

Patty Sink Drain EcoSummary



Patty Sink Drain is a slightly tannic, nitrogen-limited stream that flows south and eventually drains into Patty Sink and the Floridan Aquifer.

Approximately 28% of land use in Patty Sink's 12,975-acre watershed is agriculture, open land, rangeland, 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.

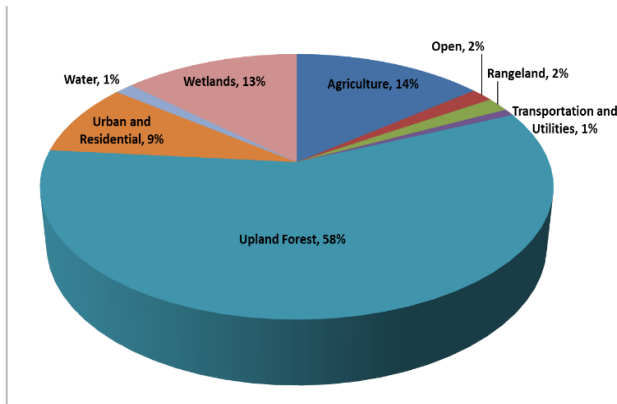


Figure 1. Patty Sink watershed land use.

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 Patty Sink Drain 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 be collected. When viewing tables and figures, the absence of data means there was not enough data collected to fulfill data requirements.

Even though staff was not able to collect the required number of samples per calendar year, some conclusions can be made. 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 or Total Nitrogen.

Fecal Coliforms and Escherichia coli (E. coli)

Patty Sink Drain has a history of fecal coliform levels exceeding the Class III water quality standard (400/100 mL in at least 10% of the samples). *E. coli* standards have now supplanted fecal coliform standards in Florida. The *E. coli* water quality limit of > 410 in 10% of samples collected over a 30-day period have been exceeded three times (**Figure 4**) since *E. coli* sampling started (1st quarter of 2015). Since the watershed is relatively undeveloped, elevated *E. coli* levels are probably the result of wildlife or livestock (i.e., cattle) in the area. There have been no exceedances since 2018.

Other Parameters

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

Conclusions

Total Phosphorus and Total Nitrogen levels appear to meet the NNC. *E. coli* water quality limits were exceeded during the sampling period, but levels have been below Class III water quality standards since 2018. 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 5.](#)

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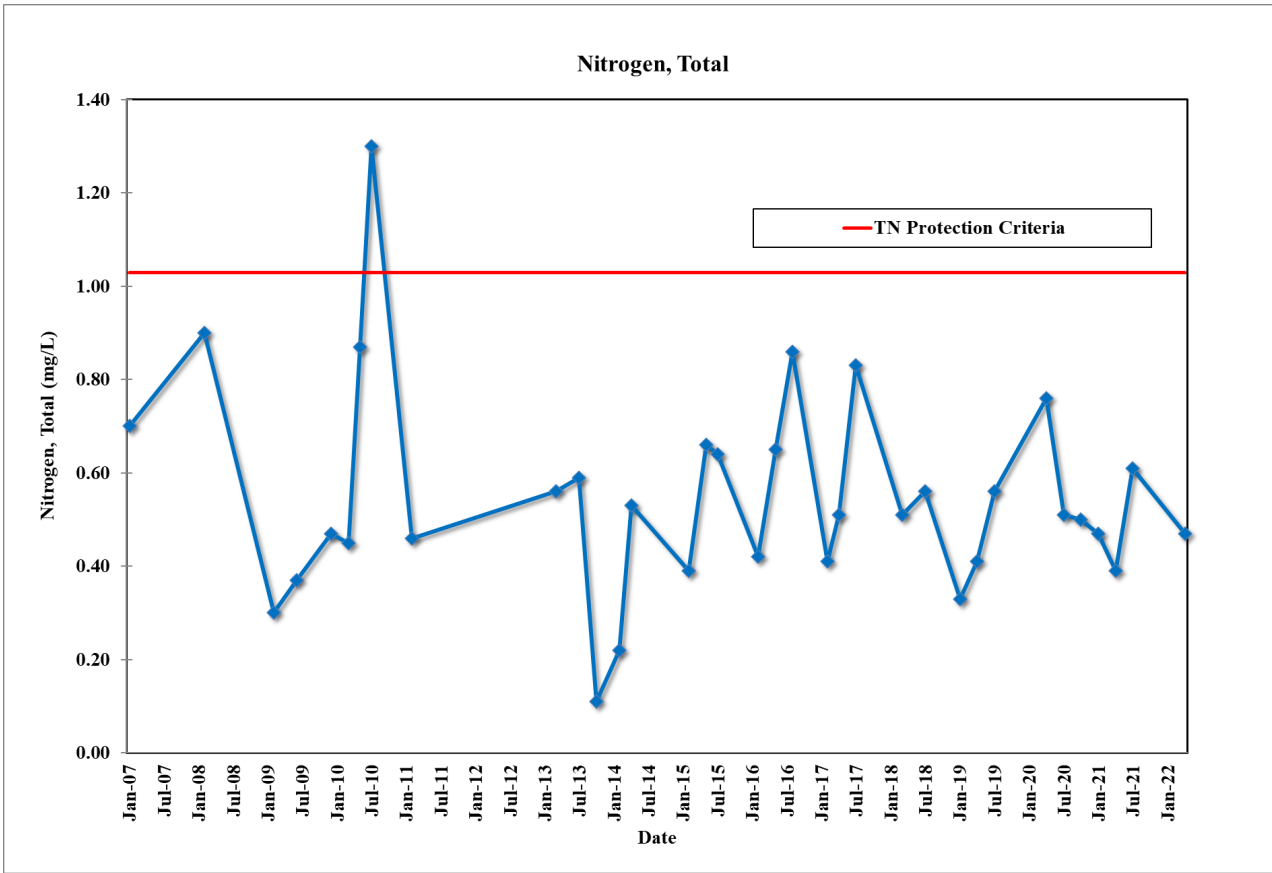


Figure 2. Total Nitrogen results for Patty Sink Drain.

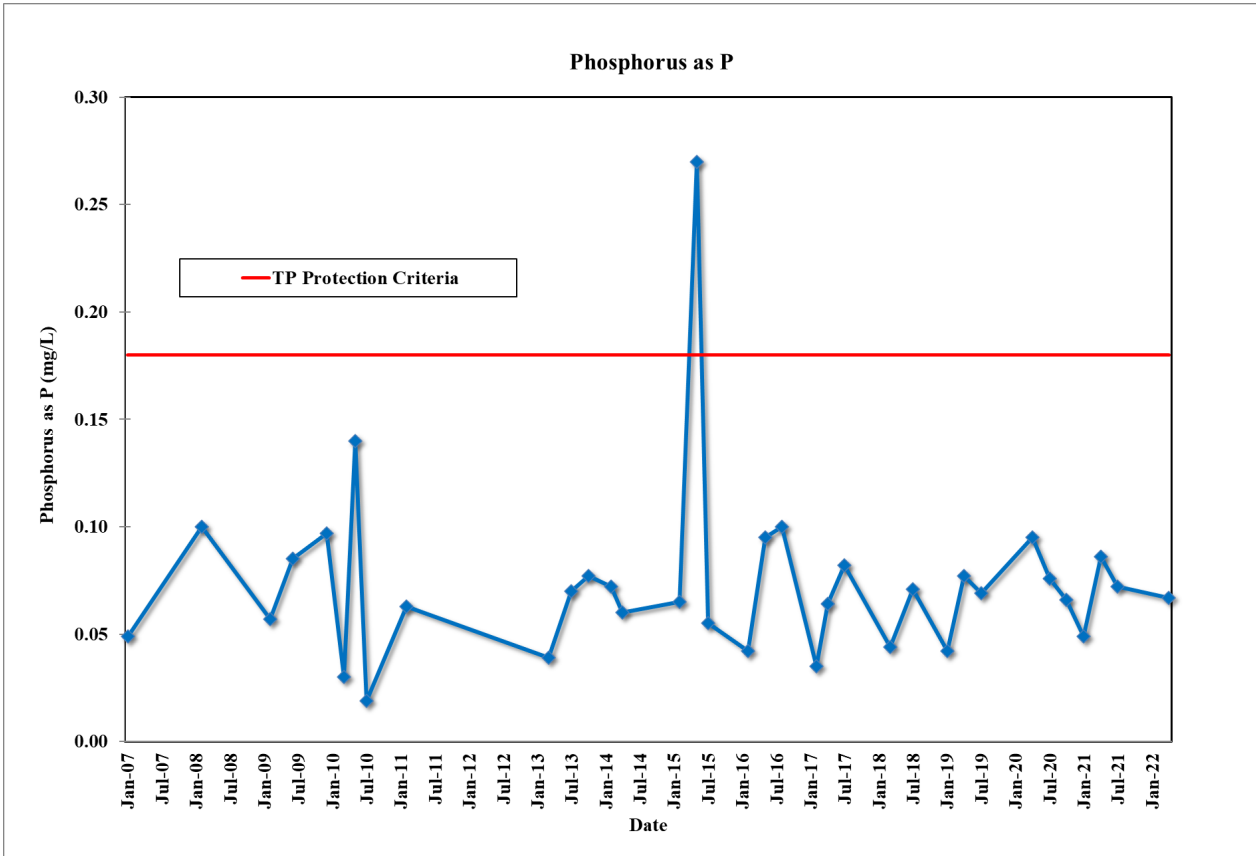


Figure 3. Total Phosphorus results for Patty Sink Drain.

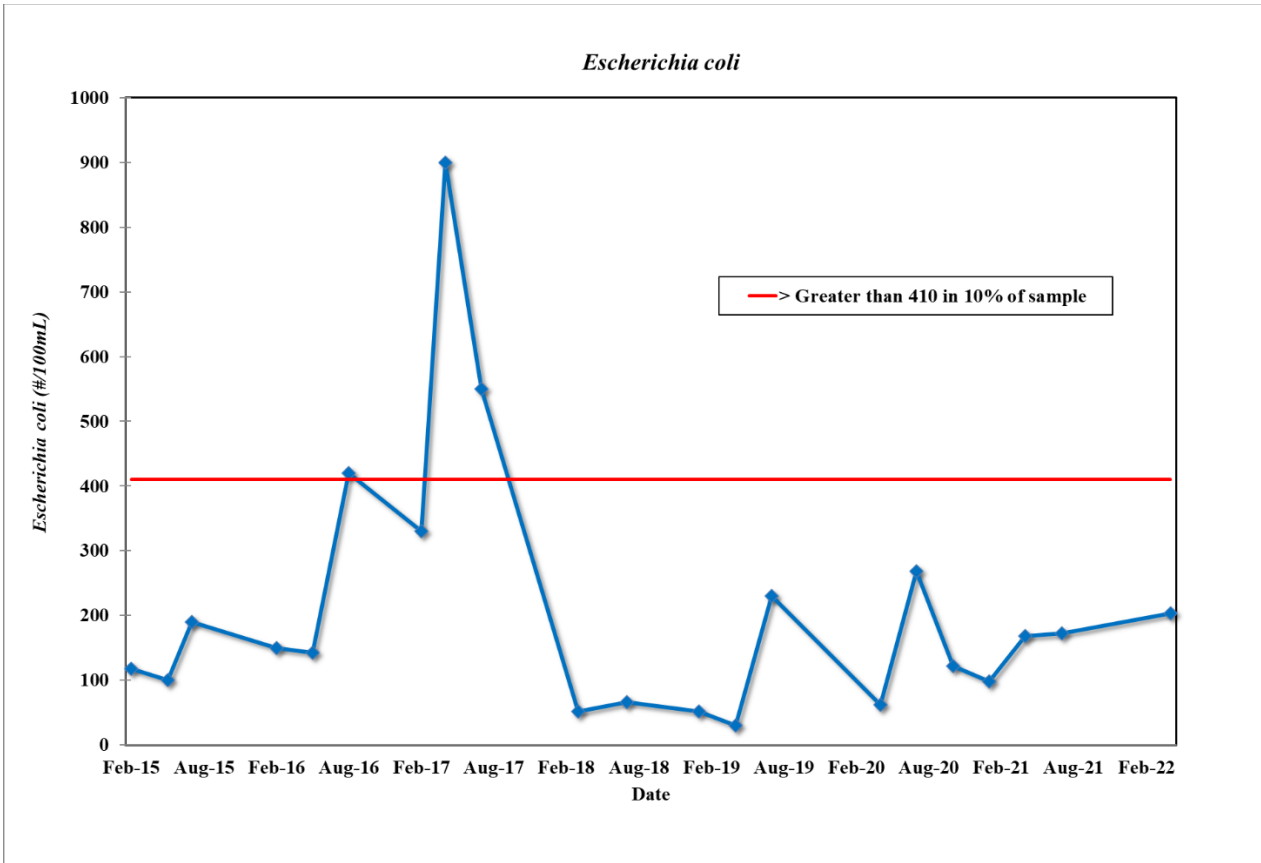


Figure 4. *E. coli* results for Patty Sink Drain.