

# Fisher Creek EcoSummary



## 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.

Located in the Apalachicola National Forest, Fisher Creek is a phosphorus-limited, naturally dark, tannic stream in southwestern Leon County. The stream eventually enters the Floridan aquifer via a sink located in the Leon Sinks Recreation Area. Dye trace studies have linked this sink to Wakulla Springs.

While the following pie chart shows the majority of the 17,984-acre watershed is relatively undeveloped, urban, residential, and rangeland land uses make up approximately 2% of the watershed (as shown in **Figure 1**). These types of land uses are often attributed to increases in stormwater runoff and higher nutrient loads.

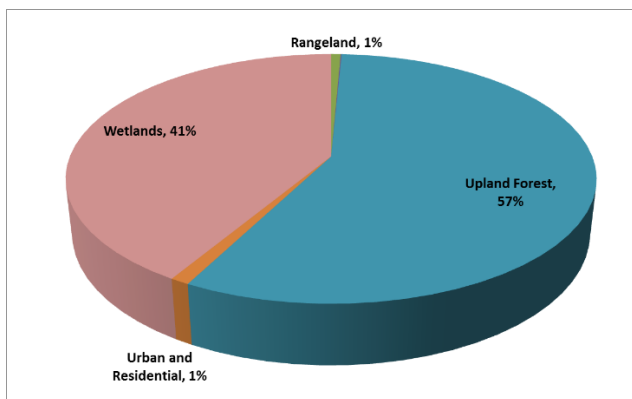
## Methods

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

## Results

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



**Figure 1.** Fisher Creek watershed land use.

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**.

When data requirements were met (e.g., four samples collected in a calendar year), nutrient values were shown to not exceed the state criteria. For illustrative purposes, individual data points were plotted to determine any possible trends (**Figures 2 and 3**). Individual values did not exceed the instream criteria for total phosphorus and rarely exceeded total nitrogen criteria.

**Table 1.** Total nitrogen and phosphorus criteria and results for Fisher Creek.

Fisher Creek	Total Nitrogen Threshold 1.03 mg/L	Total Phosphorus Threshold 0.18 mg/L
2007	-	-
2008	0.48	0.01
2009	0.44	0.01
2010	0.61	0.01
2011- 2012	-	-
2013	0.65	0.01
2014	0.75	0.01
2015	0.68	0.01
2016	-	-
2017	0.68	0.01
2018	0.79	0.01
2019	-	-
2020	0.67	0.01
2021	-	-
2022	0.49	0.01
2023	0.60	0.01

### Other Parameters

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

### Conclusions

Based on ongoing sampling, Fisher Creek met the nutrient thresholds for the Big Bend Bioregion. All other water quality parameters appear to be normal.

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](http://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 50.](#)

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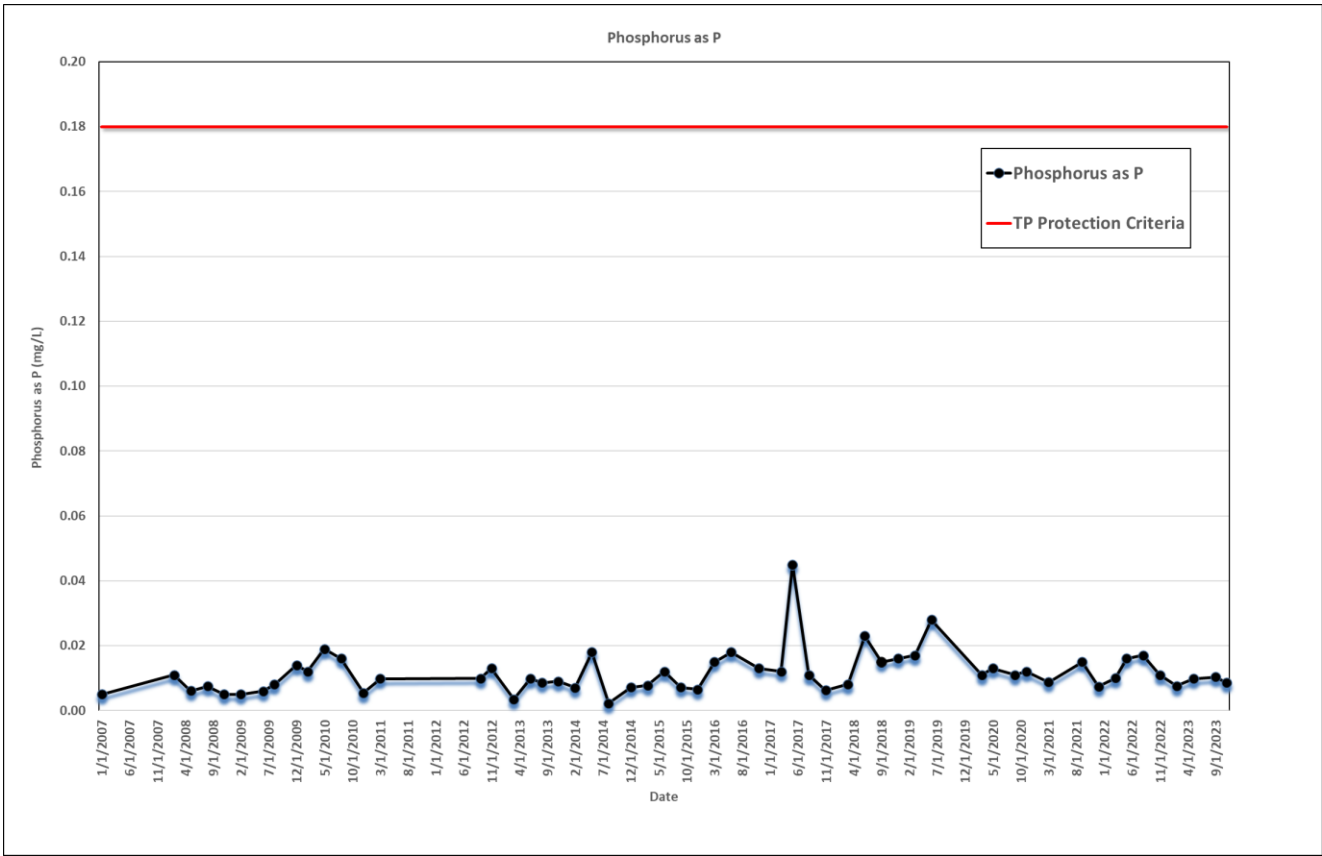


Figure 2. Total phosphorus results for Fisher Creek.

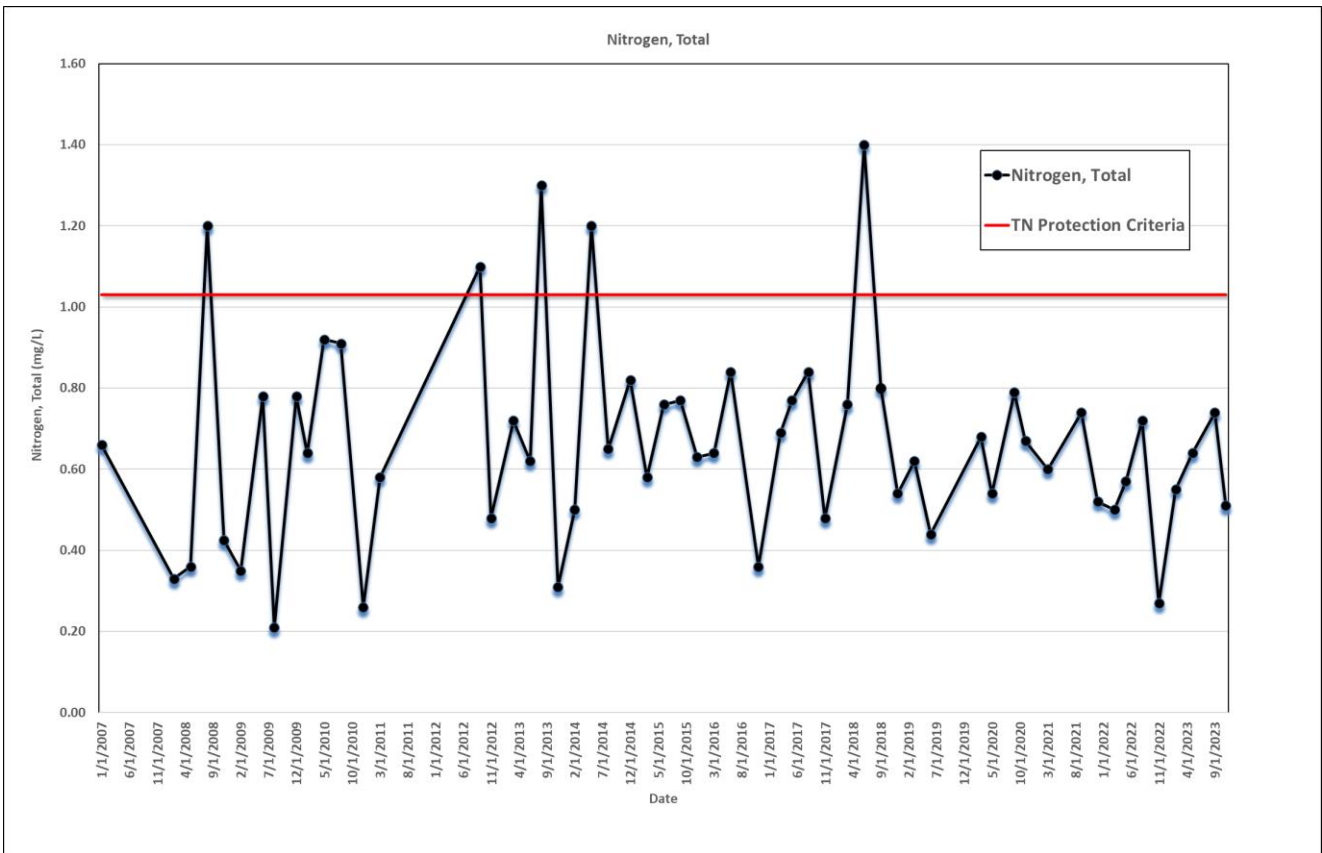


Figure 3. Total nitrogen results for Fisher Creek.