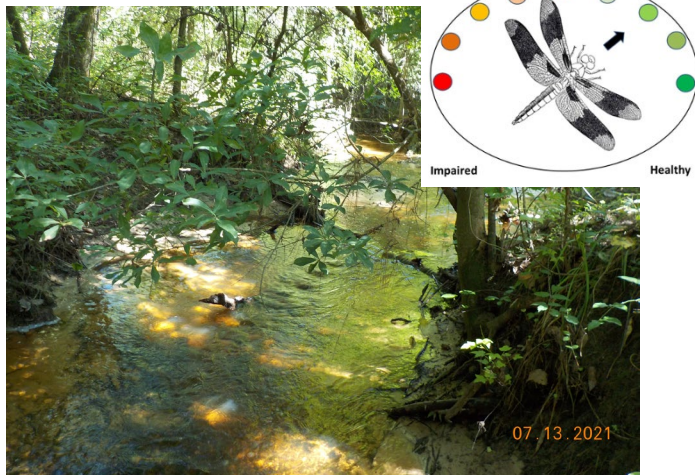


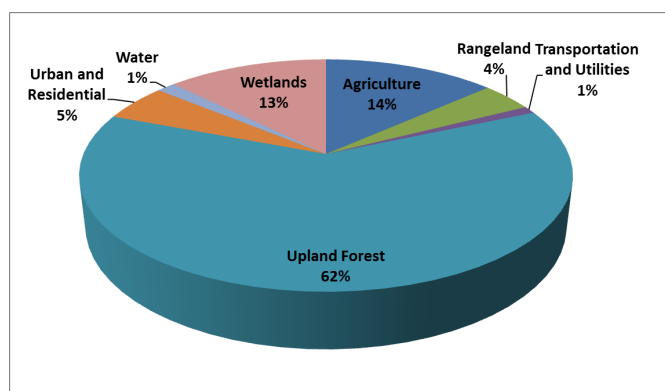
Waterbody: Panther Creek



Basin: Lake Miccosukee

Panther Creek is a tannic, nitrogen-limited stream that flows southeast and eventually drains into Lake Miccosukee.

As shown in the following pie chart, approximately 24% of land use in the 3,374-acre watershed is agricultural, rangeland, transportation, utilities or residential/urban. Increases in stormwater runoff and waterbody nutrient loads can often be attributed to these types of land uses.



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, adverse hy-

drologic alterations, undesirable removal of habitat or riparian buffer vegetation, and introduction of exotic plants and animals. 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 sampling was conducted to determine the health of Panther Creek and met the collection and analysis requirements of the Florida Department of Environmental Protection (FDEP).

Results

Nutrients

According to FDEP requirements, Numeric Nutrient Criteria (NNC) (expressed as an annual geometric mean) cannot be exceeded more than once in a three-year period. Due to low water conditions, four temporally independent samples per year have only been collected in years 2009, 2013 and 2021. When criteria were met, results showed that Panther Creek met FDEP's NNC criteria. For illustrative purposes, individual data points were plotted to determine any possible trends (Figures 1 and 2). With few exceptions, individual values did not exceed the instream criteria for total phosphorus or total nitrogen.

Escherichia coli (E. coli)

The *E. coli* water quality limit of > 410 in 10% of samples collected over a thirty-day period was exceeded with the latest (and highest) exceedance occurring during the July and October 2021 sampling event (Figure 3). Since the watershed is relatively undeveloped, elevated *E. coli* levels are probably the result of wildlife in the area.

Other Parameters

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

Conclusions

Based on ongoing sampling, Panther Creek met the nutrient thresholds for the East Panhandle Region. The *E. coli* water quality limits were exceeded several times. Since the watershed is relatively undeveloped, elevated *E. coli* levels are probably the result of wildlife in the area. Other water quality parameters appear to be normal for the area and no impairments were noted.

Thank you for your interest in maintaining the quality of Leon County's water 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 2021.](#)

[Click here for a map of the watershed – Sample Site 12.](#)

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Richardsonjo@leoncountyfl.gov

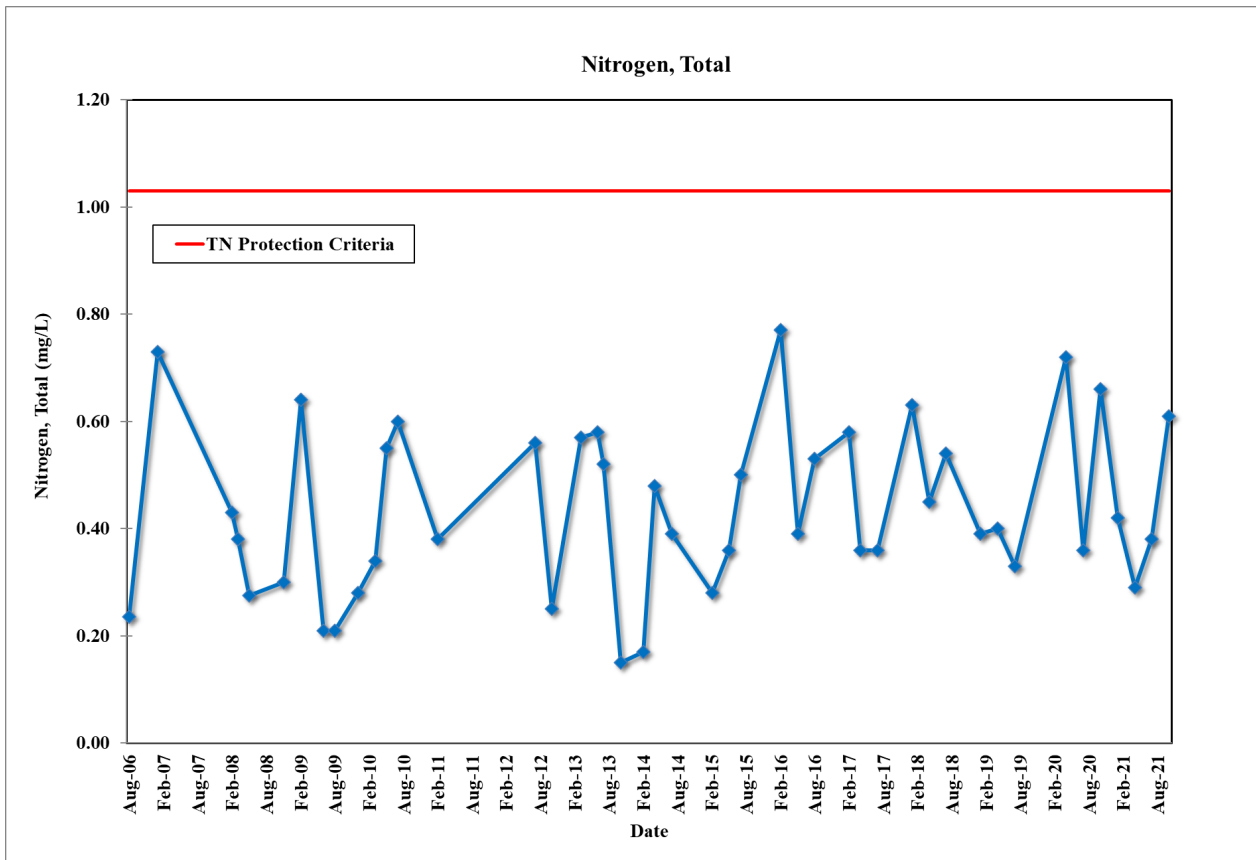


Figure 1. Total Nitrogen results for Panther Creek.

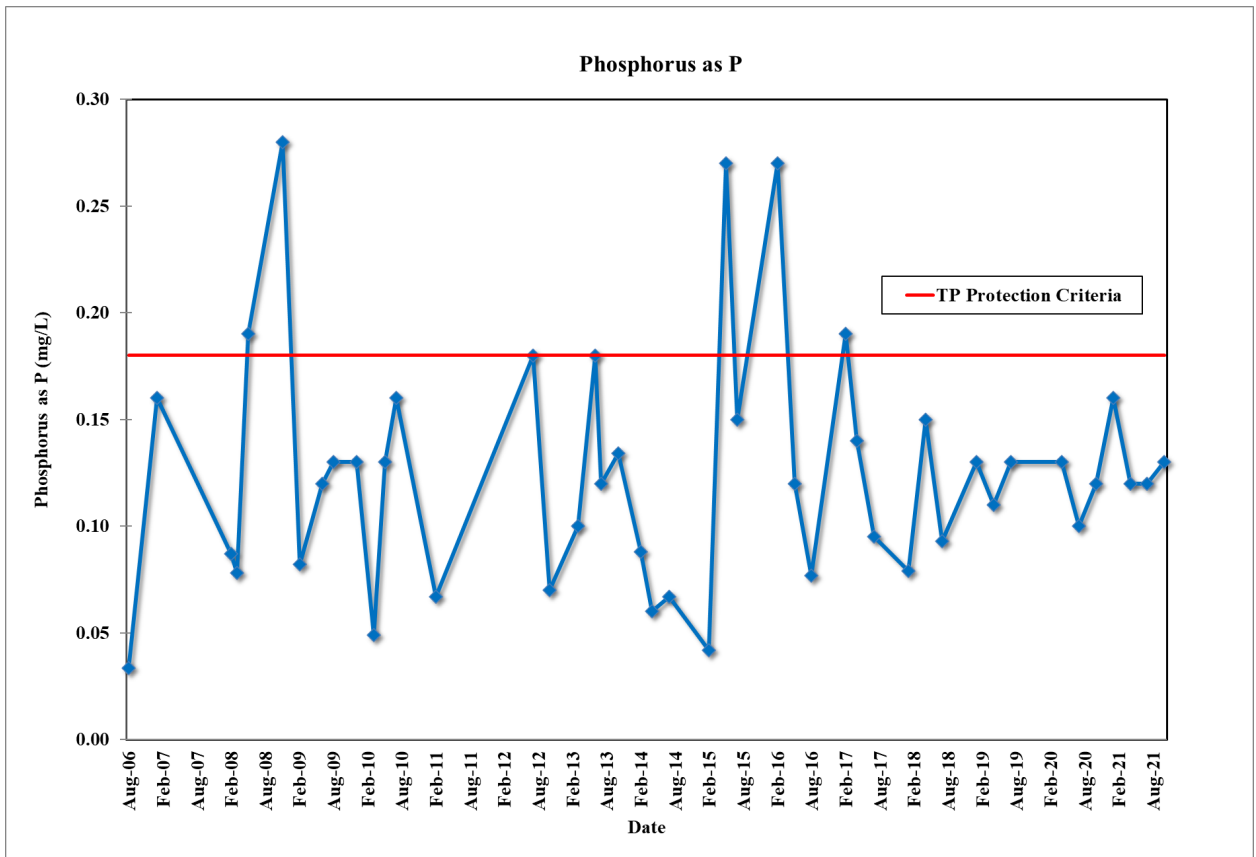


Figure 2. Total phosphorus results for Panther Creek.

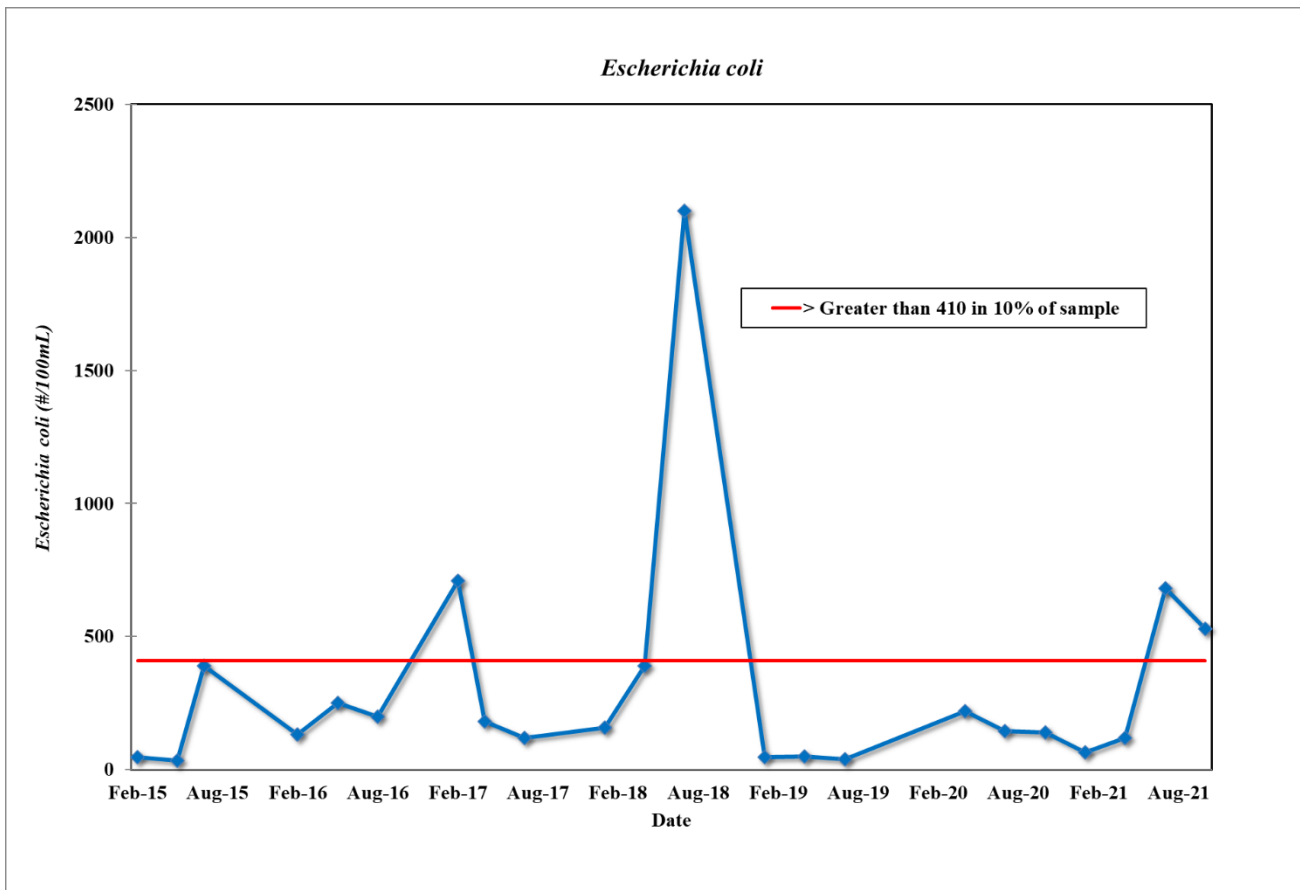


Figure 3. *E. coli* results for Panther Creek.