PLUM CREEK

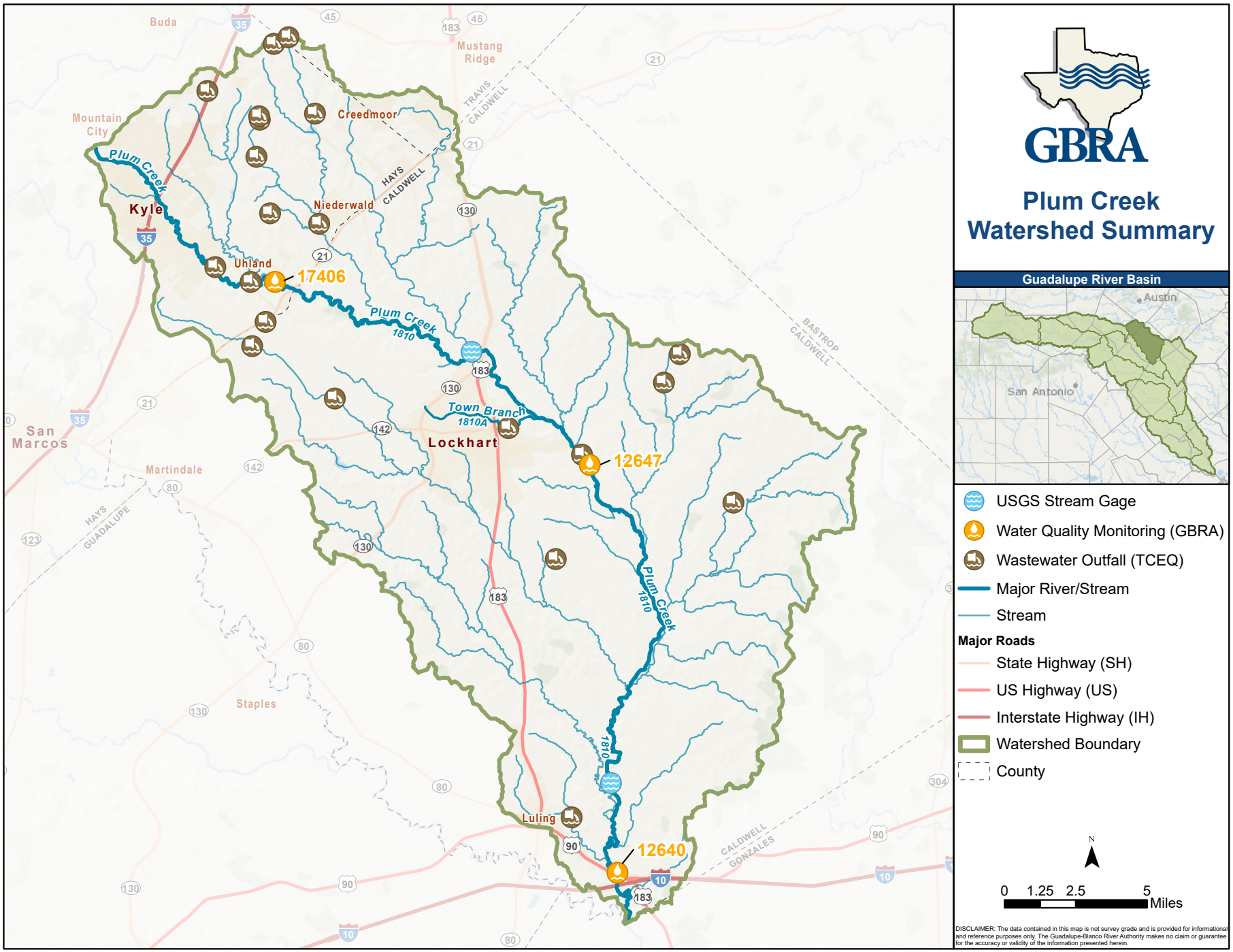
Buda
Mustang Ridge
Mountain City
Creedmoor
Plum Creek
Kyle
Niederwald
Uhland
17406
Plum Creek 1810
Town Branch 1810A
Lockhart
12647
San Marcos
Martindale
Staples
Luling
12640
TRAVIS
CALDWELL
HAYS
CALDWELL
BASTROP
CALDWELL
HAYS
GUADALUPE
CALDWELL
GONZALES
Plum Creek
GBRA
Plum Creek Watershed Summary
Guadalupe River Basin
Austin
San Antonio
USGS Stream Gage
Water Quality Monitoring (GBRA)
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.

Photo 9: Plum Creek near CR135 in Luling

Segments

Segment 1810 - Plum Creek
Segment 1810A - Town Branch

Segment Summaries

Plum Creek is a 52-mile-long tributary of the San Marcos River located in Travis, Hays, and Caldwell counties. Plum Creek has a 389-square-mile drainage area that encompasses several cities including Lockhart, Luling, Kyle, and Buda. The watershed spans several ecoregions including the Edwards Plateau, Blackland Prairie, and Post Oak Savannah, and sits over the Carrizo-Wilcox Aquifer, the Leona Aquifer, and Edwards Balcones Fault Zone. Soil types in this watershed range from dark waxy soils to sandy or grey loam. Plum Creek is prone to erosion and tends to have steep banks and a deep-set stream channel, as shown in Photo 9. This watershed has been historically dominated by rural land uses. However, like many watersheds in the Interstate 35 corridor, it is experiencing rapid urbanization and population increase.

Photo 10: Native mussels on Plum Creek

Historically an intermittent stream, Plum Creek is fed at its headwaters by springs issuing from the Leona Aquifer, as well as several other springs and tributaries throughout the watershed. As the population has grown in the watershed, increasing wastewater discharge has transitioned Plum Creek into a wastewater dominated perennial stream. In the 1960s and 1970s, twenty-eight flood control structures were constructed on several of the tributaries of Plum Creek. These structures capture and hold flood waters during normal and high flow events, and allow for regulated discharge. Contact recreation, including fishing and kayaking are common in the watershed, and the creek is also used by agricultural producers to provide water for crops and livestock. Plum Creek is home to many native species, several of which were collected during an aquatic life monitoring event conducted in 2021 (Photo 10), including five native mussel species. Two of those, the Guadalupe Orb (*Cyclonaias necki*) and Guadalupe Fatmucket (*Lampsilis bergmanni*), are proposed Endangered Species Act candidates.

Plum Creek was first added to the 303(d) List of Impaired Water Bodies for bacteria in 2004. In 2006, the TSSWCB, GBRA, and Texas A&M AgriLife

Extension began developing a WPP for Plum Creek. The WPP became the first plan in the state of Texas to be accepted by EPA and implementation began in 2008. In 2010, TCEQ moved Plum Creek from category 5a to category 4b, removing it from the 303(d) list. While category 5a requires the development of total maximum daily loads (TMDLs), category 4b allows the WPP to attempt to address the water quality concerns through best management practices (BMPs) and education. BMPs implemented under the WPP include feral hog management, proper maintenance of septic systems, and non-point source nutrient management.

There are three stations in Plum Creek monitored monthly under the CRP. Extensive additional monitoring is conducted under the Plum Creek WPP, including seven wastewater treatment facilities, four routine sites, thirty-four weather targeted sites, and three springs. While not currently monitored by CRP, there are concerns on the Town Branch (segment 1810A) that is monitored under the WPP monitoring program that would be beneficial to discuss. More information on the WPP and water quality data collected under that program can be found at www.plumcreekwatershed.org.

Station ID	Dissolved Oxygen	Biologicals	Bacteria	Temperature	Nutrients	Chlorophyll a
12640	M	C	I	M	C	M
12647	M	C	I	M	C	M
17406	M	C	I	M	C	M

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

Table 18: Summary of the 2022 Texas Integrated Report / Segment 1810

No significant trends were identified in the middle or lower reaches of this segment. In the upper reach of the segment, analyses show a decreasing trend in *E. coli* over time (Figure 43). This improvement may be related to implementation of BMPs through the WPP. Other factors contributing to the decrease might be more efficient wastewater treatment, or an increase in flow over time.

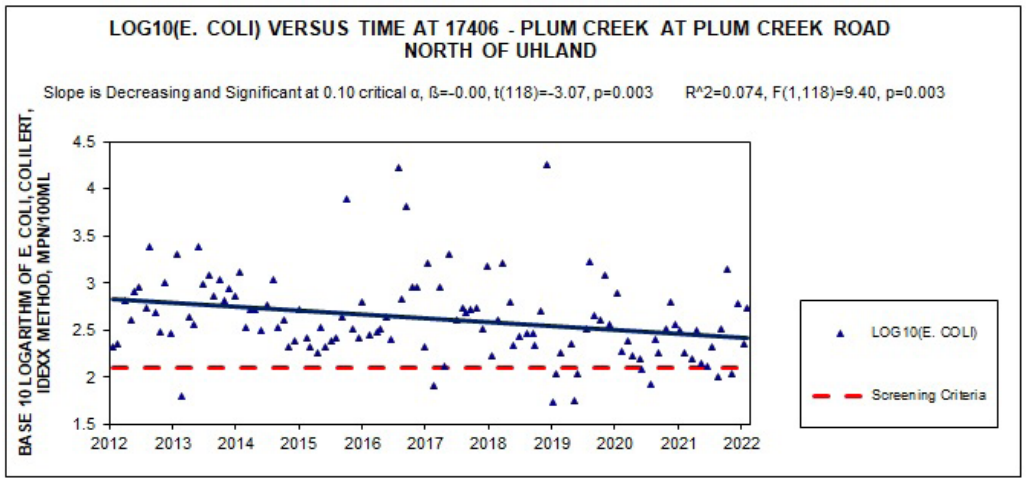

Figure 43: E.coli trend at Station 17406

Analysis also showed a decreasing trend in nitrate-nitrogen at station 17604 (Figure 44). This change may indicate improvements in wastewater treatment as more ammonia is converted to nitrate-nitrogen through the treatment process.

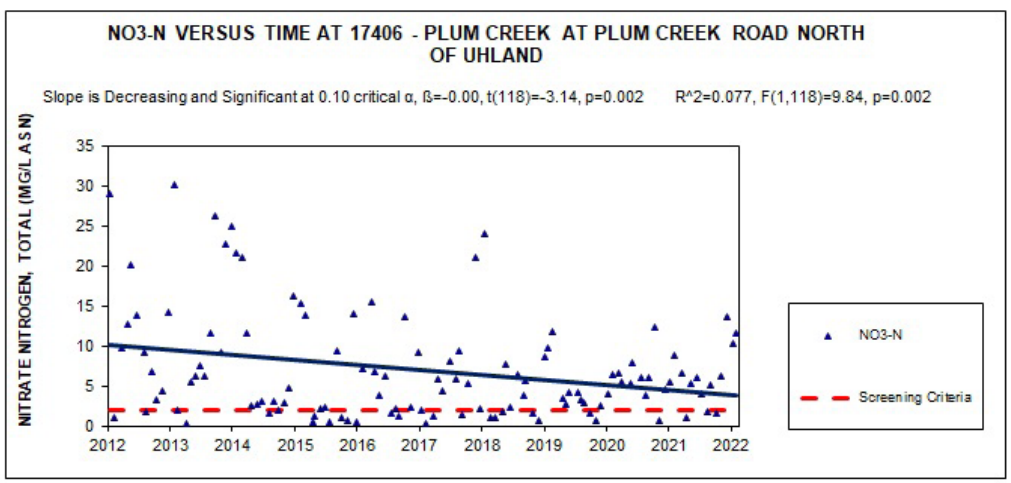

Figure 44: Nitrate-Nitrogen trend at Station 17406