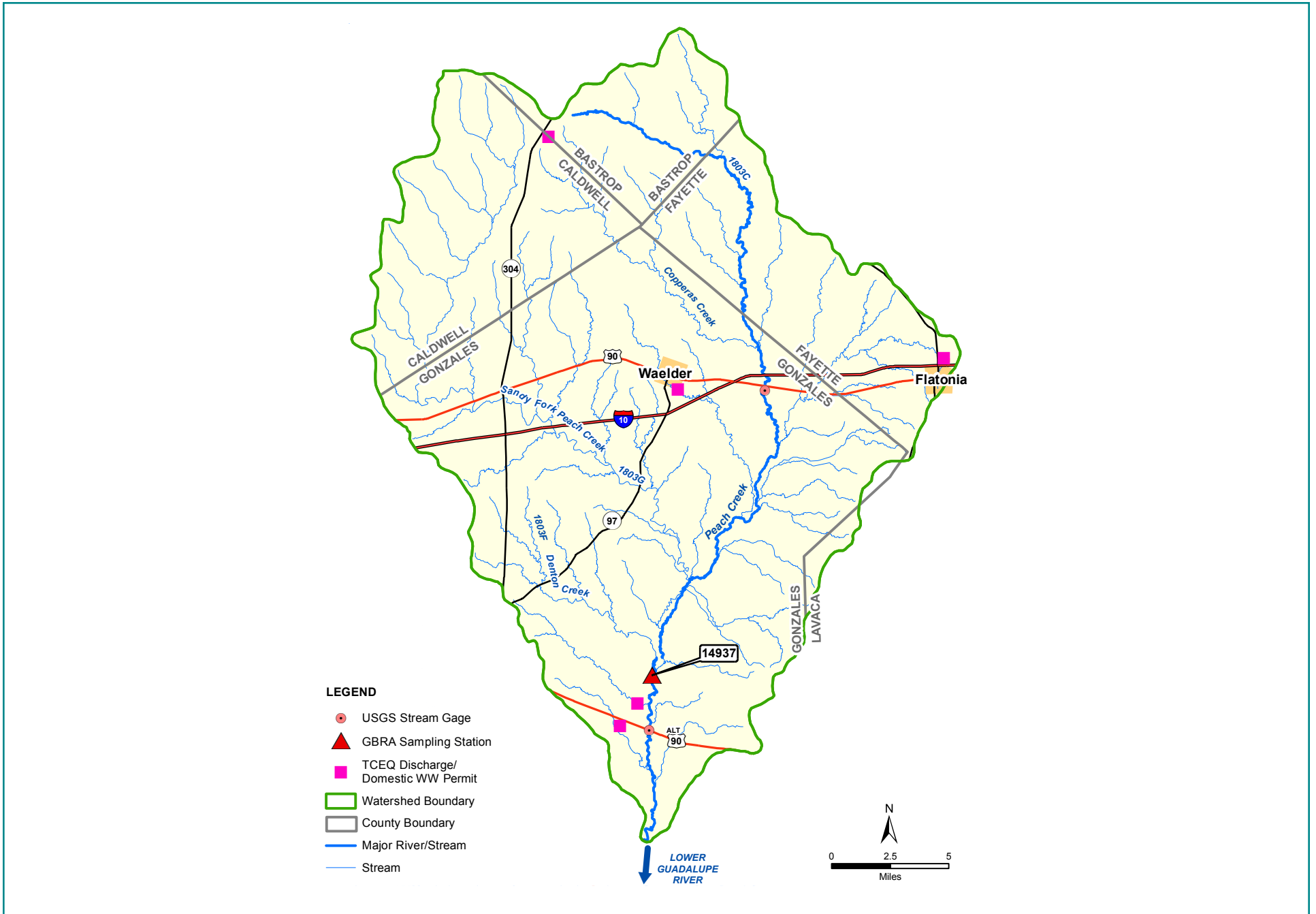


PEACH CREEK



PEACH CREEK

Segment 1803C: (Peach Creek, unclassified water body) Peach Creek is a tributary of the Guadalupe River that flows for 64 miles through the gently rolling hills of Bastrop and Fayette counties northeast of Waelder, before reaching the confluence with the Guadalupe River in eastern Gonzales County. The watershed falls entirely within the Post Oak Savannah ecoregion and land use largely consists of undeveloped ranch land. The sandy loam soils of the watershed are dominated by forests of Post Oak, Blackjack Oak, and other hardwoods.

Peach Creek was included on the 303(d) List of Impaired Water Bodies in 2002 because of average bacteria concentrations that exceeded the contact recreation criterion. In 2014, the assessed bacterial concentration mean was 148.61 MPN/100 mL in the assessment unit (AU) 1803C_01 comprising the lower 25 miles of the segment, which was well above the standard criteria of 126 MPN/100 mL. Peach Creek was also found to have impaired dissolved oxygen levels for aquatic life use in 2006. In the latest 2014 assessment, the minimum

dissolved oxygen concentration in the creek was found to be below the acceptable criteria on 3 occasions. Peach Creek was also found to have a general use nutrient screening level concern for chlorophyll-a in 2010 in the assessment unit 1803C_03 that included the stream reach from 1.2 miles downstream of farm to market road 1680 in Gonzales County up to the confluence with Elm Creek in Fayette County. In the 2014 Texas Integrated Report, concerns were also identified for total phosphorus concentrations and impaired fish community in this AU. A Total

Maximum Daily Load (TMDL) has been adopted for Peach Creek, but to date no implementation of best management practices (BMPs) have been initiated to help remove the pollutant loads that were identified in the TMDL. The TMDL determined that bacterial loading was most likely due to non-point source pollution sources such as failing septic tanks, livestock and wildlife. The TMDL recommended a 47 to 100 percent reduction in loading of bacterial sources. Bacteria limits were also included in the permits for the five wastewater treatment plant discharges into Peach



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Peach Creek

Drainage Area: 480 square miles

Length: 64 miles

Tributaries: Rocky Creek, Elm Creek, Pin Oak Creek, Copperas Creek, Big Fivemile Creek, Obar Creek, Sulphur Branch, Baldrige Creek, Valley Branch, Sandy Fork (1803G), Vanham Creek, Denton Creek (1803F), Live Oak Branch, Mitchell Creek, Elm Slough and Gelhorn Creek.

Aquifer: Carrizo-Wilcox Aquifer

River Segments: 1810, 1810A

Cities and Communities: Waelder, Flatonia

Counties: Gonzales, Bastrop, Fayette

EcoRegion: Post Oak Savannah

Climate: Average annual rainfall 32.27 inches, Average annual temperature 70.64°F

Vegetation Cover: Evergreen Forest 3.13%, Deciduous Forest 14.07%, Shrubland 25.20%; Grassland 2.17%; Woody Wetlands: 6.79% Cultivated Crops 2.15% ; Pasture Hay 33.05%

Land Uses: agricultural, ranching, light industry, and recreational.

Development: Low Intensity 0.35% ; Medium Intensity 0.08%; High Intensity 0.01%; Open Space 5.02%

Water Body Uses: aquatic life, contract recreation, general use, fish consumption, and public water supply.

Soils: Dark red sandstone and tan and grey sandstone

Permitted Wastewater Treatment Facilities: Domestic 2, Land Application 0, Industrial 3

PEACH CREEK



Creek, prior to the TMDL adoption in 2008. Additional monitoring conducted under the TMDL study also found that the Denton Creek (1803F) and Sandy Fork (1803G) tributaries of Peach Creek had bacteria concentrations that exceeded the contact recreation standard. These tributaries were added to the 303(d) list of impaired water bodies in 2010 using data collected during the TMDL study. The tributaries were subsequently removed from the list in 2012, because TCEQ staff discovered that the data used to determine the listing was collected during storm conditions and was not

representative of ambient conditions in these water bodies. It is unlikely that the recommended best management practices will be put into place in the near future without further investment in the watershed.

The GBRA collects monthly at a single routine monitoring station (14937) at the CR 353 bridge crossing in AU 1803C_01. The stream has a USGS gage located downstream of Alternate Highway 90 (8174600) with a harmonic mean of 3.2 cfs and a 7Q2 (7 day minimum flow with a 2 year recurrence interval) of 1 cfs. The City of Waelder discharges wastewater

effluent to the Baldrige Creek tributary of Peach Creek. This WWTF has a permitted discharge of 0.3 million gallons per day (MGD). This plant treats the wastewater to ensure that the biochemical oxygen demand (BOD) does not exceed 30 mg/L, the total suspended solids (TSS) do not exceed 90 mg/L and the E. coli geometric mean does not exceed 126 MPN/100 mL. The GBRA analyzed data from Station 14937 to look for trends in water quality. Two water quality trends were found at this station. The nitrate nitrogen was significantly decreasing with time and the total kjeldahl nitrogen (TKN)

concentrations were increasing over time (Figures 1 & 2). The combination of nitrate nitrogen and TKN represent all of the total nitrogen (TN) in the water column. Nitrate nitrogen is the nutrient form most easily used by biological life and may be decreasing as it used by plants and algae. The increase in the total kjeldahl nitrogen of this system may be an indication of excessive nutrient loading from fertilizer runoff or some other source as the watershed recovers from previous drought conditions.

PEACH CREEK

Table 1

Station 14937 - Peach Creek at CR 353 12/2002 - 11/2016					
AU 1803C_01 General Use					
Parameter	Mean	Maximum	Minimum	# of Measurements	Screening Criteria
Temperature (°C)	20.4	28.8	5.4	192	32.2
pH	7.8	8.4	5.0	190	6.5 - 9.0
Chloride (mg/L)	61	170	5.7	163	350.00
Sulfate (mg/L)	64	327	6.7	163	150.00
Total Dissolved Solids (mg/L)	307	1424	136	191	1120.00
NH3-N (mg/L)	<0.10	0.44	<0.02	84	0.33
Total Phosphorus (mg/L)	0.24	0.69	<0.05	163	0.69
Chlorophyll-a (µg/L)	2.2	20.8	<1.0	161	14.1
Nitrate Nitrogen (mg/L)	1.83	7.96	<0.05	174	1.95
TKN (mg/L)	0.76	1.97	0.2	66	N/A
AU 1810_01 Recreational Use					
<i>E. coli</i> (MPN/100 mL)	206 Geomean	24,000	10	183	126 Geomean
AU 1810_01 Aquatic Life Use					
Dissolved Oxygen (mg/L)	7.2	13.5	2.1	190	≥3.0 Minimum & ≥5.0 Average

Figure 1

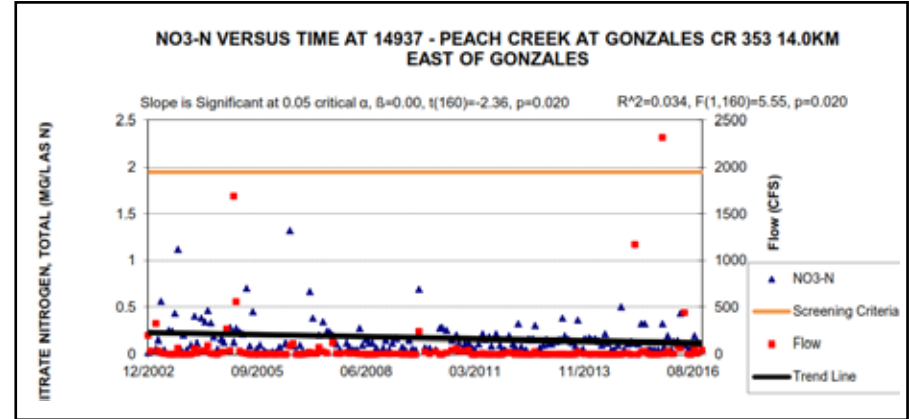


Figure 2

