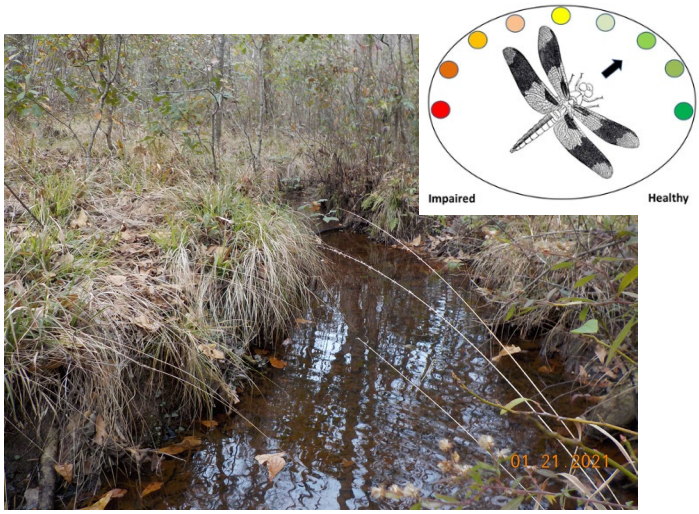
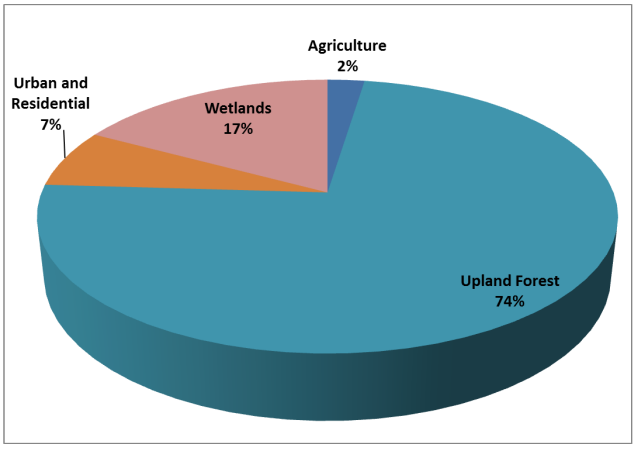
Waterbody: Tall Timbers Creek



Basin: Lake Iamonia

Tall Timbers Creek is a tannic stream located in northwestern Leon County. The stream flows south under County Road 12 through the Tall Timbers Research Station and Land Conservancy, eventually entering Lake Iamonia on the north shore of the lake.

While the following pie chart shows the majority of the 80-acre watershed upstream of the sample station is relatively undeveloped, agriculture, urban and residential uses make up approximately 9% of the watershed. 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 hydrologic 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 Tall Timbers Creek and met the collection and analysis requirements of the Florida Department of Environmental Protection (FDEP).

Results

The nutrient thresholds and results are found in Table 1. According to FDEP requirements, Numeric Nutrient Criteria (expressed as an annual geometric mean) cannot be exceeded more than once in a three-year period. When viewing Table 1, the absence of a number means there were not enough data collected (due to lack of water or low water levels) to calculate a result. When data requirements were met (e.g., four samples collected in a calendar year), nutrient values were shown to not exceed the state criteria.

Dissolved Oxygen (DO)

As Figure 1 shows, Tall Timbers Creek seldom met the Class III criteria for DO. Low gradient, tannic streams typically have low DO levels which can be further exacerbated by low water conditions.

Escherichia coli (E. coli)

The *E. coli* water quality limit of > 410 in 10% of samples collected over a 30-day period was exceeded for the 2nd (650/100 mL) quarter of 2017. The September 2018 result, while relatively high (310/100 mL), did not exceed the criteria. Since the watershed is relatively undeveloped, elevated *E. coli* levels are probably the result of wildlife in the area. There have been no exceedances since the September 2018 result.

Table 1. FDEP's total nitrogen and phosphorus criteria for streams applied to Tall Timbers Creek. The absence of data means there was not enough data collected (due to lack of water) to fulfill data requirements.

Tall Timbers Creek	Total Nitrogen Threshold 1.03 mg/L	Total Phosphorus Threshold 0.18 mg/L
2006- 2007	-	-
2008	0.22	0.03
2009	0.17	0.04
2010	0.23	0.04
2011- 2012	-	-
2013	0.11	0.03
2014	0.21	0.02
2015	0.24	0.06
2016	0.13	0.02
2017	0.13	0.03
2018	0.22	0.04
2019	0.28	0.04
2020	-	-
2021	0.14	0.03

Other Parameters

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

Conclusions

Based on ongoing sampling, Tall Timbers Creek met the nutrient thresholds for the Panhandle East Region. While DO results did not meet Class III water quality standards, low gradient tannic streams normally have low DO values which, in this case, were further exacerbated by the typically low flow conditions. 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 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 66.

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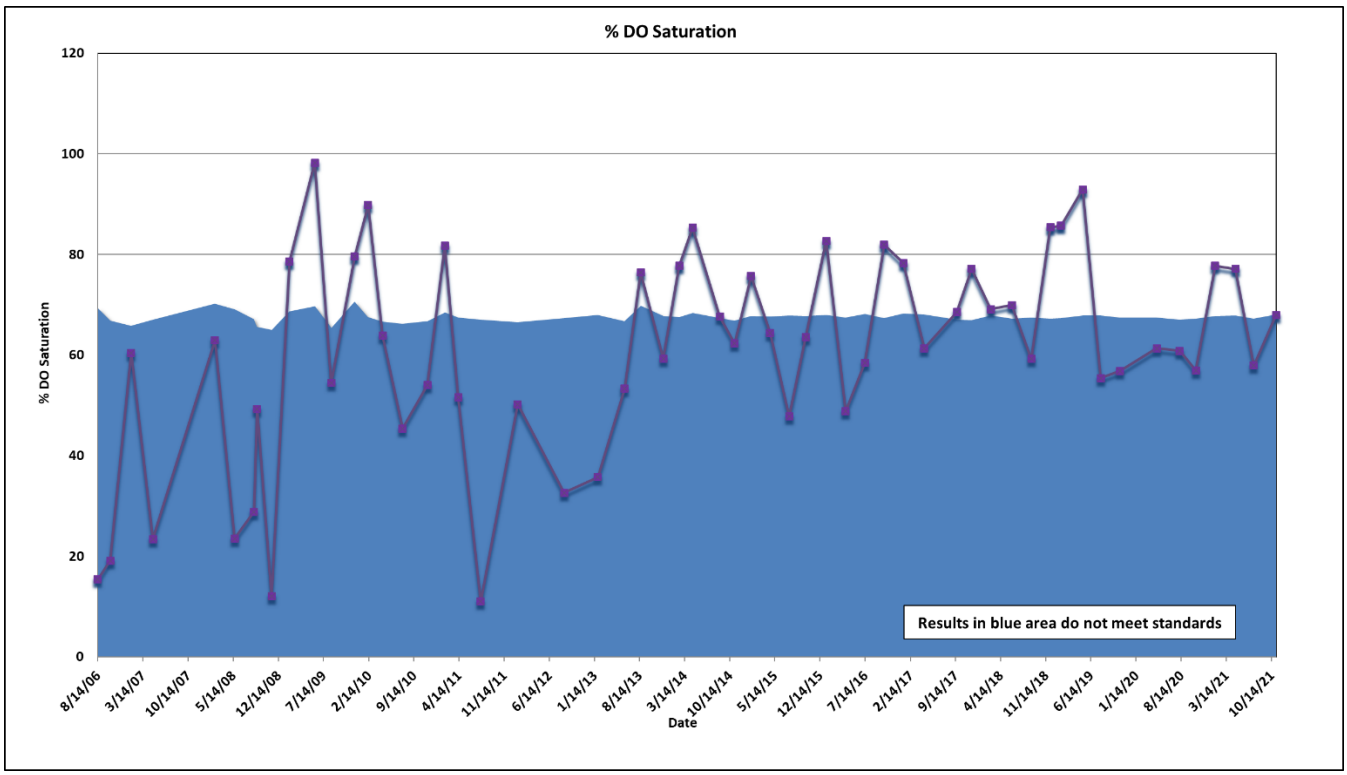

Figure 1. Dissolved Oxygen Percent Saturation results for Tall Timbers Creek.