



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 2024, Issue 2: September 2024

Monitor's Corner

Skills Check: Dissolved Oxygen Titration



The dissolved oxygen testing protocols for Texas Stream Team follow a modified Winkler Method. This process causes several reactions to take place in the DO sample bottles and titration vials:

1. Manganous ions react with dissolved oxygen in the sample bottle under alkaline condition to form the brown particulates. The addition of azide helps to destroy any organic life in the sample without introducing extra oxygen.

2. Sulfuric acid oxidizes the manganese and releases iodine proportional to the amount of DO originally present. This iodine forms the amber color of the fixed solution.
3. Sodium thiosulfate is added in the titration to neutralize the iodine and bring the deep amber color to a lighter, pale yellow.
4. Starch indicator binds to the remaining iodine and stains it blue/violet so that we can correctly tell when we truly reach the clear endpoint.

The DO titrations can be one of the most confusing parts of the monthly Texas Stream Team monitoring. A lot of the confusion stems from the instructions to reach a "pale yellow" or, previously, a "pale straw" color before adding starch indicator solution. Texas Stream Team monitors often worry about getting to the correct shade of pale yellow and matching it each month. In reality, there is not one exact line on the yellow color spectrum you are trying to hit, you just want to get in that paler yellow range. Instead there are three things to keep in mind that might give you a little more confidence in reaching the correct point to add your starch indicator solution.

1. The solution should lose the golden or amber hue that it usually has after being fixed. Note the difference in the two solutions pictured above.
2. The color should still be pale yellow, not clear or with just a yellow tint to it. You could still be a little darker, but you would not really want to go any lighter than the pale solution pictured above. If you go too clear there may not be enough iodine left for the starch to bind to for the desired blue color change.
3. In some cases where Dissolved Oxygen levels are low, the fixed solution may already be a pale yellow color. In that case, it is important to not add too many drops of sodium thiosulfate to where the solution would go clear. You may just end up adding the starch indicator to turn the solution blue after just a drop or two.

In the end, the most important thing is to be consistent - treat the two sample bottles and titration vials as similar as possible. Try to bring both of them to the same straw color, blue color, and clear endpoint compared to each other during the monthly test, while trying to be consistent between monitoring events.

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

You can also review Texas Stream Team monitoring videos on YouTube.

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.

Safety Briefing: Observations Only Form

This summer our region has seen several extreme weather events that have left hazards near our waterways. From flooding out of creek banks to downed trees, different factors have made some of our monitoring sites inaccessible. Whether it is storm-related hazards, inclement weather, or other safety concerns, community scientists should not conduct monitoring efforts in any situation that would put them at risk.

The Meadows Center for Water and the Environment has created an electronic form for reporting just field observations for your site when you cannot safely access it to conduct the other tests. If you use the electronic reporting form for your Standard Core monitoring, there is a link to the Observations Only Form on it if needed. If you email your reports to H-GAC to enter the data for you, you can also just submit a report with the Field Observations only if needed. Don't forget to still fill out the general information including the data and time, and include information on why you could not access the site in the comments.

CORE ENVIRONMENTAL MONITORING FORM

Preferred browsers: Edge and Chrome

Please use the [Observations Only Form](#) to submit field observations when water quality tests were not conducted due to safety issues, weather-related reasons, etc. Note in the Comments sections why tests were not conducted.

General Information ▼

Sample Date*

Sample Time (military)*

HHMM

For example: 1455

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. 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.

Monitor Spotlight: Harris County Precinct 3 Parks Department

MONITOR
SPOTLIGHT

HARRIS COUNTY
PRECINCT 3 PARKS

Monitoring Sites:

- Spring Creek @ Jesse Jones Park
- Cypress Creek @ Jesse Jones Park
- Spring Creek @ Riley Fuzzel Rd
- Cypress Creek @ Kickerillo-Mischer



The education team with Harris County Precinct 3 Parks have recently increased their participation in Texas Stream Team by getting several team members certified to conduct Standard Core monitoring. With the new monitors on their team, staff now monitor at four locations in Precinct 3 Parks, and receive data from other community scientists with sites in their parks.

Kris Linberk, the Park Programs Manager and a long-time monitor with Texas Stream Team, says they use the monthly data collected, "as a talking point in our watershed-specific field trips and public programs as a snapshot of the health of our waterway. By expanding monitoring sites within Precinct 3, we will have a broader understanding of how the area is fairing as a whole." She added, "Our Precinct 3 educator team is working to make water education more widespread,

especially since our area is strongly impacted by both Spring and Cypress Creek. Our goal is to not just engage students, but to also involve families in understanding how our everyday interactions within our environment impact the water we use."

The Harris County Precinct 3 Park education staff are setting a great example of how science can be utilized in public greenspaces and how it can help contribute to understanding the trends of our waterways and why we should all care about the health of our creeks. If you are out and about in the Precinct 3 parks and greenspaces and see any of the education team, be sure to say hello and ask them about the program and all of the great work they are doing!

Upcoming Trainings

Texas Stream Team Standard Core Water Quality Trainings

Texas Stream Team Standard Core Water Quality Community Science Trainings



H-GAC plans to hold another training in the late fall. Please check the website or join the notification list.

Join the Notification List:

Email 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](#).

Quality Control Sessions for Current Community Scientists:

As a reminder, active Texas Stream Team monitors need to complete a Quality Control Session every two years. H-GAC is working to get a more consistent schedule of opportunities that will include both QC-specific sessions for any monitor to attend, and the ability to attend the afternoon of a Standard Core training in your area. This should provide 3-4 opportunities each year to choose from.

Monitor Resources

Community Scientist Resources

The Texas Stream Team webpage includes a section for monitor resources, 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](#)

Electronic Monitoring Form Available

The Meadows Center for Water and 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.

[View the Form](#)

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](#)

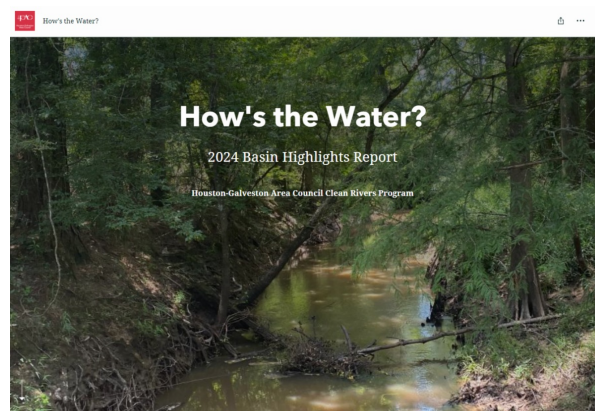
Water Quality Projects & Plans

Clean Rivers Program

2024 Basin Highlights Report

The [Basin Highlights Report](#) for 2024 has been finalized and is now available online in an interactive format and a PDF format. 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.

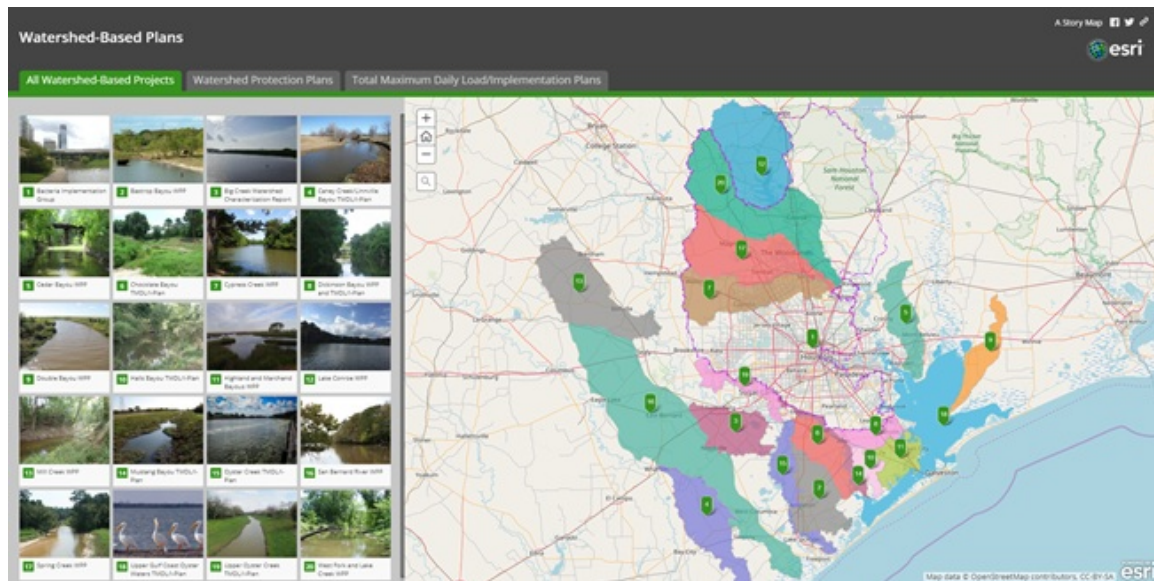
Contact Todd Running at 713-993-4549 for more information about the [Clean Rivers Program](#).



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: October 29, 2024

[Caney Creek/Linville Bayou watersheds](#)

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

Contact: [Steven Johnston](#)

[Clear Creek watershed](#)

Status: H-GAC has developed a watershed protection plan with local stakeholders. This plan was accepted by EPA in July.

Contact: [Rachel Windham](#)

[East Fork San Jacinto River](#)

[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](#)

[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](#)

[Cotton Bayou](#)

Status: The TMDL and I-Plan have been reviewed by stakeholders and submitted to TCEQ. An addendum to the original TMDL will be developed.

Contact: [Cornell Evans Jr.](#)

[Galveston Bay Coalition of](#)

[watershed](#)

Status: The WPP draft has been reviewed by stakeholders and TCEQ and is being reviewed by EPA.

Contact: [Rachel Windham](#)

[Watersheds](#)

Status: Texas Community Watershed Partners, part of Texas A&M AgriLife Extension Service, coordinate WPP implementation efforts in Bastrop, Dickinson, Highland, and Jarbo Bayou watersheds.

Contact: [Celina Lowry](#)

[Greens Bayou watershed](#)

Status: H-GAC will be meeting with stakeholders in the fall to begin development of a WPP.

Contact: [Rachel Windham](#)

Upcoming Meeting: Coming soon!

[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](#)

[Upper Oyster Creek watershed](#)

Status: Watershed in implementation phase.

Contact: [Steven Johnston](#)

[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](#)

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](#)

[Greens Bayou Coalition](#)

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

[Keep Texas Beautiful](#)

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

[SPLASH](#)

[Turtle Island Restoration Network](#)

[The Woodlands Township](#)

[White Oak Bayou Association](#)

About the Newsletter

Newsletter Content Survey: Looking for different content? Complete this [3-question survey](#) to let us know what you would like to see in the newsletter.

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