

# TEXAS STREAM TEAM NEWSLETTER

HOUSTON-GALVESTON AREA COUNCIL CHAPTER

WORKING TO PROTECT OUR WATERWAYS



THE MEADOWS CENTER  
FOR WATER AND THE ENVIRONMENT  
TEXAS STATE UNIVERSITY

TEXAS STREAM TEAM



## Volume 2023, Issue 1: August 2023

### Monitor's Corner

#### Skills Check: New Updates

A few new updates and suggestions for Texas Stream Team community scientists to be aware of are detailed below. As a reminder, the Texas Stream Team Core Water Quality Community Scientist Manual is updated as needed, and it is good to check the Texas Stream Team website periodically to make sure you are reviewing the latest version.

##### Sample Depth

Previously, monitors were taught to collect samples at 0.3 meters (~1 ft) from the surface, or 1/3 of the depth from the surface if the water was <0.4 meters. Now however, the manual recommends all samples be taken at 0.3 meters. If the total depth is 0.3 meters or less, collect samples as close to the total depth as possible without disturbing sediment on the bottom. For example, if total depth is 0.25 meters, you might be able to collect a sample at 0.2 meters without disturbing the sediment.

##### Water Color

Previously, all monitors were told to try and find a white bucket to help determine water color. That has proven difficult in recent years, and now you can also use the kit's beaker or a DO sample bottle to check water color if you hold it up against a white background.

### Conductivity Calibration

The new tracer conductivity meters (gray) come with a vial with a cap in the box. If you fill the vial with 20 mL of conductivity solution you can calibrate the new meters with a smaller amount than using the kit's beaker. You can also cap the vial after calibration and save it for the post-calibration check to further reduce the amount used each month.

### pH Sample Size

An update was made to the sample size needed for different types of pH equipment. Most of the monitors in the H-GAC region use the Wide Range pH Viewers (bottom picture) which requires 5 mL of sample water. This is the level with the indicator line on the glass tubes, so no change is needed. However, if you have the newer Octo Slide 2 Viewer (top picture) you will need 10 mL of sample water for the larger plastic tubes, instead of 5 mL as was previously noted in the instructions.



*Octo Slide 2 Viewer and Slide Bars*



*Wide Range pH Viewers*

The newest updated version of the [Standard Core Water Quality Manual](#) is available on the Texas Stream Team website.

You can also review videos for monitoring procedures on the Texas Stream Team YouTube page.

[YouTube Review](#)

Watching the YouTube videos or re-reading the manual are great ways to refresh your memory and double-check your monthly monitoring procedures between QA sessions. Always review the newest updated manual.

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## **Monitor Spotlight: City of Sugar Land Monitoring Program**

H-GAC coordinates a regional Texas Stream Team group in the four river

basins that are part of our Clean Rivers Program. However, we are not the only Texas Stream Team partner active in the region.

One of the other partners is the City of Sugar Land, which coordinates a Texas Stream Team monitoring program within the city, on waterways like Oyster Creek, the Brazos River, and the channels that lead to them. They are currently working to recruit more monitors for their program.

Christian Eubanks with the City of Sugar Land said, "The City of Sugar Land has historically participated in the Texas Stream Team; However, due to COVID we were unable to continue our program. We think the Texas Stream Team is a great service to the state, and we are now looking for volunteers to help reboot our program."



If you live in Sugar Land and want to join their program please reach out to [Christian Eubanks](#) with any questions or to confirm your interest. The City of Sugar Land is hoping to confirm interest and get monitoring efforts started this fall.

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## Safety Briefing: How to Handle the Texas Heat

This summer, Texas has been experiencing extreme temperatures reaching near record highs. It is important when monitoring in these conditions to prepare for the heat along with recognizing the signs of dehydration, heat exhaustion, and heat stroke.

**Dehydration-** happens when you lose fluids faster than you take in. This means your body doesn't have enough water or fluids to carry on with its normal functions. Symptoms include: less frequent urination along with dark colored urine, fatigue, dizziness, extreme thirst, and confusion.

**Heat Exhaustion-** occurs when your body overheats, when your internal body temperature is elevated due to poor thermoregulation. Symptoms include: faintness, dizziness, fatigue, muscle cramps, headaches, weak and rapid pulse, heavy sweating, and goose bumps.

**Heat Stroke-** is a serious, potentially life threatening, condition. It is caused by prolonged exposure along with physical exertion in high temperatures. Emergency treatment is required as quickly as possible. If delayed or untreated it can lead to organ and muscle damage. Complications can lead to critical condition or death. Symptoms include: rapid breathing, racing heart rate, headache, flushed skin, nausea and vomiting,



### Tips to prevent the above heat related conditions:

- Wear lightweight, ventilated clothes
- Use sunscreen to protect exposed skin
- Drink plenty of water and/or hydrating fluids such as Gatorade, Powerade, etc.
- Take frequent breaks, in the shade if possible

As always, it is recommended to monitor with a buddy for safety. Whether they are also a Texas Stream Team Community Scientist or not, having another person with you improves your safety in general, and is especially important in this heat in the event that you experience any of these heat-related conditions. If you do choose to monitor by yourself, please let someone know where and when you are going and when you expect to be back.



sweating, high body temperature, and altered mental state/behavior.

## Technical Territory: Heat vs. pH

As summer weather conditions continue throughout Texas, most of the state is susceptible to drought. Temperatures have significant influence on the chemistry of water, including pH, and can affect the quality of water sources.

**pH-** measures how basic or acidic a solution is. Texas Stream Team measures and records pH as part of the standard core training program.

Texas Stream Team uses the pH scale, from 0-14, for values. Each Texas Stream Team kit contains pH equipment to determine pH of a site water.

### Understanding the Impact of Hot Weather on pH levels

**Algal blooms** - Hot weather can result in an accelerated growth of algae in water bodies. They can cause cyanobacteria that can release toxins and raise the pH levels of water bodies.

**Increased Hydrogen Ions** - Increases in temperature leads to a rise in molecular vibrations which results in ionization and the formation of hydrogen ions. Since more hydrogen ions make a solution more acidic, the increase in temperature leads to a decrease in pH.



### Will I see these changes?

Remember that pH is measured on a logarithmic scale, so a change from one standard unit, such as from 7.0 to either 6.0 or 8.0 is actually a ten-fold change. So, with the equipment we use, smaller changes caused by temperature may not always be visible.

### Tips for Monitoring pH Levels during Hot Weather Conditions:

- Regularly maintain/clean equipment, and calibrate if using a probe.
- Track water quality parameters and potential relationships by measuring temperature, dissolved oxygen, and conductivity.

## Upcoming Trainings



The Meadows Center  
for Water and the Environment  
"What Once Inspired"  
TEXAS STREAM TEAM

Core Water Quality Citizen Science Training



### Texas Stream Team Standard Core Water Quality Trainings

#### Find a Training:

Email [stream.team@h-gac.com](mailto:stream.team@h-gac.com) to be added to the notification list when a new training is scheduled.

To view trainings held by partners across the state you can view the Meadows Center's [calendar of events](#).

## Monitor Resources

**Resources on the H-GAC website**  
H-GAC's Texas Stream Team webpage includes a section just for

**Electronic Monitoring Form Available**  
The Meadows Center for Water and

active monitors, including downloadable manuals, cheat sheets, links to video tutorials, and instructions for submitting and viewing data. It is a great first place to check if you have any questions about your Texas Stream Team monitoring.

[Visit the website](#)

the Environment continues to update the data forms and resources available for Texas Stream Team, and now those resources include an electronic monitoring form! Just like with the PDF form, make sure to fill out all necessary fields, and mark your group as H-GAC.

[Visit the website](#)

### **TWPD Kills & Spills**

Texas Parks and Wildlife Department's Kills and Spill Team (KAST) investigates fish and wildlife kills resulting from pollution and natural events. To report a Kill or Spill call **(512) 389-4848**.

[Learn More](#)

### **Galveston Bay Action Network**

The Galveston Bay Action Network allows you to be the eyes around Galveston Bay. You can report various types of pollution throughout the Galveston Bay watershed, and GBAN will help make sure it gets reported to the appropriate jurisdiction.

[Learn More](#)

## **Water Quality Projects & Plans**

### **Clean Rivers Program**

#### **2023 Basin Highlights Report**

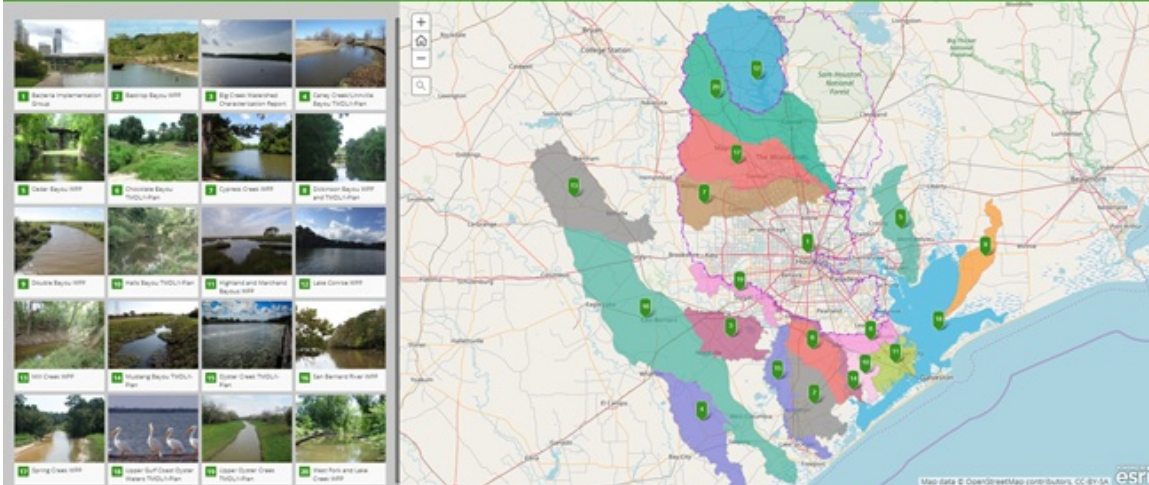
The [Basin Highlights Report](#) for 2023 is now available in PDF and interactive online formats. The Basin Highlights Reports include the status and trends of water quality in the region. Every five years a larger Basin Summary Report is produced that provides a more detailed analysis of the region's water quality. The 2023 report focuses on the Greens Bayou watershed.

Contact Todd Running at 713-993-4549 for more information about the [Clean Rivers Program](#).



### **Watershed Based Plans**

H-GAC and other local partners help facilitate the development of watershed-based plans to improve water quality in the region, including both Total Maximum Daily Load (TMDL) Implementation Plans (I-Plans) and Watershed Protection Plans (WPPs). H-GAC has an interactive story map showing the locations of ongoing and completed projects in the region. If you are interested in learning more about a specific project or getting on the mailing list for stakeholder meetings, please email the contact for that project.


[View the Story Map](#)

## Ongoing Project Updates

### [Bacteria Implementation Group \(BIG\) watersheds](#)

Status: Watersheds throughout Harris and Montgomery Counties under implementation.

Contact: [Steven Johnston](#)

Upcoming Meeting: Fall 2023

### [Big Creek watershed](#)

Status: The TMDL is going through TCEQ approvals. A Draft I-Plan was submitted to TCEQ and stakeholder review is requested.

Contact: [Steven Johnston](#)

Upcoming Meeting: To be determined

### [Caney Creek/Linville Bayou watersheds](#)

Status: The TMDL was adopted by the TCEQ. The I-Plan is going through final approvals.

Contact: [Steven Johnston](#)

Upcoming Meeting: To be determined

### [Chocolate Bay watershed](#)

Status: The Chocolate Bayou TMDL is going through final approvals. H-GAC is working with stakeholders to draft the Chocolate Bay I-Plan.

Contact: [Steven Johnston](#)

Upcoming Meeting: Wednesday, November 15, 2023.

### [Clear Creek watershed](#)

Status: H-GAC has developed a watershed protection plan with local stakeholders to submit to TCEQ for review in the fall.

Contact: [Justin Bower](#)

### [Cotton Bayou](#)

Status: The TMDL is going through final approvals. The I-Plan was submitted to TCEQ and stakeholder review is requested.

Contact: [Rachel Windham](#)

Upcoming Meeting: Tuesday, November 14, 2023

### [Cypress Creek watershed](#)

### [East Fork San Jacinto River watershed](#)

Status: The WPP was accepted by the TCEQ and EPA, and H-GAC is working with stakeholders to move implementation projects forward.

Contact: [Justin Bower](#)

Status: H-GAC is beginning to develop a watershed protection plan with local stakeholders.

Contact: [Rachel Windham](#)

Upcoming Meeting: Wednesday, August 30, 2023, [Virtual](#)

### [Oyster Creek watershed](#)

Status: The TMDL is going through TCEQ approvals. The draft I-Plan was submitted to TCEQ and stakeholder review is requested.

Contact: [Steven Johnston](#)

Upcoming Meeting: To be determined

### [Spring Creek watershed](#)

Status: The watershed protection plan was accepted by TCEQ and EPA, and H-GAC is working with stakeholders to move implementation projects forward.

Contact: [Rachel Windham](#)

### [Upper Oyster Creek watershed](#)

Status: Watershed in implementation phase.

Contact: [Steven Johnston](#)

Upcoming Meeting: Monday, August 28, 2023 in Sugar Land

### [West Lake Houston Basin Implementation](#)

Status: H-GAC is working with local stakeholders to implement strategies in the EPA accepted watershed protection plans for West Fork San Jacinto River and Lake Creek, Cypress Creek, and Spring Creek.

Contact: [Rachel Windham](#)

## Partner News

### Save the Date for Trash Bash

The River, Lakes, Bays 'N Bayous Trash Bash®, Texas's largest single-day waterway cleanup, invites volunteers to the 30th annual event on Saturday, March 23, 2024. Join the thousands of volunteers who attend each year to help cleanup waterways all throughout the Galveston Bay watershed. Cleanup supplies, event t-shirts, and lunch are provided to all volunteers, so bring your family and friends and come "Clean it like you mean it!". Find more information at [www.trashbash.org](http://www.trashbash.org).



RIVER, LAKES  
BAYS 'N BAYOUS TRASH BASH®

## Get More Involved With Partners

[Adopt-a-Beach](#)

[Artist Boat](#)

[Bayou Land Conservancy](#)

[Bayou Preservation Association](#)

[Buffalo Bayou Partnership](#)

[Cypress Creek Flood Control Coalition](#)

[Exploration Green Conservancy](#)

[Friends of the River San Bernard](#)

[Galveston Bay Estuary Program](#)

[Galveston Bay Foundation](#)

[Jesse H. Jones Park & Nature Center](#)

[Keep Texas Beautiful](#)

[River, Lakes, Bays 'N Bayous Trash Bash](#)

[SPLASH](#)

[Trash Free Texas](#)

[Turtle Island Restoration Network](#)

[The Woodlands Township](#)

[White Oak Bayou Association](#)



## About the Newsletter

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Houston-Galveston Area Council

[Stream.Team@h-gac.com](mailto:Stream.Team@h-gac.com)

[www.H-GAC.com](http://www.H-GAC.com)

Houston-Galveston Area Council | 3555 Timmons Lane, Suite 120, Houston, TX 77027

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