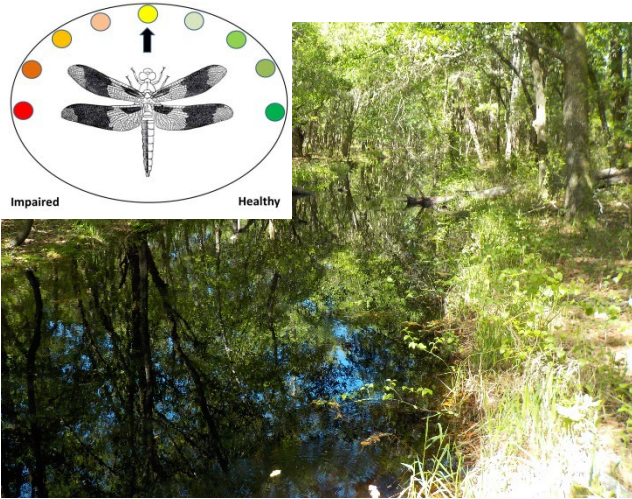


Unnamed Stream at Chaires Crossroad EcoSummary



The Unnamed Stream at Chaires Crossroad is a highly altered stream/ditch draining Alford Arm and Lower Lake Lafayette and is located in eastern Leon County.

Approximately 54% of land use in the 36,966-acre watershed is agriculture, rangeland, transportation, utilities, urban and residential (as shown in **Figure 1**). Increases in stormwater runoff and waterbody nutrient loads can often be attributed to these types of land uses.

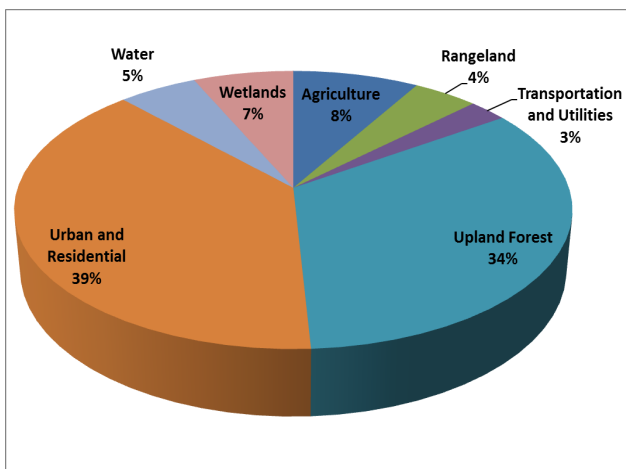


Figure 1. Unnamed Stream at Chaires Crossroad watershed land use.

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 this stream 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 or backflow water conditions, four temporally independent samples per year have only been achieved once (2009) during the period of record (2007-2022). 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, but did occasionally exceed the nitrogen criteria, with the last exceedance being in 2015.

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Dissolved Oxygen

As **Figure 4** shows, the unnamed creek seldom met the Class III criteria for dissolved oxygen. This is not surprising since low gradient, low flow streams often have low dissolved oxygen levels.

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

Conclusions

Due to low water conditions, four temporally independent samples per year have only been achieved once (2009) during the period of record. Individual values did not exceed the instream criteria for Total Phosphorus, but did occasionally exceed the nitrogen criteria, with the last exceedance being in 2015. Dissolved oxygen levels have seldom met the Class III criteria. This is not surprising since low gradient, low flow streams often have low dissolved oxygen levels. 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 2022.](#)

[Click here for a map of the watershed – Sample Site 57.](#)

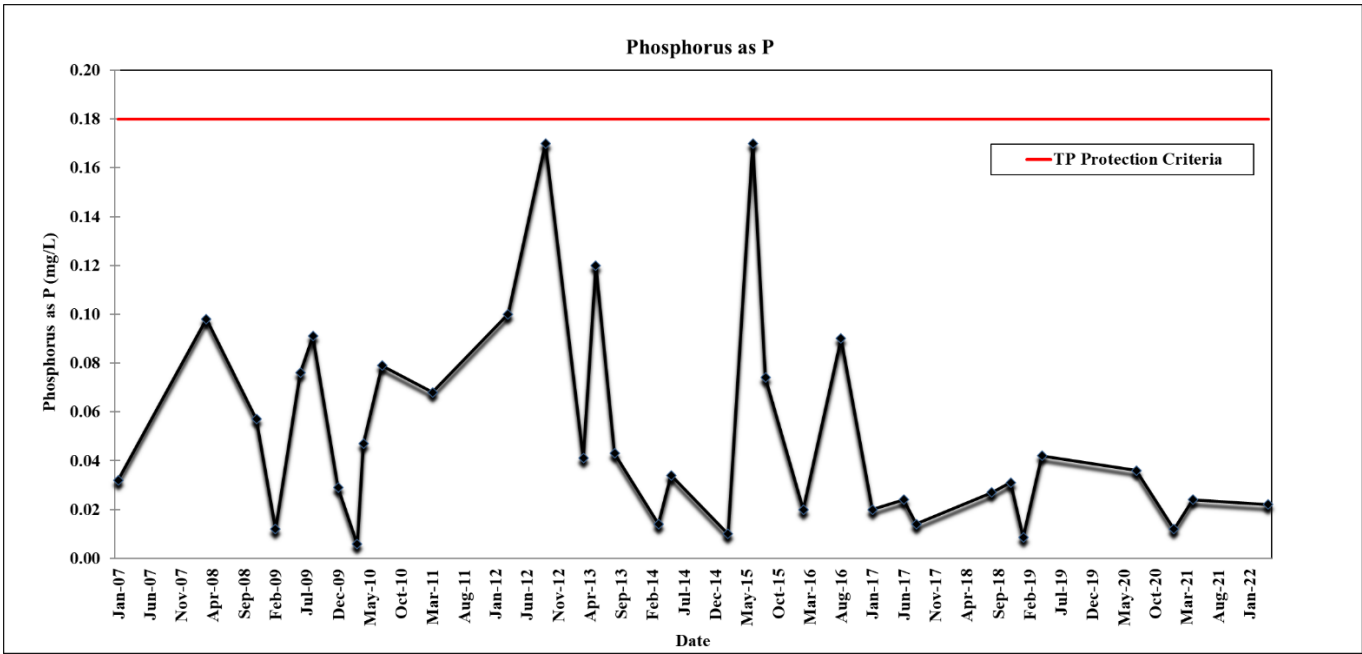


Figure 2. Total Phosphorus results for Unnamed Stream at Chaires Crossroad.

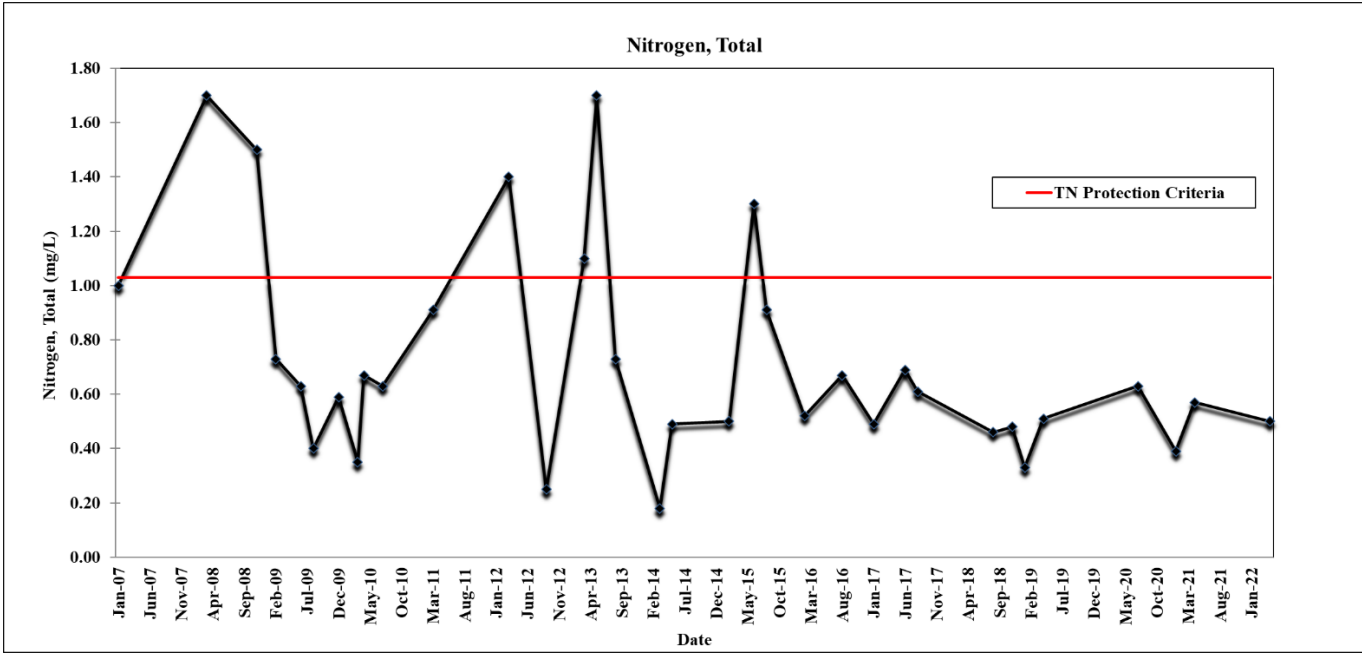


Figure 3. Total Nitrogen results for Unnamed Stream at Chaires Crossroad.

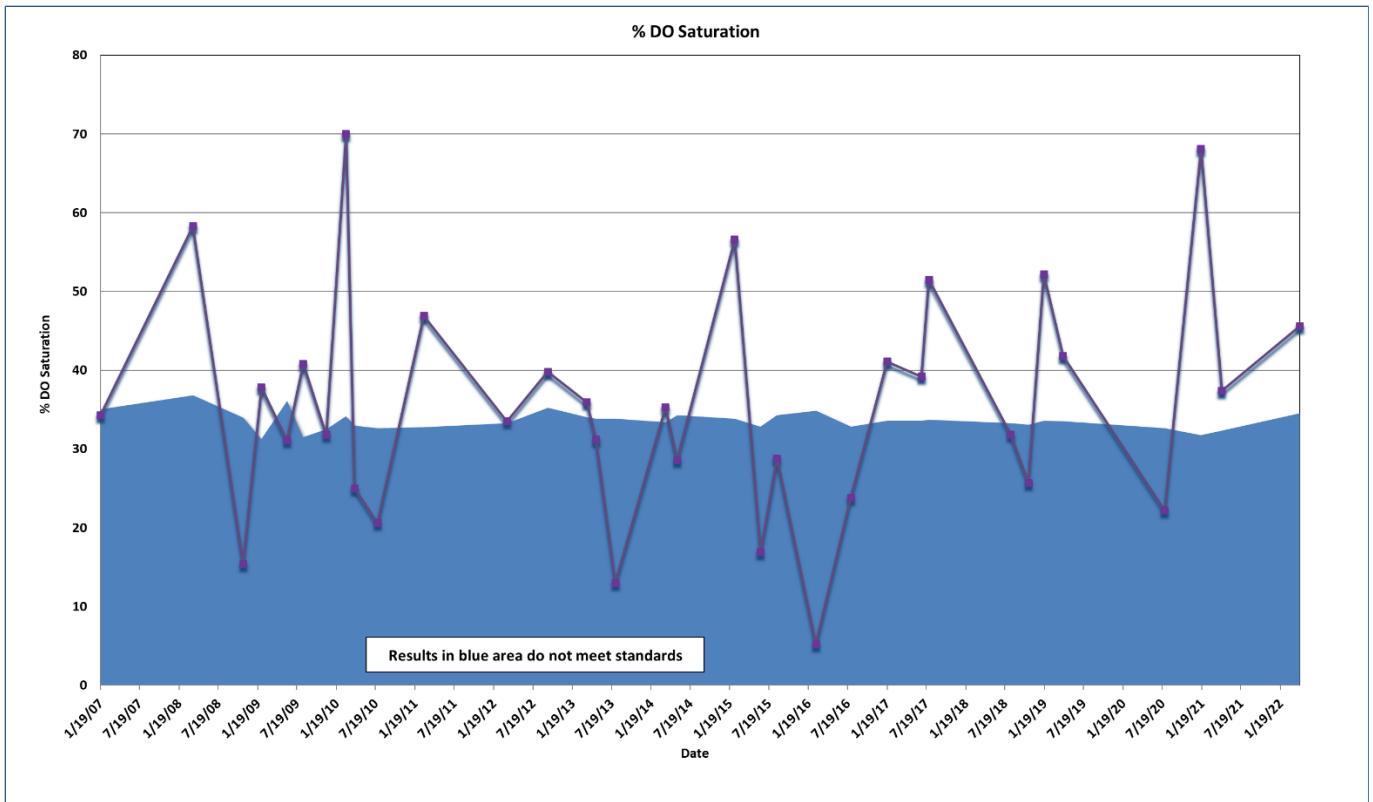


Figure 4. Dissolved Oxygen Percent Saturation results for Unnamed Stream at Chaires Crossroad.