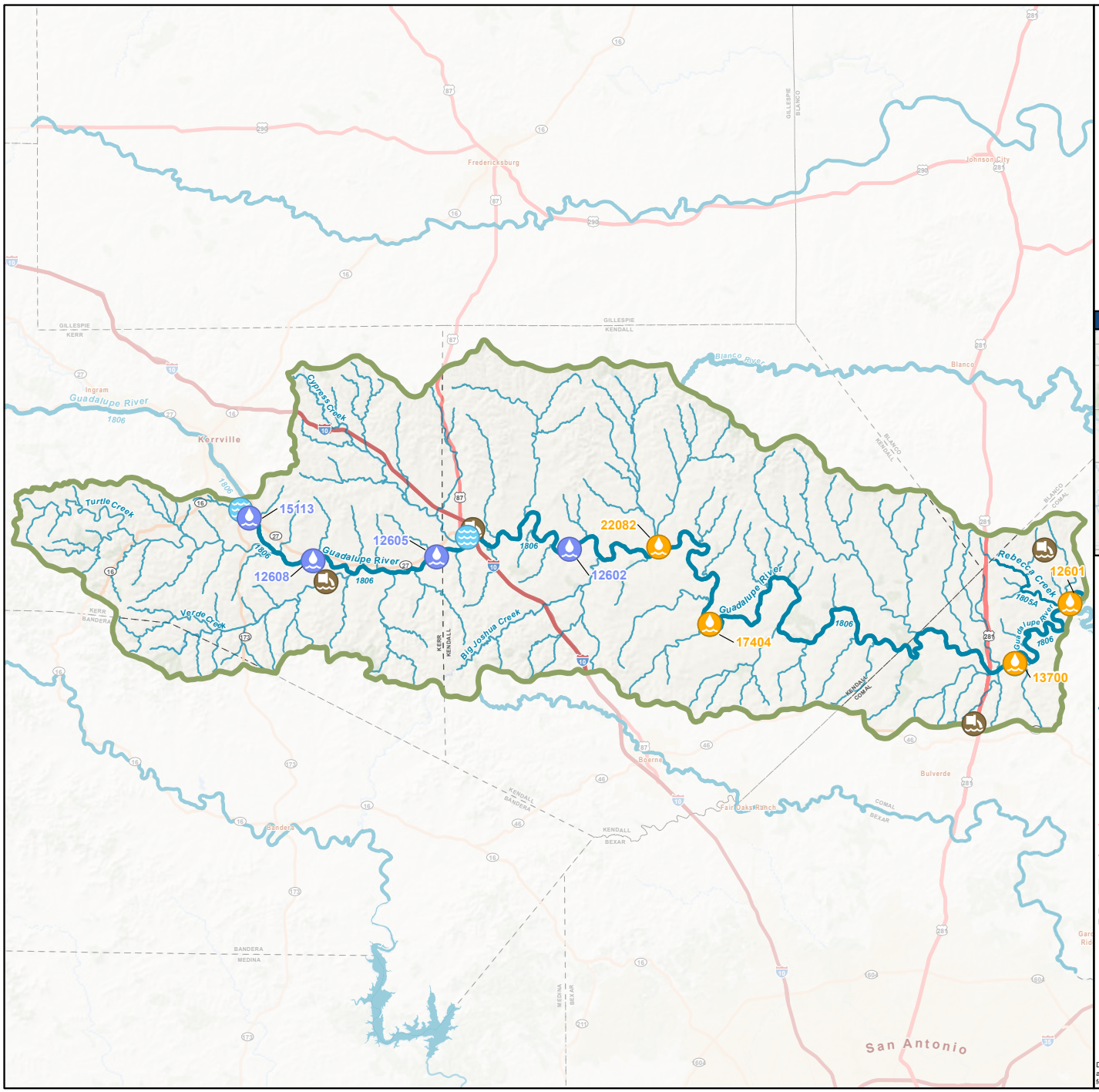
GUADALUPE RIVER BELOW FLAT ROCK DAM



GBRA

Guadalupe River Below Flat Rock Dam Watershed Summary

Guadalupe River Basin

- USGS Stream Gage
- Water Quality Monitoring (GBRA)
- Water Quality Monitoring (UGRA)
- Wastewater Outfall (TCEQ)
- Major River/Stream
- Stream

Major Roads

- State Highway (SH)
- US Highway (US)
- Interstate Highway (IH)
- Watershed Boundary
- County

N

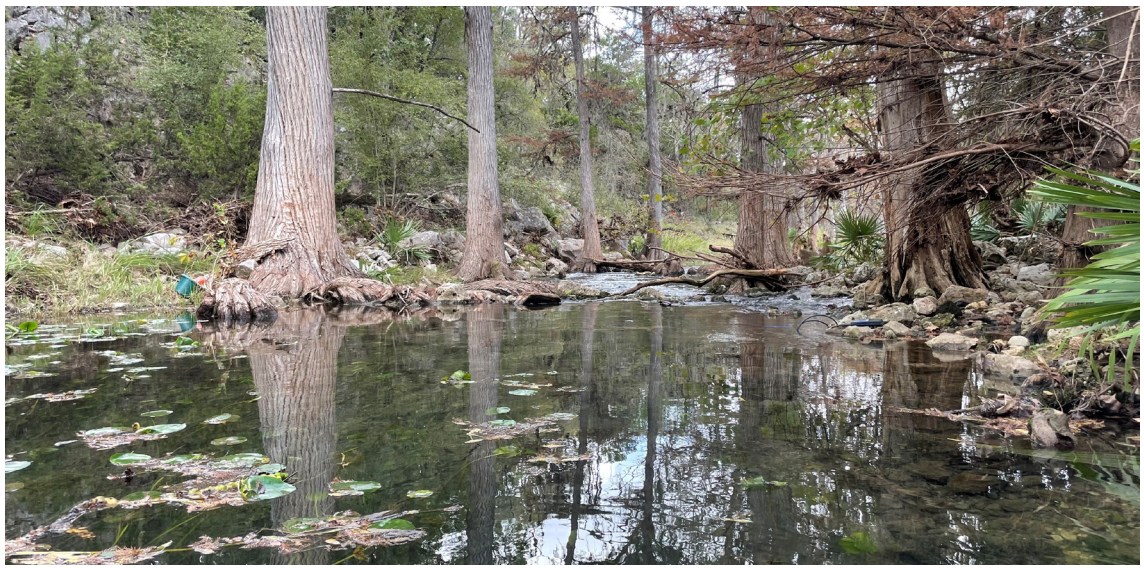
0 2.5 5 10 Miles

Segments

Segment 1806 - Guadalupe River Above Canyon Lake

Segment Summary

The Guadalupe River watershed below Flat Rock Dam includes a portion of segment 1806, Guadalupe River above Canyon Lake. Segment 1806 is a 103-mile-long segment with an 827-square-mile drainage area that flows from the confluence between the North and South Forks in Kerr County to Canyon Lake in Comal County. This summary report will divide the segment into two sub-watersheds; for information on the upper seven miles of this segment, refer to the 'Guadalupe River above Flat Rock Dam' chapter. This section will cover the lower 96 miles of the segment that flows from Flat Rock Dam to Canyon Lake.



Honey Creek at Guadalupe River State Park

The Guadalupe River watershed below Flat Rock Dam lies within the Edwards Plateau ecoregion and covers portions of Kerr, Comal, Kendall, and Blanco counties. Soil types in the watershed range from dark and loamy over limestone to loam with clay subsoils. Numerous tributaries flow into this segment of the river including Turtle Creek, Steel Creek, Verde Creek (1806G), Bluff Creek, Cypress Creek (1806B), Holliday Creek, Flat Rock Creek, Block Creek, and Joshua Creek (1806H). This segment of the Guadalupe River is wide and meandering with sections of riffles and rapids. Recreation is popular on this segment of the river; fishing and river tubing are common sights during the warmer months. Land use in this watershed is mostly rural with a few small cities, some unincorporated urban sprawl, and agriculture present.

Segment 1806 is monitored by UGRA at four stations and GBRA at three stations. Data from Station 17404 was used to assess a geometric mean of 140 MPN/100 for E. Coli for this segment, and in 2008 this segment was added to the 303(d) list for non-support of the 126 MPN/100 primary contact recreation standards. Station 22028 was subsequently added to the monitoring schedule in 2019 to provide monitoring upstream of Station 17404. A TMDL was approved for this area in 2007, however no specific BMPs were specifically targeted for this area.

Station ID	Dissolved Oxygen	Biologicals	Bacteria	Temperature	Nutrients	Chlorophyll a
15113	M	C	M	M	M	M
12608	M	C	M	M	M	M
12605	M	C	M	M	M	M
12602	M	C	M	M	M	M
22082	M	M	I	M	M	M
17404	M	M	I	M	M	M
13700	M	M	M	M	M	M

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

Table 7: Summary of the 2022 Texas Integrated Report / Segment 1813

Analysis of data from the stations in this segment showed decreases in chloride and sulfate at several stations. Data from station 12608 for these trends are shown here (Figure 6, Figure 7). This could be due to annual rainfall amounts during the ten-year period which were mostly below average, leading to decreased surface runoff and reduced chloride and sulfate loading.

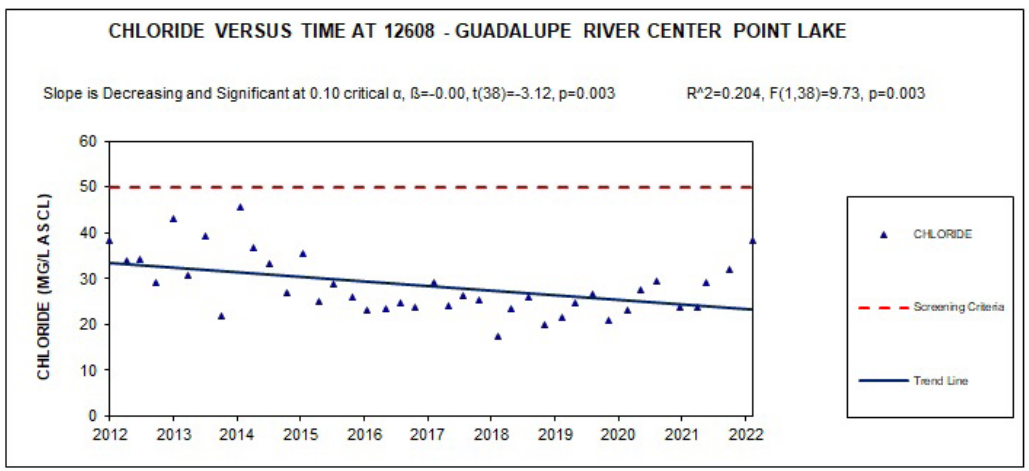


Figure 6: Chloride trend at Station 12608

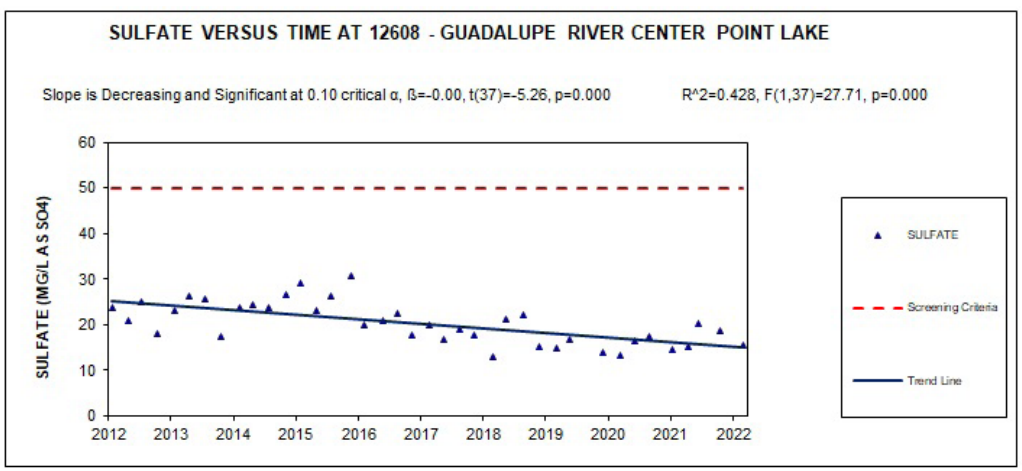


Figure 7: Sulfate trend at Station 12608

Total dissolved solids (Figure 8) and turbidity (Figure 9) are also significantly decreasing at station 12608. These decreases are also possibly due to decreased surface runoff from below average rainfall.

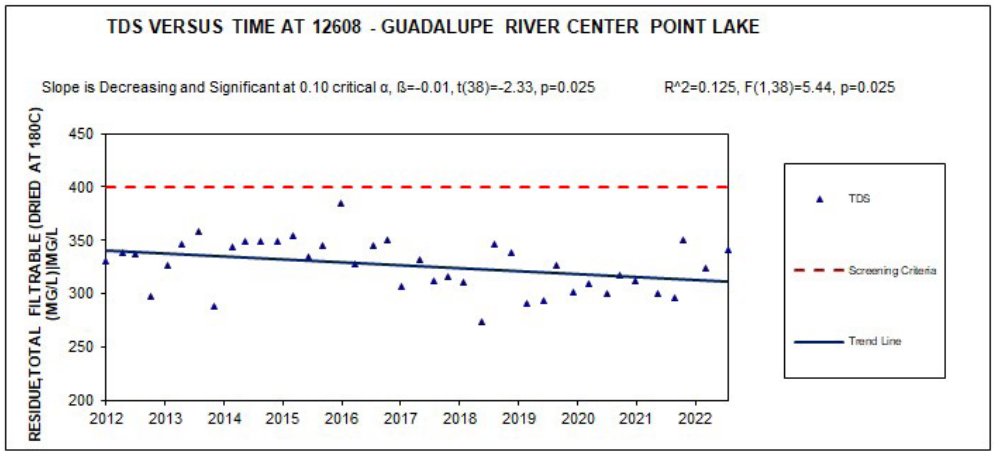


Figure 8: Total dissolved solids trend at Station 12608

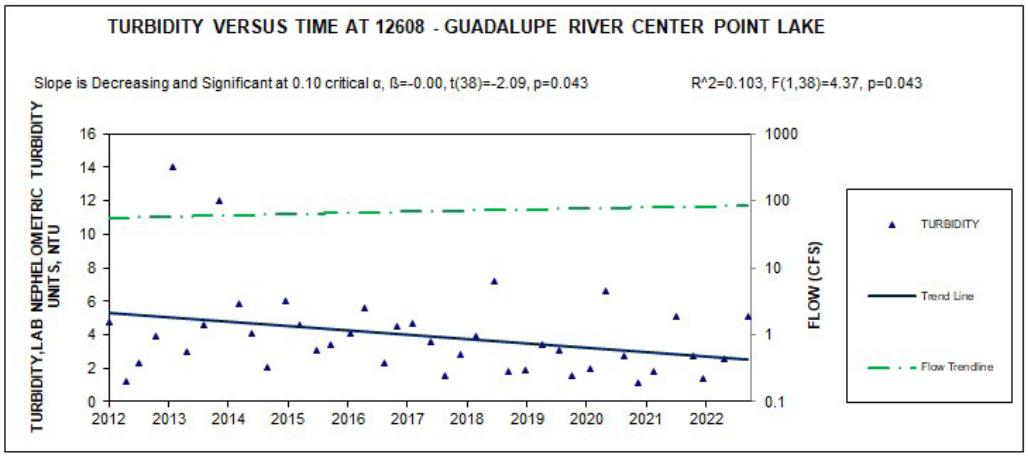


Figure 9: Turbidity trend at Station 12608

At station 15113, a decreasing trend for dissolved oxygen was identified, and E. coli, though still below the screening criteria, had an increasing trend. Both of these trends are likely due to the drought conditions and change in rainfall patterns.

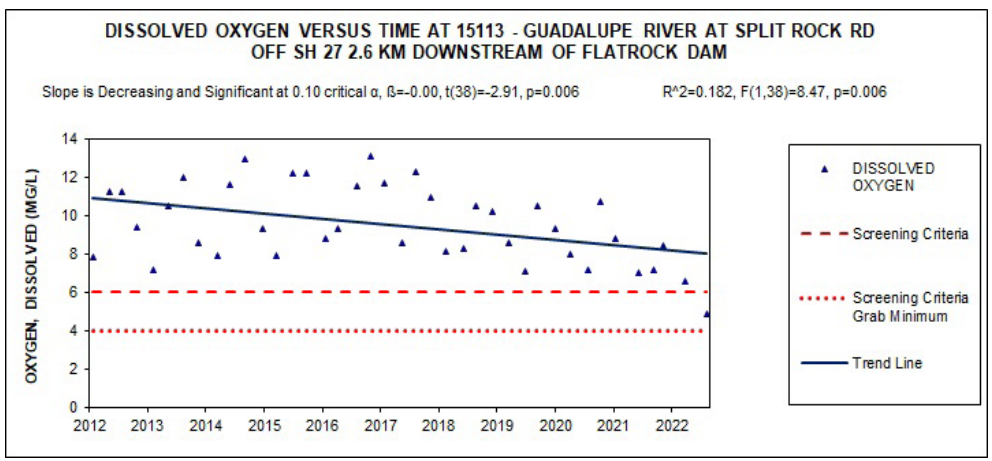


Figure 10: Dissolved oxygen trend at Station 15113

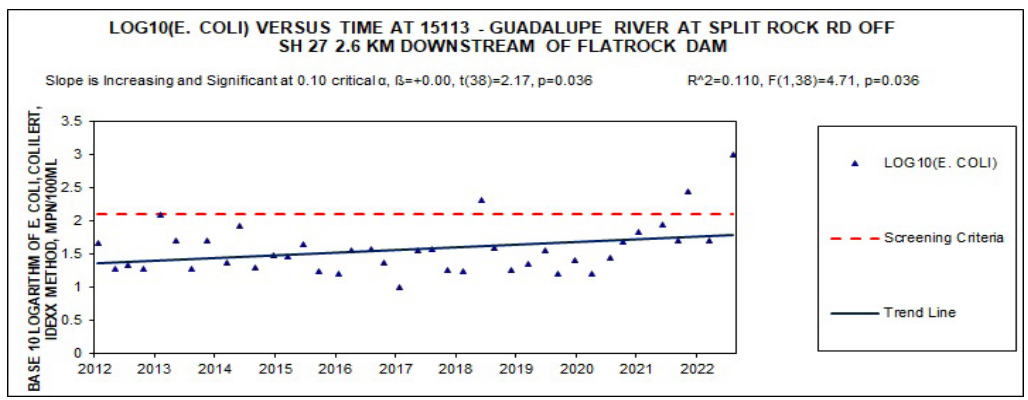


Figure 11: Log10 E.coli trend at Station 15113