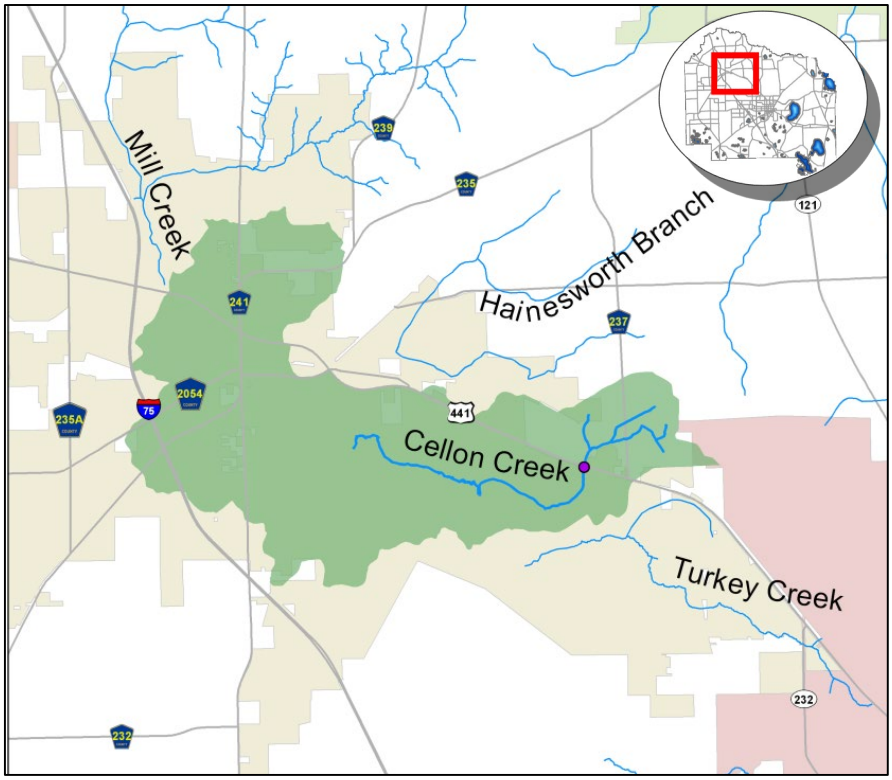
Cellon Creek

Fact Sheet

The Watershed

- The Cellon Creek watershed is ~ 11.2 square miles.
- Cellon Creek recharges the Floridan Aquifer at Lee Sink.
- The creek flows through San Felasco Hammock Preserve State Park.
- Land use in the area is dominated by natural forest, agriculture, and residential areas.



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

Potential Pollution

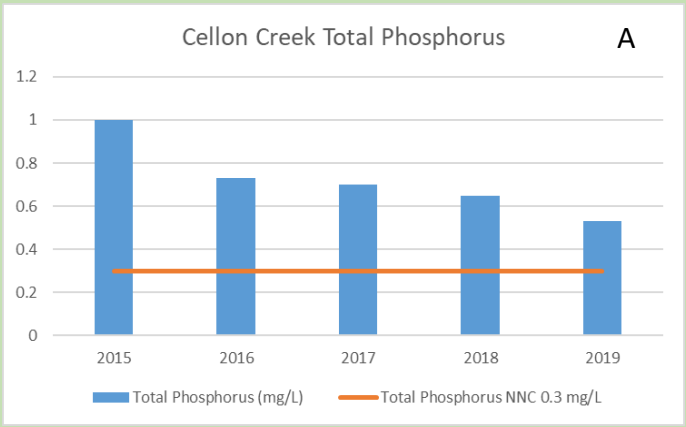
- Naturally occurring phosphorus from the Hawthorn Group formations may contribute to elevated phosphorus levels due to cutting and scour.
- Failing septic systems, failing wastewater infrastructure, wildlife and pets are sources of nitrogen, phosphorus, and fecal coliform bacteria.
- Agricultural operations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

Cellon Creek.

In-Stream Biology

The 2014 biological survey of Cellon Creek indicated that the stream had over 35 taxa present, which gave it one of the highest diversities of benthic macroinvertebrates in Alachua County. Cellon Creek scored as healthy for Stream Condition Index (SCI) in 2014. It was noted that in some of the areas surveyed, habitat smothering resulted from stream bank instability. The intact tree canopy surrounding the sampling location helps maintain the creek's biological diversity.

Water Quality



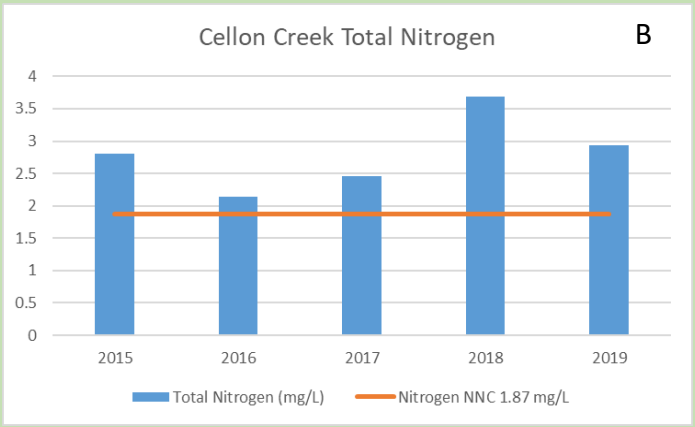


Figure 1. Annual geometric mean of A) total phosphorus (TP) and B) total nitrogen (TN).

Nutrients: The current FDEP water quality rule on nutrient standards went into effect February 2016. As a Result, Cellon Creek is above the Numeric Nutrient Criteria (NNC) threshold for total phosphorus (TP) and total nitrogen (TN). Potential phosphorus sources are the erosion of phosphorus rich soils that compose the Hawthorn clays, which underlay the stream bed. Phosphorus fertilizer and cow manure can also impact TP levels. Potential nitrogen sources are fertilizer used in agricultural activity and for residential lawns. It does not appear that the elevated TP and TN concentrations are influencing the stream biota.

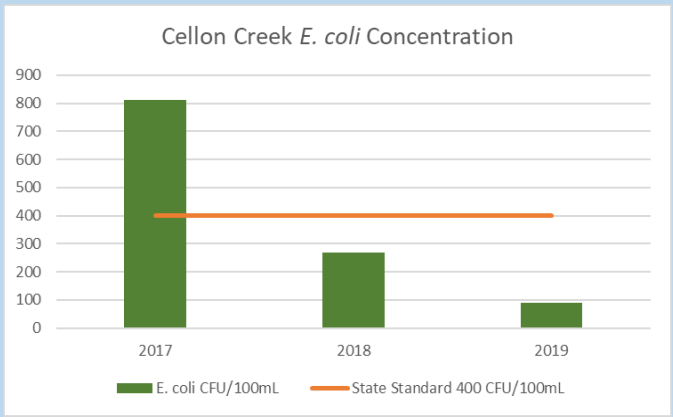


Figure 2. Annual geometric mean E. coli *coliform colony forming units (CFU)/100mL.*

Bacteria: Cellon Creek has had decreasing concentrations of *E. coli* bacteria. State standards for a single sample are 400 colony forming units (CFU)/100 mL. Possible sources of this 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. Decreased abundance of fecal coliform in the most recent years is attributed to dilution from increased stream flow rates.

Current Human Impacts

- Fertilizer from residential application.
- Possible leaky sewer lines and connections, as well as failing septic tanks.

Cellon Creek sampling site west of Hwy. 441.