grants)

- 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). AND/OR
- 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!

**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.

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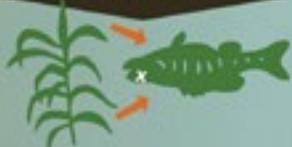
## 136+

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**

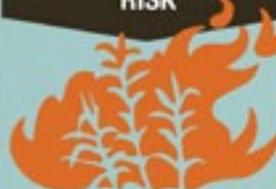


Arundo roots are very weak below the surface, causing river bank erosion.



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](https://tpwd.texas.gov/HealthyCreeks)



**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**