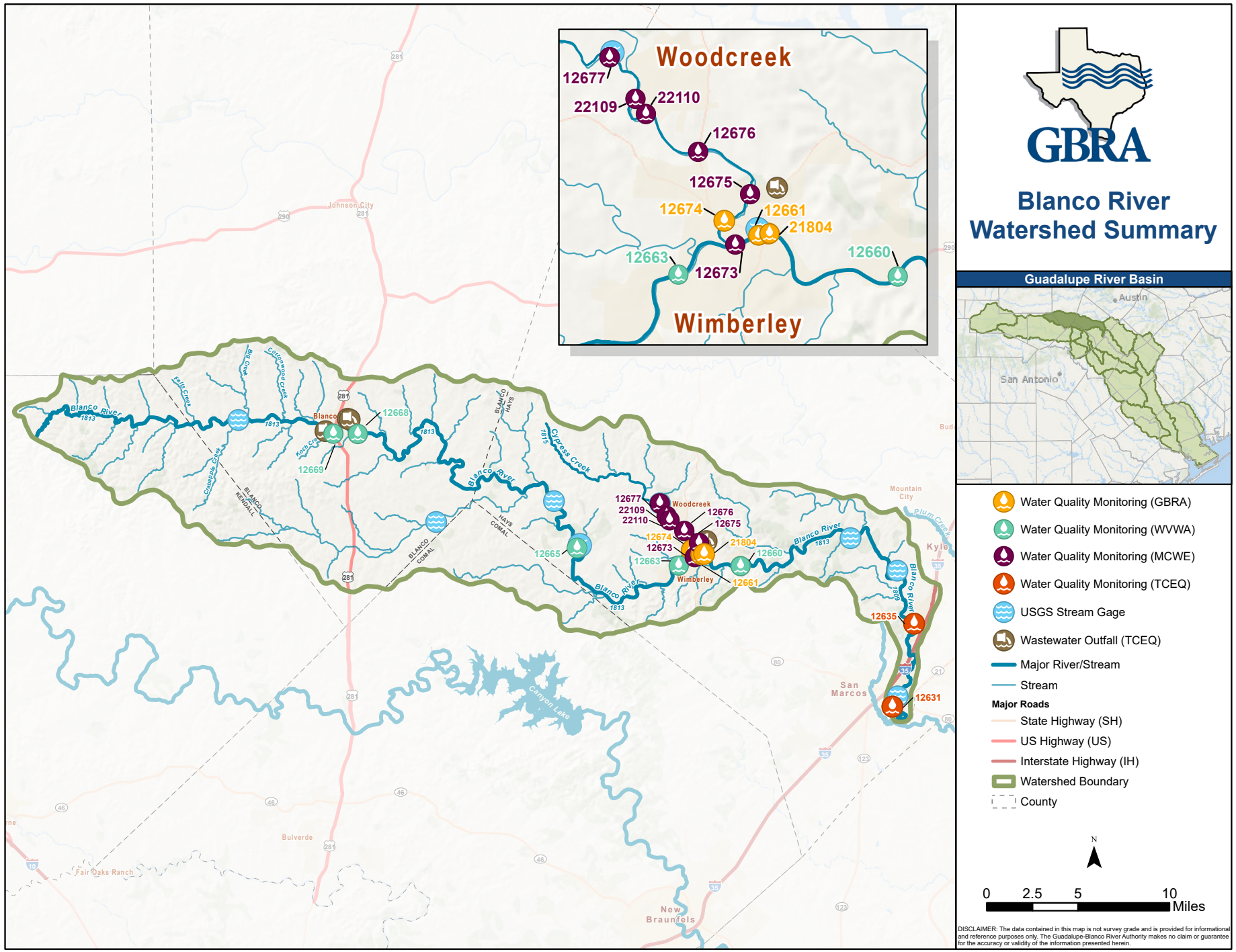
BLANCO RIVER



Segments

Segment 1813 - Upper Blanco River
Segment 1809 - Lower Blanco River
Segment 1815 - Cypress Creek

Segment Summaries

Upper Blanco River (1813)

Upper Blanco River is a 71-mile-long segment that flows through Kendall and Blanco counties before transitioning into the Lower Blanco River (1809). This segment lies within the Edwards Plateau; the upper portion of this segment is characterized by gaining and losing stretches and regularly goes dry during times of low rainfall. The lower portion of the stream is spring fed and more perennial. Substrate in this segment are mostly limestone, with the occasional gravel, silt, or clay. The limestone substrate is known to contain gypsum deposits, which is a potential contributor of high sulfate concentrations in ground water in the area. Segment 1813 has numerous tributaries, including Cypress Creek (1815).

MCWE Staff collecting data on the Upper Blanco River

Upper Blanco River exhibits exceptional water quality and has no concerns or impairments as of the 2022 Texas Integrated Report. The cool, clear waters of the Blanco River attract many recreationalists each year; tubing, kayaking, swimming, and fishing are popular on the Blanco. Like many other areas in the hill country region, the watershed around segment 1813 is experiencing a population increase, which could lead to increased non-point source pollution through runoff as the amount of impervious cover increases.

Segment 1813 is monitored by Wimberley Valley Watershed Association (WVWA) and TCEQ at six stations, located throughout the segment.

Station ID	Dissolved Oxygen	Biologicals	Bacteria	Temperature	Nutrients	Chlorophyll a
12660	M	M	M	M	M	M
12661	M	M	M	M	M	M
12663	M	M	M	M	M	M
12665	M	M	M	M	M	M
12668	M	M	M	M	M	M
12669	M	M	M	M	M	M

M - Meets water quality criteria

Table 13: Summary of the 2022 Texas Integrated Report / Segment 1813

Data analyses indicate a decreasing trend for total suspended solids (TSS) at all stations in segment 1813. Data from station 12665 is shown here (Figure 28). Some stakeholders have hypothesized that the decrease could be due to more efficient treatment of wastewater upstream or due to a decrease in the amount of construction happening near the river.

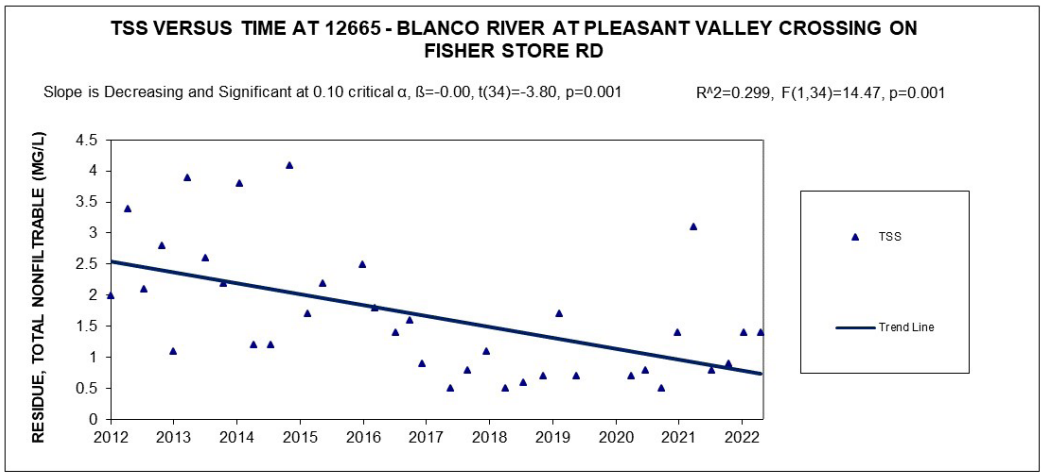


Figure 28: TSS trends at Station 12665

Analyses also show a decreasing trend for E. coli at several sites in segment 1813, including 12663, 12665, and 12668. Data from 12665 are shown here (Figure 29). Other notable trends at station 12668 include increasing trends in sulfate (Figure 30) and chloride (Figure 31), and a decreasing trend in chlorophyll a (Figure 32). These trends may be a result of decreased runoff due to a lower than average rainfall and as a result, a proportionally larger influence from groundwater.

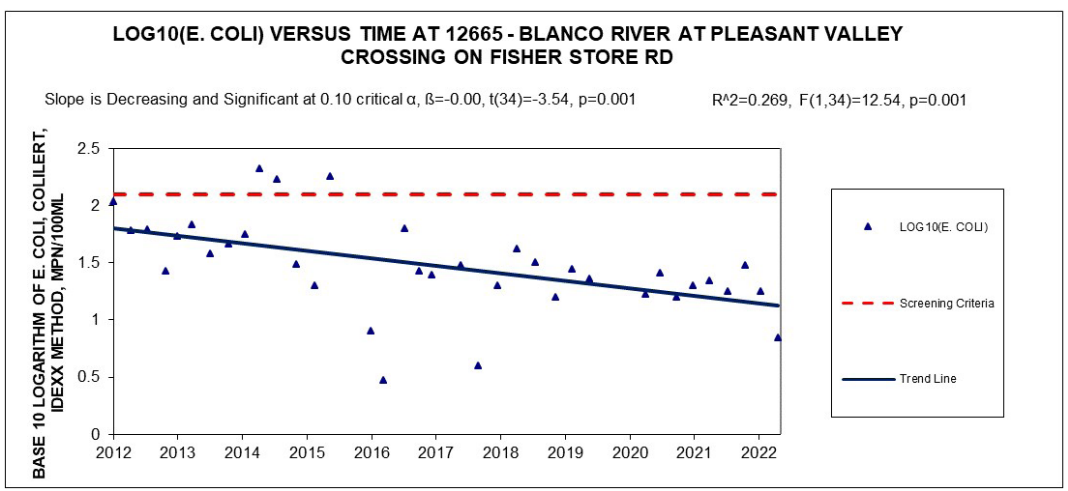


Figure 29: E.coli trend at Station 12665

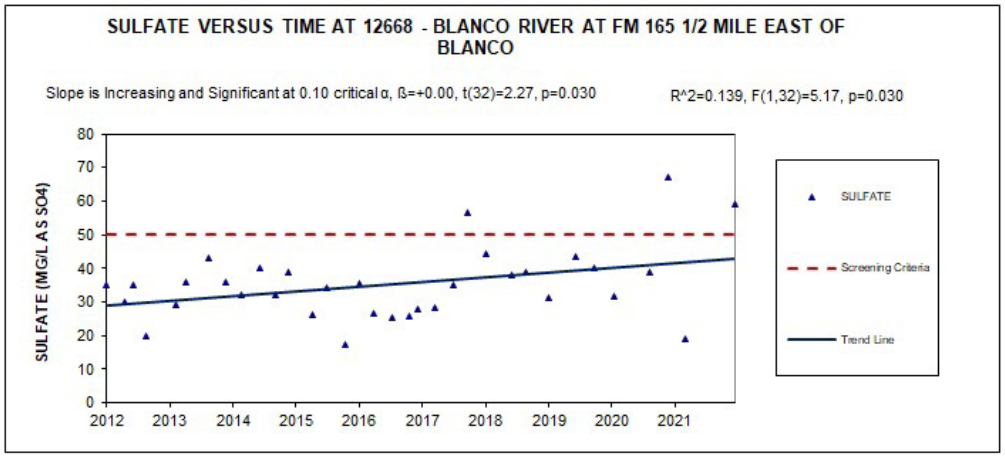


Figure 30: Sulfate trend at Station 12668

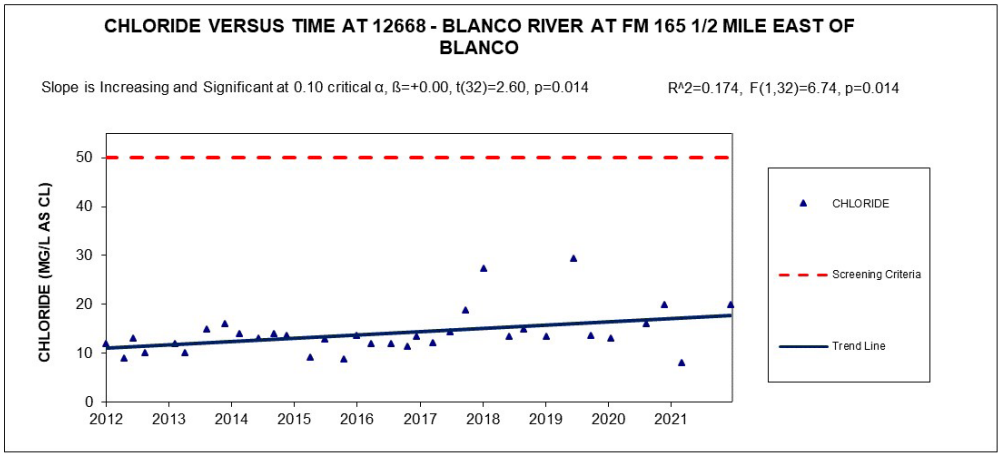


Figure 31: Chloride trend at Station 12668

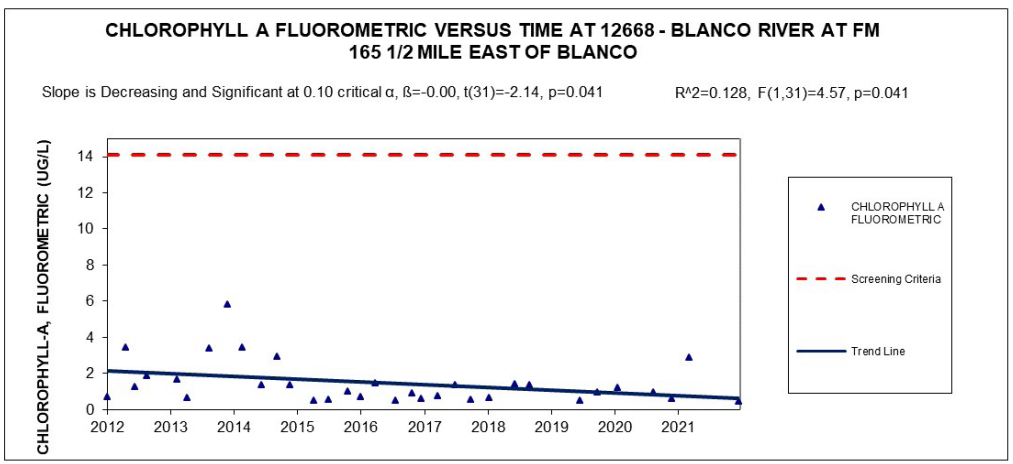


Figure 32: Chlorophyll a trend at Station 12668

Cypress Creek (1815)

Cypress Creek at Ranch Road 12

Cypress Creek is a 15.7-mile-long, spring-fed creek with a 38.3-square-mile drainage area. Cypress Creek flows through the City of Wimberley before joining the Blanco River. This stream has been known for exceptional water quality and is a popular area for recreational activity. Several natural swimming holes, including Jacobs Well and Blue Hole, that dot the length of this creek are popular tourist attractions during the warmer months.

In 2014, a Watershed Protection Plan (WPP) was developed for Cypress Creek. This plan was originally meant to serve as a proactive plan to address likely future impairments in the watershed. In 2020, segment 1815 was added to the 303(d) list of impaired water bodies for impaired fish community and impaired macrobenthic community. Aging and failing septic systems are thought to be one of the contributing factors to the decrease in water quality in the creek. Other potential contributors include wildlife. A bat colony that lives under the RR 12 bridge in downtown Wimberley is believed to be a potential source of bacteria. Though not currently impaired for bacteria, this parameter is of concern for local stakeholders. More information about the WPP is located at: https://www.cypresscreekproject.net/.

There are currently six monitoring stations in 1815 monitored by WVWA, and one station monitored by GBRA (station 12674).

Station ID	Dissolved Oxygen	Biologicals	Bacteria	Temperature	Nutrients	Chlorophyll a
12673	C	I	M	M	M	M
12674	C	I	M	M	M	M
12675	C	I	M	M	M	M
12676	C	I	M	M	M	M
12677	C	I	M	M	M	M
22109	M	M	M	M	M	M
22110	M	M	M	M	M	M

M - Meets water quality criteria
C - Concern for water quality criteria
I - Impaired for water quality criteria

Table 14: Summary of the 2022 Texas Integrated Report / Segment 1815

Total dissolved solids (TDS) at station 12677 are significantly increasing (Figure 33). Stream flow at this site has decreased over time, resulting in a larger proportion of the flow at this site coming from ground water out of Jacobs Well. Data from the USGS station located several feet down in Jacobs Well shows increased levels of TDS compared to data collected at Station 12677 (Figure 34), which suggests that this could be a contributing factor.

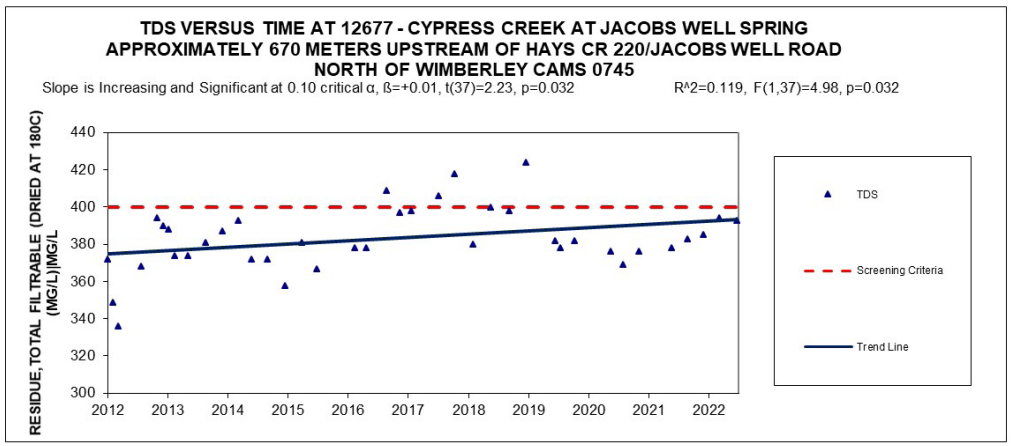


Figure 33: Total dissolved solids trends at Station 12677

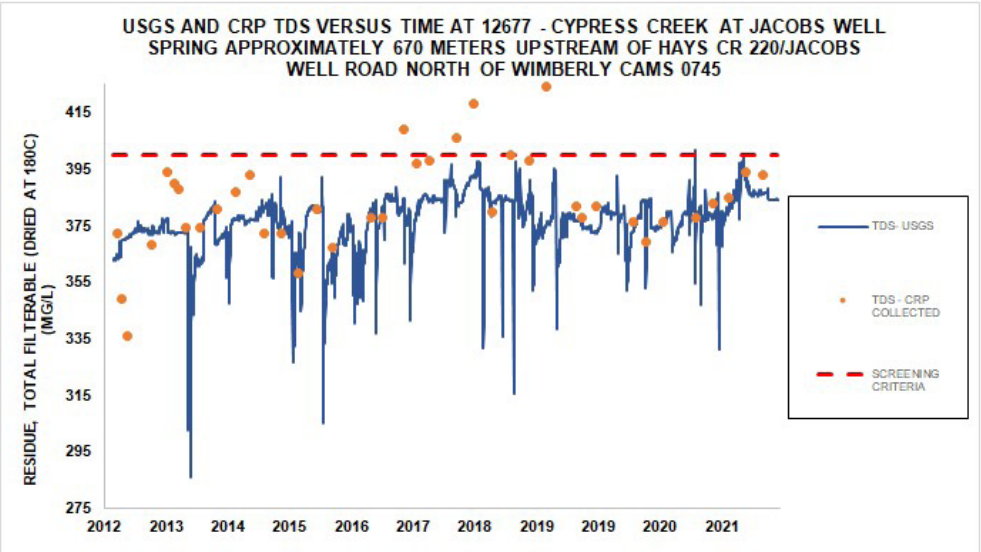


Figure 34: Total dissolved solids data compared with calculated TDS from USGS data at Station 12677

Analysis also showed a decreasing trend for TSS (Figure 35) at station 12675. The reason for this decrease is unknown.

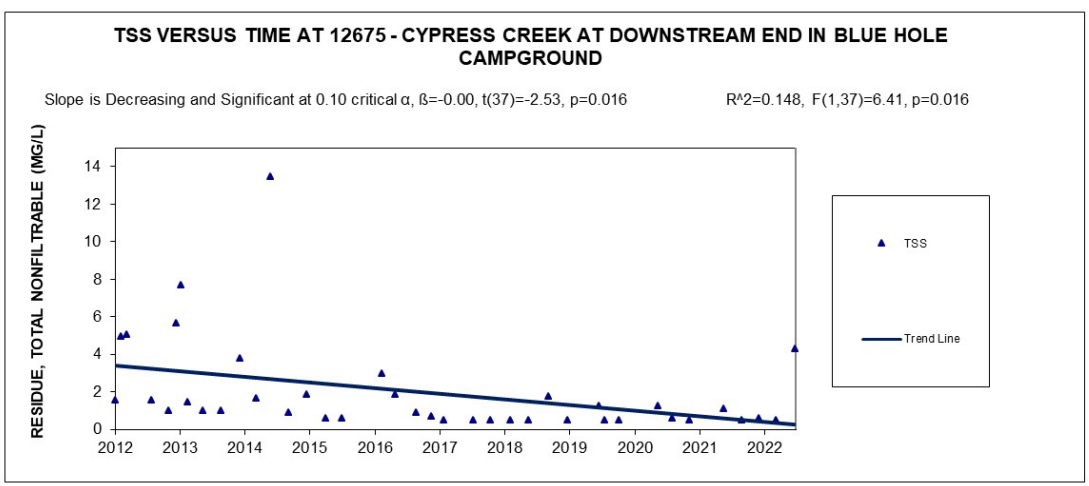


Figure 35: Total suspended solids trend at Station 12674

Lower Blanco River (1809)

Lower Blanco River is a 16-mile-long stretch of river that begins southeast of Kyle and flows south to the confluence with the San Marcos River. Like the Upper Blanco River, this segment lies mostly within the Edwards Plateau but transitions into the Blackland Prairie Ecoregion in the eastern portion of Hays County. Farming and ranching have traditionally been common land uses in this segment; however, the area is experiencing a shift toward more urban development as the nearby cities of Kyle and San Marcos continue to experience rapid population growth. Segment 1809 is monitored quarterly by TCEQ at two stations.

Station ID	Dissolved Oxygen	Biologicals	Bacteria	Temperature	Nutrients	Chlorophyll a
12631	M	M	M	M	M	M
12635	M	M	M	M	M	M

M - Meets water quality criteria

Table 15: Summary of the 2022 Texas Integrated Report / Segment 1809

At station 12631, analysis showed an increasing trend in chloride and sulfate. These trends could be a result of upstream concentrations, or from runoff from the surrounding cities. Another potential source is interactions with geologic formations high in saline deposits.

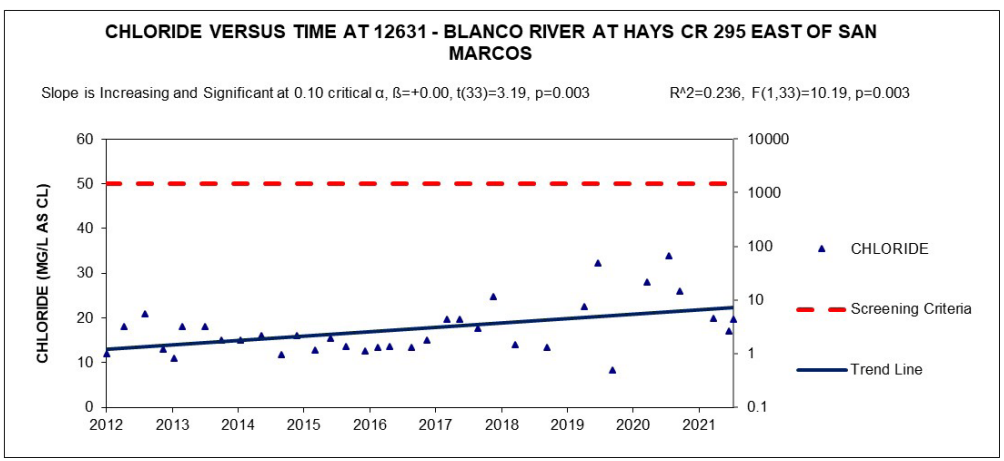


Figure 36: Chloride trends at Station 12631

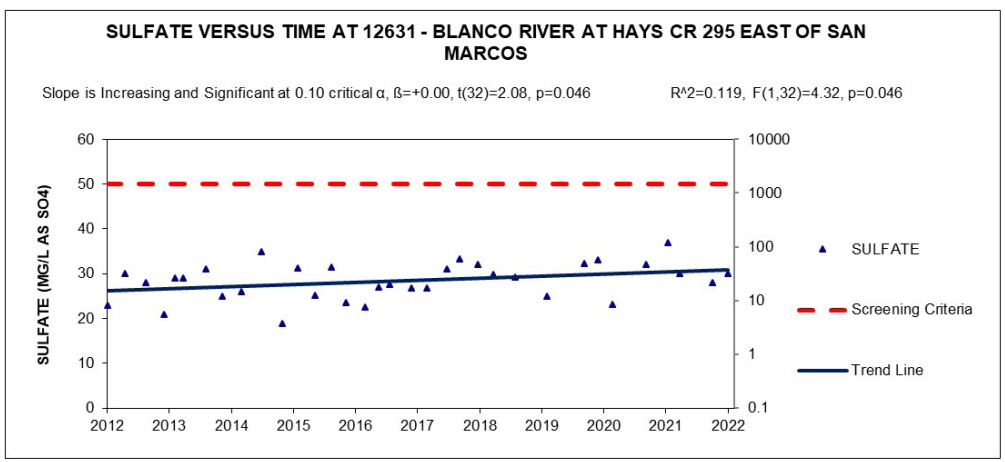


Figure 37: Sulfate trends at Station 12631