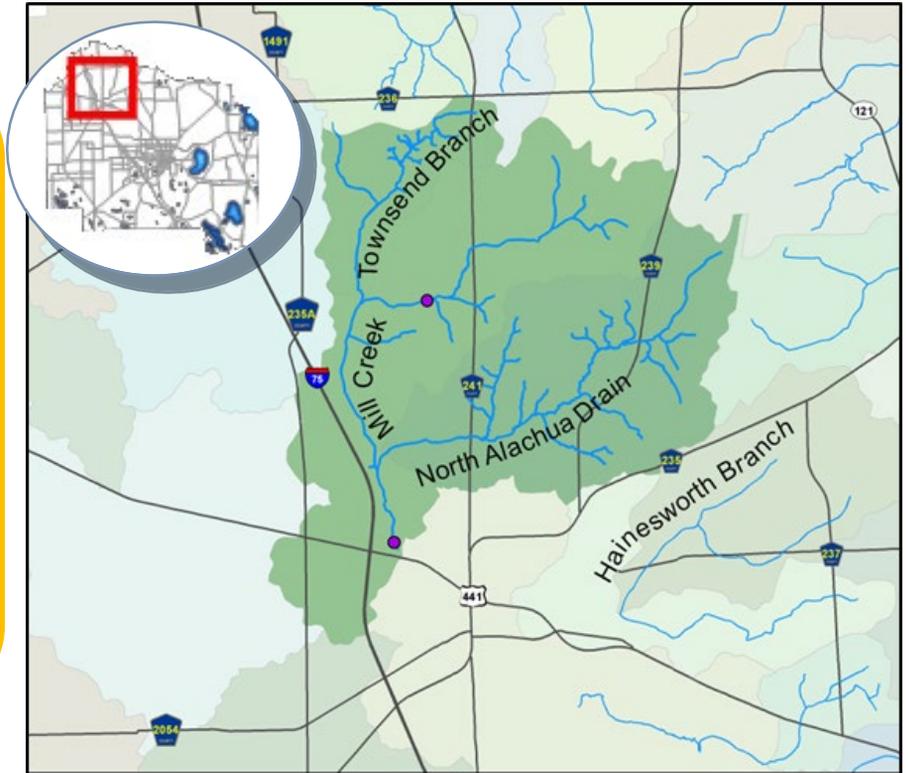




Mill Creek Fact Sheet

The Watershed

- Mill Creek watershed is ~21.3 square miles.
- The Floridan aquifer is recharged by the creek at Mill Sink and through swallets.
- Dye tracer studies have identified a connection between Mill Sink and Hornsby Springs.



Map of Mill Creek watershed (green) with sampling sites (purple circles).

Potential Pollution

- Naturally occurring phosphorus from the Hawthorn Group formations may contribute to elevated phosphorus levels due to cutting and scour.
- Failing septic systems, failing wastewater infrastructure, wildlife and pets are sources of nitrogen, phosphorus, and fecal coliform bacteria.
- Former agricultural operations may contribute fertilizers and/or animal waste to the surrounding area.



Swallet near Mill Creek Sink.

In-Stream Biology

Biological surveys of Mill Creek indicate that the stream has a healthy population of benthic macroinvertebrates with ample habitat. The 2014 survey scored Mill Creek at Old Bellamy Road as exceptional for the Stream Condition Index (SCI) and received the highest score for all sites evaluated in Alachua County. The intact riparian buffers and preservation of headwaters land helps maintain the creek's biological diversity. Abundant rainfall during the year prior to the survey created appropriate stream flow for a diverse population of benthic macroinvertebrates.

Water Quality

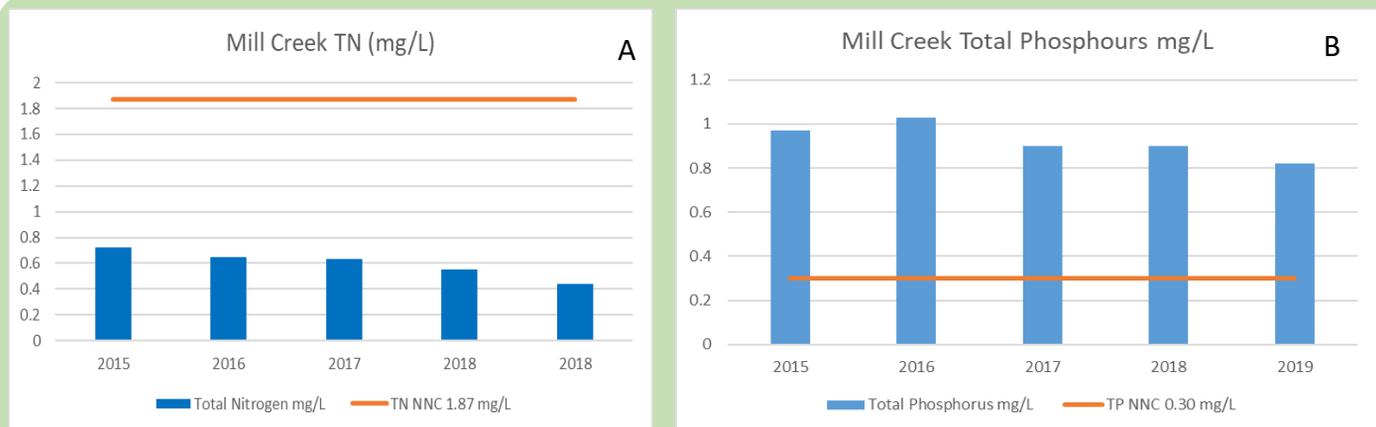


Figure 1. Annual geometric mean of A) total phosphorus (TP) and B) total nitrogen (TN).

Nutrients The current FDEP water quality rule on nutrient standards went into effect February 2016. As a result, Mill Creek is above the Numeric Nutrient Criteria (NNC) threshold for total phosphorus (TP) but not for total nitrogen (TN). Potential phosphorus sources are the erosion of phosphorus rich soils that compose the Hawthorn clays which underlay the stream bed and agricultural inputs of fertilizer and manure. It does not appear that the elevated TP concentrations are influencing the stream biota. If another SCI results in a “healthy” score, this stream will be meeting the NNC. Mill Creek Sink is classified as impaired for dissolved oxygen (DO), which is attributed to nutrient concentrations.

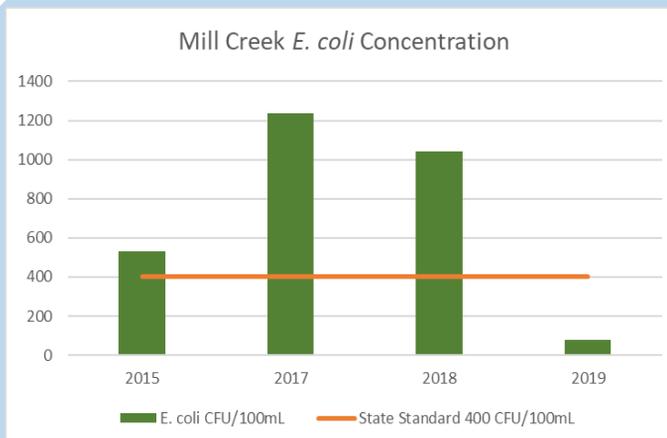


Figure 2. Annual geometric mean fecal coliform colony forming units (CFU)/100mL.

Bacteria: Mill Creek has high abundance of *E. coli* bacteria. State standards for a single sample are 400 colony forming units (CFU)/ 100 mL. Mill Creek Sink frequently exceeds this standard, classifying it as impaired. Possible sources of bacteria include domestic and wild animal waste, leakage from sanitary sewer lines, faulty private sewer connections and overflows, persistence and regrowth of bacteria in creek sediments, and failing septic systems.

Current Human Impacts

- Fertilizer from agricultural operations.
- Possible leaky sewer lines and connections, as well as failing septic tanks.
- Positive impacts on water quality result from preservation of its headwaters by Alachua County Forever’s Mill Creek Preserve.



Mill Sink is connected to springs of the Santa Fe River.