



## TEXAS STREAM TEAM SITE SELECTION GUIDELINES

### Site Selection Guidelines:

1. Site should be safely accessible year-round (exception: major flood events).
2. Site should provide the best representation for the overall water quality conditions of a water body.
3. Site should be free of backwater effects during normal conditions.
4. Perennial flowing streams are preferable to intermittent streams.
5. Lake and estuary locations should be picked within major arms and/or near dams.
6. Coastal sites are best situated to allow representative sampling, regardless of the tidal cycle.
7. It is best to utilize existing sites that have historical water quality data. Refer to our Datamap which can be found at [Dataviewer.TexasStreamTeam.org](http://Dataviewer.TexasStreamTeam.org) to select a site that is no longer active.

**NOTE ABOUT POLLUTION:** Sites immediately below major pollution sources may not accurately represent water quality conditions of that waterbody. Areas with significantly different contaminant sources or water quality problems may require additional sites within the area of concern to obtain a true representation of the water body. **New Sites should be created if the proposed sampling location is outside of 400 meters up or downstream of an existing Site.**

### Site Selection Tips:

1. Prioritize watersheds and streams within your groups area and identify data gaps.
2. High priority waters: impaired, suspect to future impairments/degradation, natural springs present.
3. Testing Sites that are either already being monitored by professionals/agencies or are not being monitored are as equally beneficial to the data of Texas Stream Team.
4. Current routine monitoring locations via professionals/agencies for the Clean Rivers Program: [Coordinated Monitoring Schedule](http://CoordinatedMonitoringSchedule) at <https://cms.lcra.org/>.
5. Current impaired streams and streams of concern within Texas: [The Texas Integrated Report of Surface Water Quality](http://TheTexasIntegratedReportofSurfaceWaterQuality) at <https://www.tceq.texas.gov/waterquality/assessment>.
6. Utilize stakeholder involvement to identify waterbodies that may not be in the immediate public spotlight or within the classified and unclassified stream segments of Texas.

### Site Safety:

1. Site must be safely accessed through public or private property. Public sites requiring vehicle transportation must have a safe location to park at that is off roads and away from traffic. Be cautious of traffic when unloading or loading monitoring equipment and accessing your site.
2. Use pedestrian walkways, docks, piers, or stable stream banks whenever possible. If you must enter the water, always have a partner on the shore nearby and wear a life jacket if wading is necessary.
3. If using a boat to sample your site, learn and observe all [U.S. Coast Guard and State of Texas regulations](http://U.S.CoastGuardandStateofTexasregulations) (eg. Watercrafts with paddles must have a life jacket onboard). Boat operators should have completed boating safety course.
4. Texas Stream Team recommends that you always sample with another person.

**NOTE ON PRIVATE PROPERTY:** Private property not under your ownership requires the completion of a [Private Property Access Form](http://PrivatePropertyAccessForm).

## Site Selection Protocols:

1. Citizen Scientists within Texas Stream Team Groups must request the adoption of Active or Inactive Sites or notify the abandonment of their Active Site directly to their Group Coordinator.
2. Group Coordinators or Individuals must add to their [Group Citizen Scientist Monitoring Plan](#) or [Citizen Scientist Monitoring Plan](#), respectively, when choosing to adopt, abandon, or create new Sites. Updated Monitoring Plans must be sent to [TxStreamTeam@txstate.edu](mailto:TxStreamTeam@txstate.edu) upon all updates.
3. Once the above tips and guidelines are read, please email [TxStreamTeam@txstate.edu](mailto:TxStreamTeam@txstate.edu) either the site you would like to reactivate, or the latitude and longitude coordinates of a new site you would like to propose.

## Monitoring Suggestions Based on Data Uses:

### RECORD CURRENT CONDITIONS/DEVELOPING A BASELINE

Monitoring to determine the health of your water body and to develop a baseline (a record of normal conditions) to compare with future measurements is a basic goal of water quality testing. Typically, this would include taking the core readings and can optionally include taking advanced readings or bacteria samples. For this type of monitoring you can choose one or more sites and try to find a site that best represents the overall water quality conditions of the water body. Samples should be collected once a month at about the same time of day, so that the measurements are consistent.

### PROBLEM IDENTIFICATION/SCREENING

If you have specific water quality concerns and would like to confirm if there is a problem with your water quality, you may choose to do monitoring that is geared toward problem identification. At a minimum, this would involve collecting Core parameters, and if safe contact recreation is a concern, you may wish to collect *E. coli* bacteria data as well. If you are concerned about too much algae or scum in the water, then monitoring Advanced parameters is recommended. Samples should be collected once a month, at about the same time of day.

### EDUCATION

Monitoring water quality can also be used as an educational tool. You may wish to introduce students to collecting scientific data in the field or use the data you collect to educate residents about their water quality. Either way, this type of monitoring would be similar to *Developing a baseline* (see above for details). Look for trends (changes) through time and space. You may choose to create a monitoring plan that will tell you about changes in your water body (or water bodies) either through space (upstream to downstream) or through time (seasonal and annual changes). To look at changes through space, you should choose three or more monitoring sites located in different parts of the water body so that you can get good coverage of the area. You can choose to observe several sites along a single stream, or you can sample tributary water quality versus the main river channel. To get accurate comparisons, you should sample all your sites on the same day at around the same time. You should sample the most downstream site first and work your way upstream so that monitoring activities at one site do not influence the next set of measurements. Samples should be taken monthly.

To look at changes through time, you should be ready to commit to a long-term (at least three years) monitoring program. To capture seasonal variability, bi-monthly monitoring is recommended (every two weeks). If you are interested in trends over years, then monthly sampling is acceptable. Depending on your specific water quality concerns, you can monitor the Core and/or Advanced parameters, and/or take *E. coli* bacteria samples.

Monitoring for trends is the most extensive and demanding type of monitoring, but it can also produce the most useful data to help scientists and citizen scientists understand the long-term water quality in an area, and to identify how water quality changes in response to weather, in-stream processes, or development around the water body. Please contact Texas Stream Team staff for further guidance about creating a sampling design to monitor for trends.

### **GAUGE BMP EFFECTIVENESS**

Some citizen scientists may wish to test how effective a best management practice (BMP) for improving water quality in their water body. A BMP can be a detention pond, a restored wetland, or other structure that is designed to soak up pollutants and excess sediment and improve the quality of the water downstream. For this type of monitoring, you should choose two sites, one upstream and one just downstream of the BMP. As each BMP can have very different impact on a water body, please consult with Texas Stream Team staff about the correct spacing of sites above and below the structure. Typically, BMPs are designed to retain nutrients, bacteria, and/or sediment, so testing for all three parameter groups is recommended.