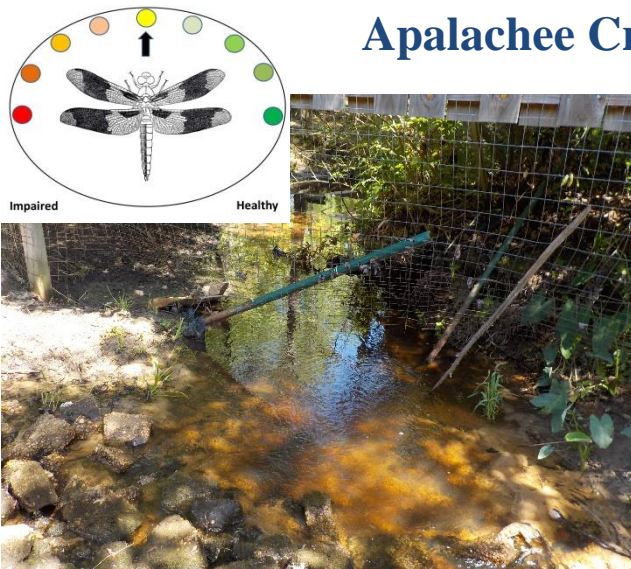


Apalachee Creek EcoSummary



Apalachee Creek is a slightly tannic stream that flows north and drains into Lower Lake Lafayette.

Approximately 52% of land use in the 800-acre watershed is agriculture, transportation, utilities, urban and residential (as shown in **Figure 1**). These types of land uses are often attributed to increases in stormwater runoff and higher nutrient loads.

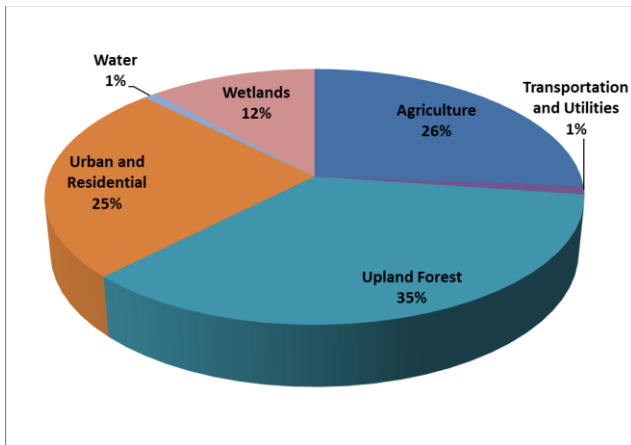


Figure 1. Apalachee Creek watershed land use.

Background

Healthy, well-balanced stream communities may be maintained with some level of human activity, but excessive human disturbance may result in waterbody degradation.

Human stressors may include increased inputs of nutrients, sediments, and/or other contaminants from watershed runoff. Stressors can also include adverse hydrologic alterations, undesirable removal of habitat or riparian buffer vegetation, and introduction of exotic plants and animals. State water quality standards are designed to protect designated uses of the waters of the state (e.g., recreation, aquatic life, fish consumption), and exceedances of these standards are associated with interference of the designated use.

Methods

Surface water samples are collected quarterly (as field conditions allow). This information is used to determine the health of Apalachee Creek and meets the requirements of the Florida Department of Environmental Protection (FDEP).

Results

Nutrients

The State of Florida uses Numeric Nutrient Criteria (NNC) to evaluate nutrients in waterbodies. NNC thresholds are set based on waterbody-specific characteristics and are used to determine if a waterbody meets water quality standards. The results of the four quarterly samples from a single year are used to calculate the annual geometric mean. According to FDEP requirements, the NNC threshold cannot be exceeded more than once in a three-year period.

Due to low water conditions, four temporally independent samples per year could not always be collected. When viewing tables and figures, the absence of data means there was not enough data collected to fulfill data requirements.

Nutrients

The nutrient thresholds and results are found in **Table 1**. The NNC has never been exceeded during the period of record.

For illustrative purposes, individual data points were plotted to determine any possible trends (**Figures 2 and 3**). With few exceptions, individual values did not exceed the instream criteria for Total Phosphorus and never exceeded for Total Nitrogen.

Table 1. NNC Thresholds and Sample Results for Apalachee Creek.

Apalachee Creek	TN Threshold 1.03 mg/L	TP Threshold 0.18 mg/L
2007- 2008	-	-
2009	0.32	0.11
2010-2012	-	-
2013	0.41	0.12
2014	0.30	0.10
2015-2020	-	-
2021	0.39	0.10
2022-2023	-	-

Escherichia coli (E. coli)

The *E. coli* water quality limit of > 410 in 10% of samples collected over a thirty-day period was exceeded three times since 2021 (**Figure 4**). The exceedances could be the result of wildlife. Another possible cause could be residential development in the watershed (e.g., improperly functioning septic tanks or leaking sewer pipes). Staff will continue to evaluate to determine if further investigation is needed.

Vegetation

Several species of exotic plants line the bank of Apalachee Creek including wild taro (*Colocasia* sp.) and privet (*Ligustrum* sp.). In many cases, exotic plants will crowd out and replace native plants. This may stress native wildlife, which have evolved to depend on native plants for food and shelter. The native wildlife may move away or perish if the native vegetation is replaced by exotic plants.

[Click here for more information on common exotic and invasive plants in Leon County wetlands and waterbodies.](#)

Other Parameters

Other water quality parameters appear to be normal for the area and no impairments were noted.

Conclusions

Based on ongoing sampling, Apalachee Creek met the NNC for the East Panhandle Region. Several species of exotic plants line the bank of Apalachee Creek which may affect native wildlife dependent on native plants for food and shelter. The *E. coli* water quality limit was exceeded several times since 2021. The exceedances could be the result of wildlife or improperly functioning septic tanks/leaking sewer pipes.

Other water quality parameters appear to be normal for the area and no other impairments were noted.

Thank you for your interest in maintaining the water quality of Leon County's aquatic resources. Please feel free to contact us if you have any questions.

Contact and Resources for More Information

www.LeonCountyWater.org

[Click here to access the results for all water quality stations sampled in 2023.](#)

[Click here for a map of the watershed – Sample Site 63](#)

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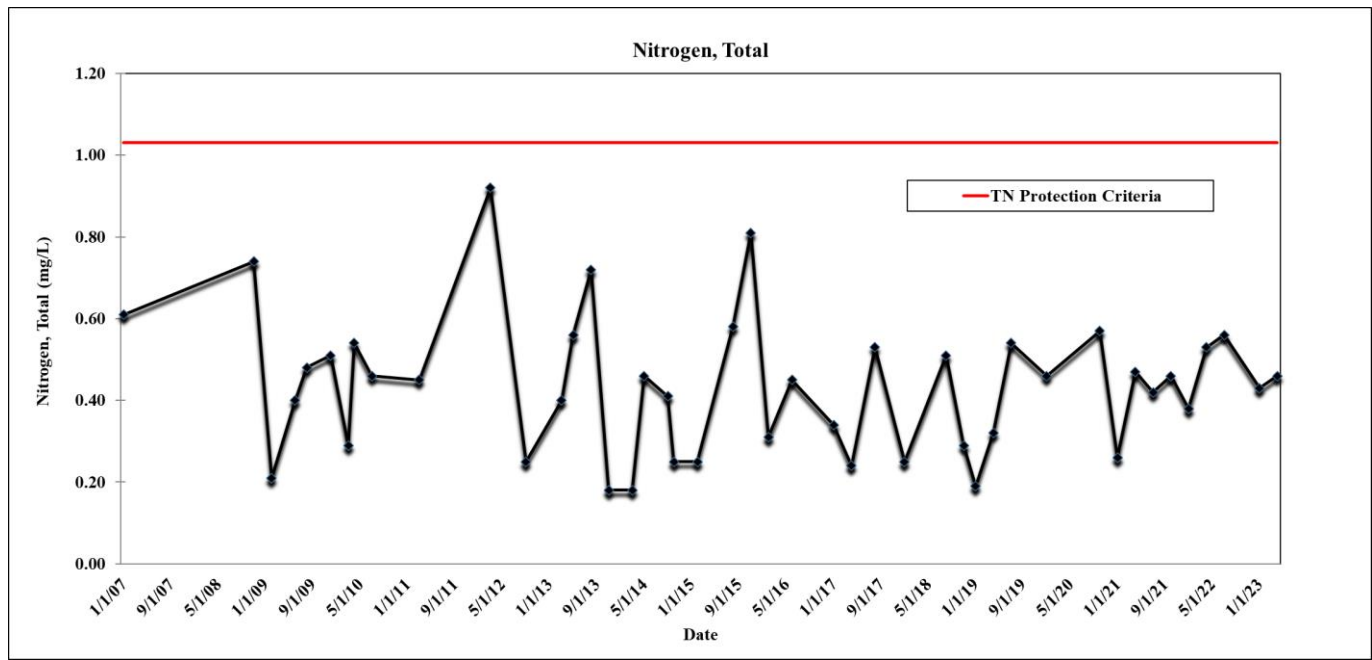


Figure 2. Total Nitrogen results for Apalachee Creek.

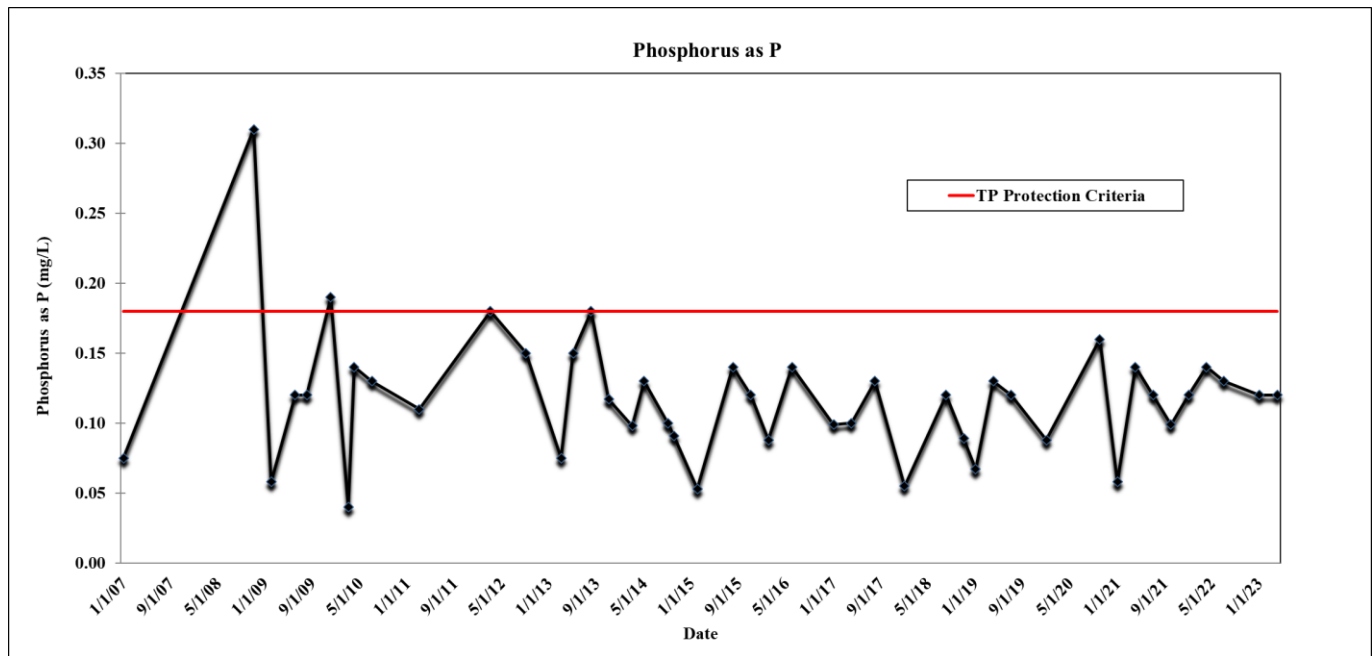


Figure 3. Total Phosphorus results for Apalachee Creek.

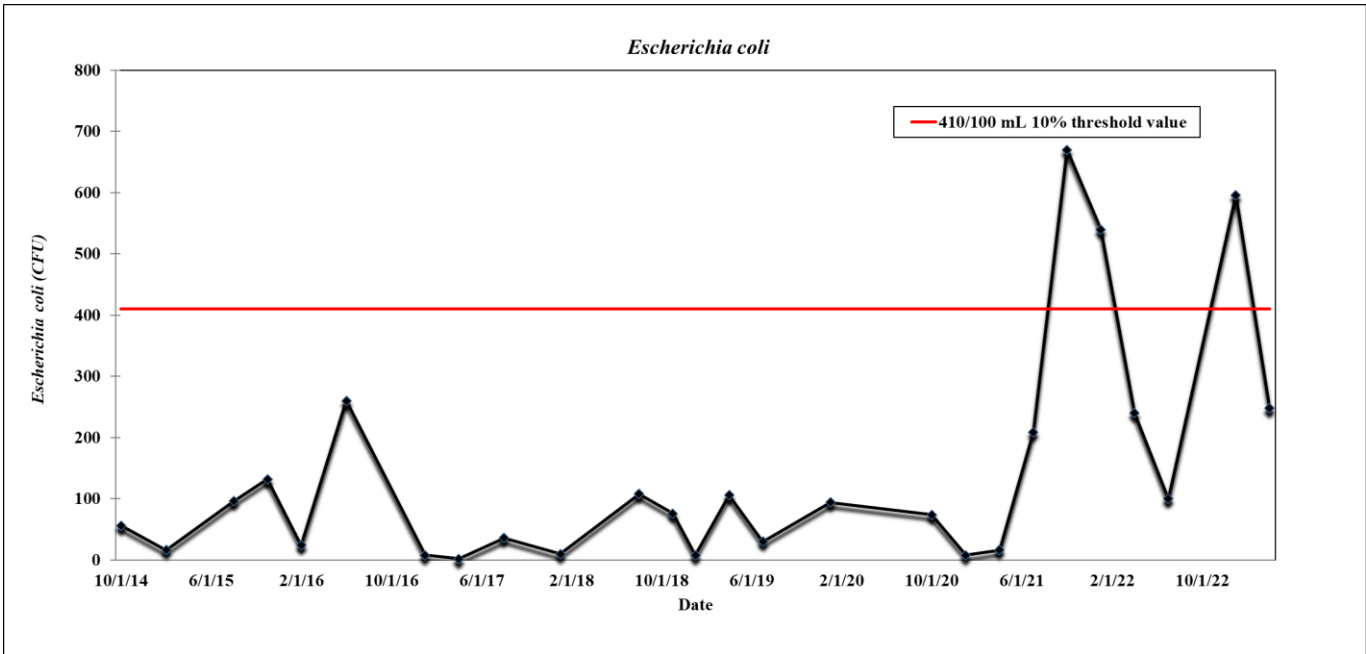


Figure 3. *E. coli* results for Apalachee Creek.