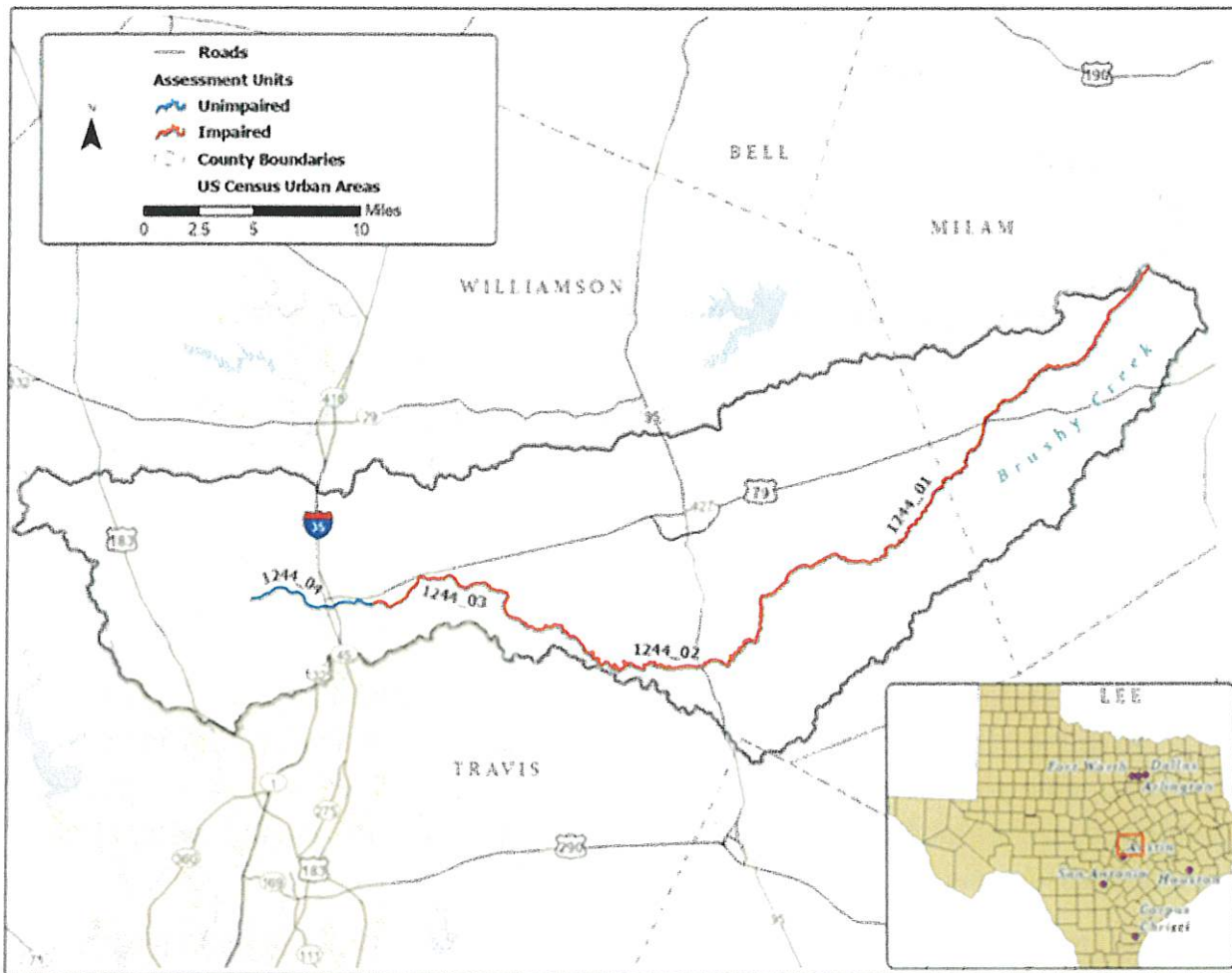




Bushy

Creek Watershed

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 Texas Water
Resources Institute
make every drop count

Brushy Creek comprises four Assessment Units (AUs) (1244_01 – 1244_04) and flows west to east through Williamson and Milam counties. The upstream portion of the watershed is highly urbanized, with rapidly expanding cities such as Round Rock and Hutto. Meanwhile, the downstream portion is relatively rural, but it is also experiencing rapid development and land cover change. According to the 2024 Texas Integrated Report, AUs 1244_01, 1244_02, and 1244_03 are listed as impaired due to elevated bacteria concentrations affecting primary contact recreation uses.

To support watershed planning efforts, the Texas Water Resources Institute (TWRI) secured funding from the Texas State Soil and Water Conservation Board (TSSWCB) to collect water quality and streamflow data at two locations within the watershed) between 2022 and 2026. Additionally, the Brushy Creek Characterization project, funded through the Texas Commission on Environmental Quality (TCEQ) Nonpoint Source Program, was completed in August 2025. These projects provide essential data and technical foundations for the Watershed Protection Plan (WPP) development that will begin in Fall of 2025.

In recent years, stakeholder interest in protecting the water quality of Brushy Creek has increased significantly due to population growth and changes in land cover and land use. The Brushy Creek WPP project will expand the scope of stakeholder engagement by forming a comprehensive group of local stakeholders that appropriately represents diverse interests within the watershed. Additionally, potential stakeholder structures, such as a steering committee and workgroups, along with ground rules, will be discussed and established with the group.

TWRI will guide the stakeholder group through the process of developing and delivering a WPP for Brushy Creek that meets EPA's Nine Key Elements for successful watershed-based plans. Stakeholders will play a crucial role in the WPP development process by providing local insights into water quality issues, identifying critical pollutant sources, and proposing feasible management measures, implementation schedule, water quality goals, and interim milestones.”

Treated Wastewater Standard

Brushy Creek is declared as “impaired”, due to high bacterial content, from the Round Rock Regional Water Treatment outflow near Red Bud Lane all the way to the county line.

As TCEQ reviews wastewater treatment plant (wwtp) applications, they look at the watershed water quality information and the consulting engineer's recommended wastewater treatment effluent parameters.

The discharge is measured by:

CBOD or 5-day carbonaceous biological oxygen demand in mg/l*

SS or suspended solids in mg/l

NH3-N or ammonia nitrogen in mg/l

P or Phosphorus in mg/l

DO or dissolved oxygen in mg/l

	CBOD5	SS	NH3-N	P	DO
A typical effluent sets can be:	10 mg/l	15 mg/l	3 mg/l	n/a	4 to 6
A more advanced set would be:	5 mg/l	5 mg/l	1 to 2	0.5 to 1	5 to 6

To get to the higher standard requires filtration and some nitrogen removal. It would have a higher first cost and higher operating cost. With Brushy Creek being “impaired” we should want any discharge to be the more advanced set.

* Carbonaceous biological oxygen demand (CBOD) is the amount of dissolved oxygen needed by microorganisms to break down carbon-based organic matter in wastewater, specifically excluding the oxygen demand from the breakdown of nitrogenous compounds. This is measured using a test that inhibits nitrifying bacteria to isolate the oxygen consumed by the decomposition of only the carbonaceous materials.

**Total Suspended Solids in Brushy Creek Below the Round Rock Regional
Wastewater Plant
September 2025**

