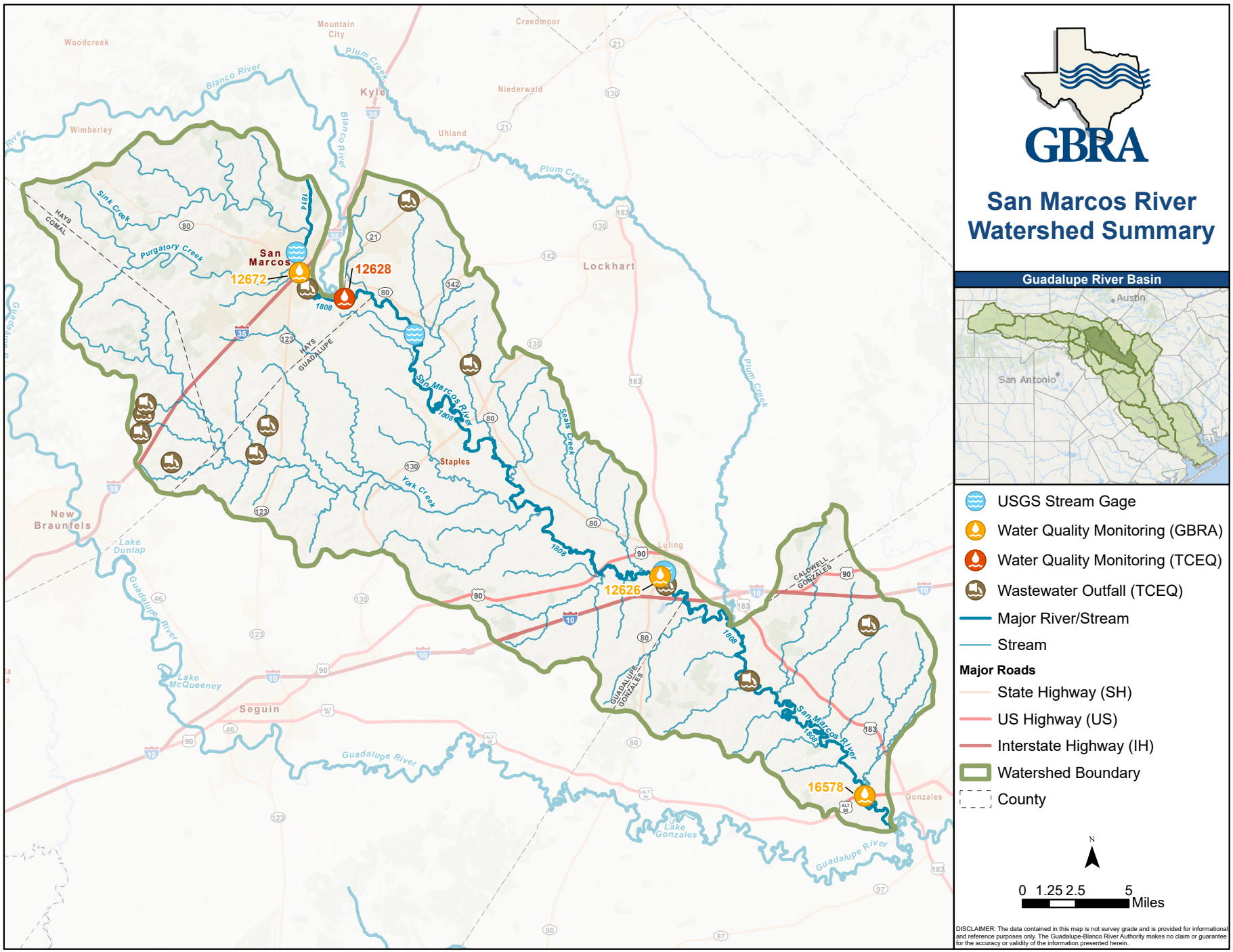
GBRA
San Marcos River Watershed Summary
Guadalupe River Basin
Austin
San Antonio
USGS Stream Gage
Water Quality Monitoring (GBRA)
Water Quality Monitoring (TCEQ)
Wastewater Outfall (TCEQ)
Major River/Stream
Stream
Major Roads
State Highway (SH)
US Highway (US)
Interstate Highway (IH)
Watershed Boundary
County
N
0 1.25 2.5 5
Miles
DISCLAIMER: The data contained in this map is not survey grade and is provided for informational and reference purposes only. The Guadalupe-Blanco River Authority makes no claim or guarantee for the accuracy or validity of the information presented herein.
12672
12628
12626
16578
San Marcos
Kyle
Lockhart
Staples
Luling
Seguin
New Braunfels
Gonzales
Mountain City
Creedmoor
Niederwald
Uhland
Wimberley
Woodcreek
Plum Creek
Blanco River
Sink Creek
Purgatory Creek
San Marcos River
Seals Creek
York Creek
Guadalupe River
Lake Dunlap
Lake McQueeney
Lake Gonzales
HAYS COMAL
HAYS GUADALUPE
CALDWELL GONZALES
GUADALUPE GONZALES

Segments

Segment 1814 - Upper San Marcos River
Segment 1808 - Lower San Marcos River

Texas Wild Rice (Credit: Nick Breaux)

Segment Summary

Upper San Marcos River (1814)

Upper San Marcos River is a 4.5-mile-long, spring-fed stream that flows through Hays and Guadalupe counties before joining the Lower Guadalupe River in Gonzales County. This segment lies within the Edwards Plateau and has primarily limestone substrate. The Upper San Marcos River is known for its exceptional water quality and is a popular river for recreational activities including tubing, kayaking, swimming, and fishing. The upper portions of the river are also home to several endangered and endemic species including the Fountain Darter (*Etheostoma fonticola*), Texas Blind Salamander (*Typhlomolge rathbuni*), and Texas Wild Rice (*Zizania texana*).

In 2010, the Upper San Marcos River was listed on the 303(d) list of impaired water bodies for total dissolved solids (TDS). Analysis of data collected between 2002 and 2016 showed a significant positive correlation between TDS and flow, suggesting that increased runoff could be contributing to elevated TDS concentrations. Currently, the Upper San Marcos River has no concerns or impairments.

Development of the Upper San Marcos Watershed Protection Plan (WPP) began in 2012, and the WPP was accepted by EPA in 2018. The goals of the WPP are to educate the public on water quality issues and to implement best management practices in the watershed. Projects under this WPP include erosion control and improved biofiltration ponds to improve stormwater management, restoration of natural areas in the watershed, and construction of vegetated filter strips and brush berms to reduce runoff. More information about the WPP can be found at https://www.uppersanmarcosriver.org/. Segment 1814 is monitored under the Clean Rivers Program quarterly at one monitoring station, located at the IH-35 bridge crossing.

Station ID	Dissolved Oxygen	Biologicals	Bacteria	Temperature	Nutrients	Chlorophyll a
12672	M	M	M	M	M	M

M - Meets water quality criteria

Table 16: Summary of the 2022 Texas Integrated Report / Segment 1814

Analysis of data from station 12672 showed increasing trends in sulfate (Figure 38) and chloride (Figure 39). These increases were not significantly correlated with flow. It is unclear what is causing these increases, however runoff could be a contributing factor.

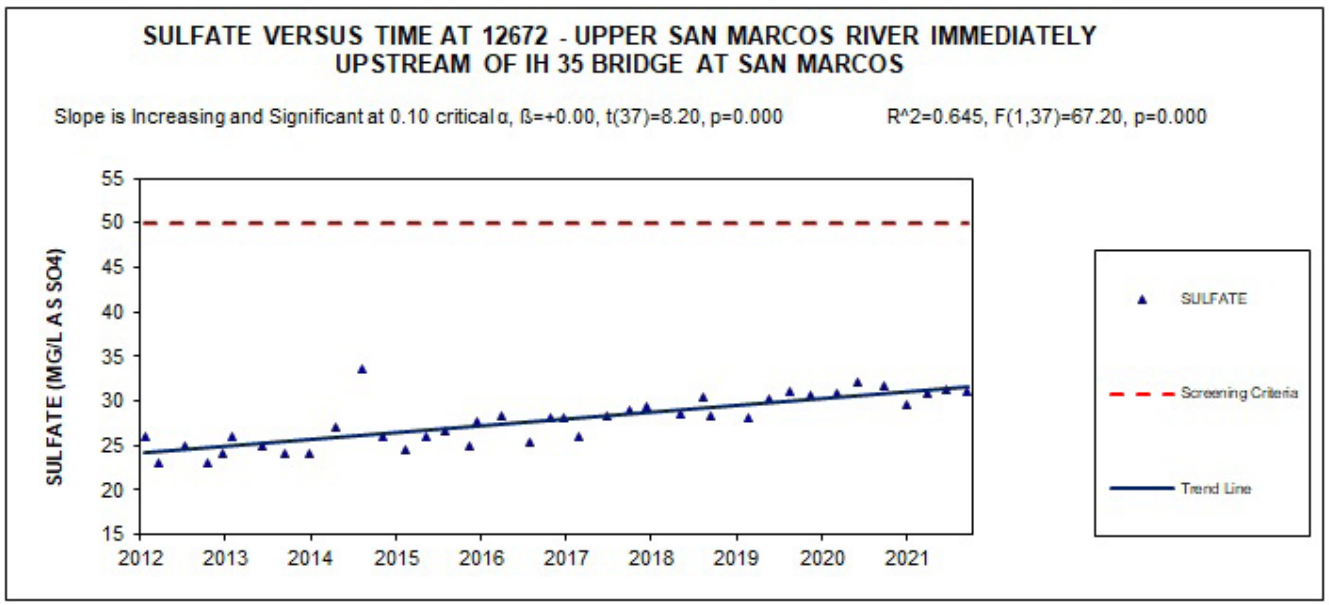

Figure 38: Sulfate trend at Station 12672

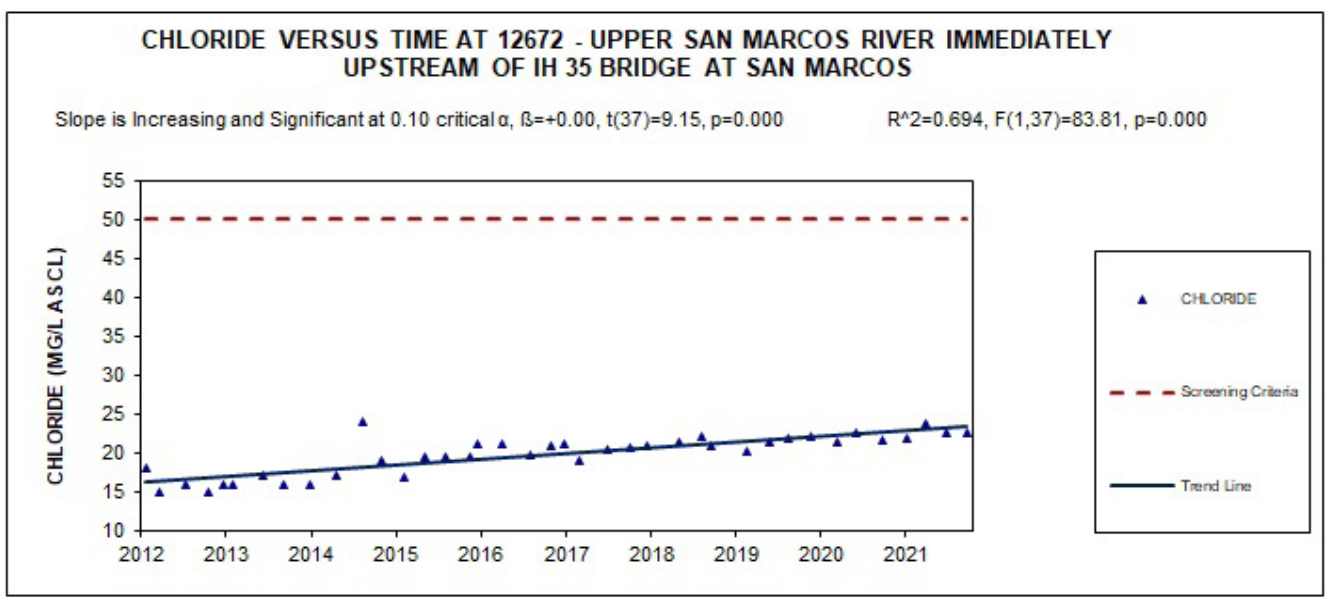

Figure 39: Chloride trend at Station 12672

Lower San Marcos River (1808)

The Lower San Marcos River is a roughly 70-mile-long stretch of river that runs from the confluence with the Blanco River down to the confluence with the main stem of the Guadalupe River. The upper portion of this segment features swift moving, clear water that flows over the limestone substrate of the Edwards Plateau. This segment transitions into a slower moving, more turbid river as it passes over the black clays of the Texas Blackland Prairies ecoregion. While the upper portion of segment 1808 is urban and experiencing a large increase in population, the majority of this watershed lies within more rural areas of Caldwell and Gonzales counties. Agriculture and ranching are common, and oil and gas activity is a common occurrence. This segment is monitored by GBRA and TCEQ at three stations spread throughout the segment.

Station ID	Dissolved Oxygen	Biologicals	Bacteria	Temperature	Nutrients	Chlorophyll a
12626	M	M	M	M	M	M
12628	M	M	M	M	M	M
16578	M	M	I	M	M	M

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

Table 17: Summary of the 2022 Texas Integrated Report / Segment 1808

At station 12628, data analysis showed increasing trends in chloride (Figure 40) and sulfate (Figure 41). Upstream concentrations could be contributing to this trend, and runoff is another potential source.

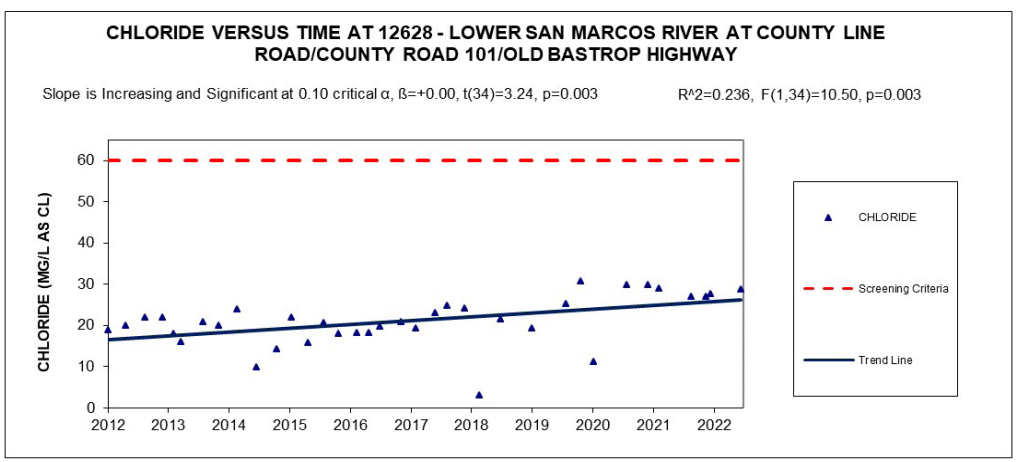

Figure 40: Chloride trend at Station 12628

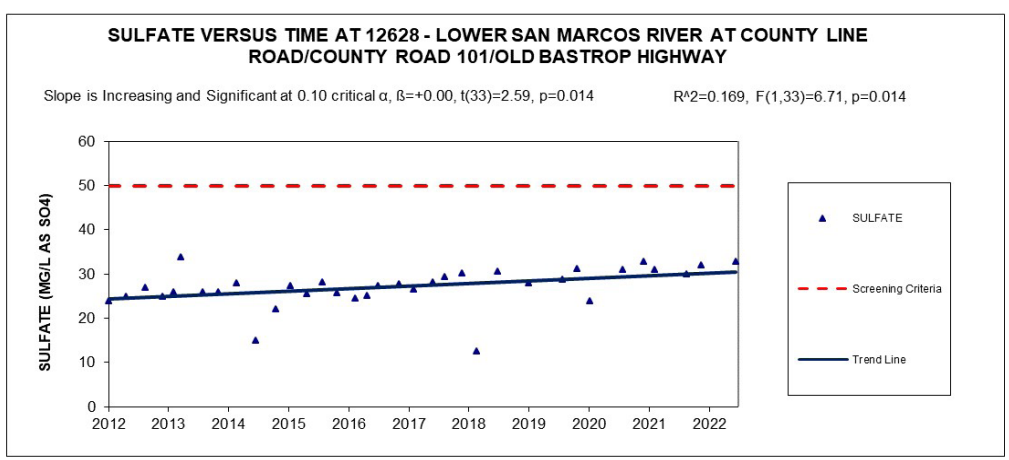

Figure 41: Sulfate trend at Station 12628

Data showed an increasing trend for total phosphorus at station 16578 (Figure 42). This station is located in a rural area and agriculture is common in this portion of the watershed. Nonpoint source runoff could be contributing to this trend. Increased phosphorus can lead to algal blooms and eutrophication. Management of nonpoint source runoff in this area could help mitigate this increase in phosphorous before it becomes an issue.

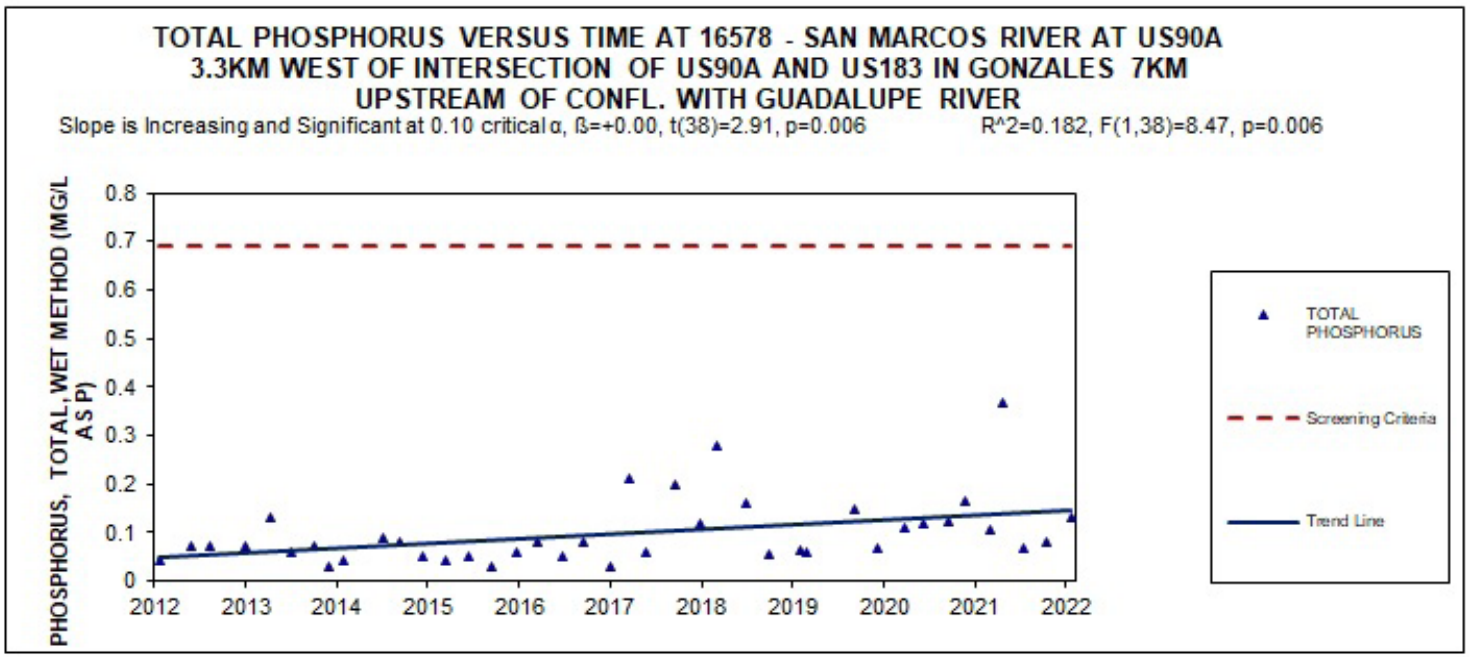

Figure 42: Total phosphorus trend at Station 16578