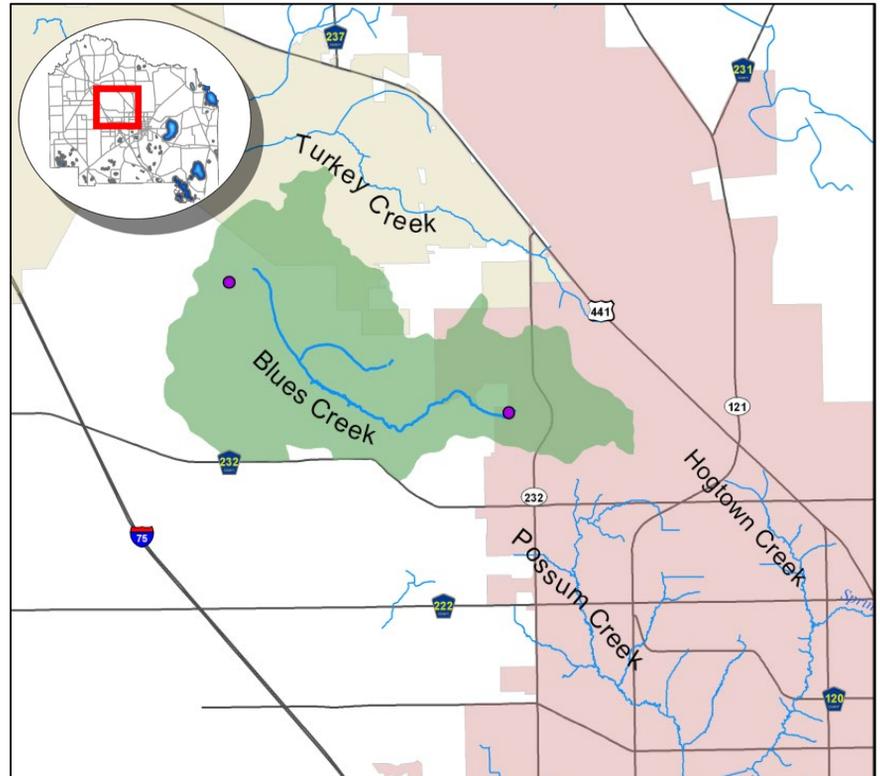




Blues Creek Fact Sheet

The Watershed

- Blues Creek watershed is ~ 7.9 square miles.
- The Floridan aquifer is recharged by the creek at Big Otter Ravine in San Felasco Hammock State Park.
- Land use in the area includes low density residential, natural forest, agriculture and silviculture.



Map of Blues 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 from stormwater.
- Failing septic systems, failing wastewater infrastructure, wildlife, and pets are sources of nitrogen, phosphorus, and fecal coliform bacteria.
- Run off from residential neighborhoods can contain nutrients from fertilizers and pet waste.



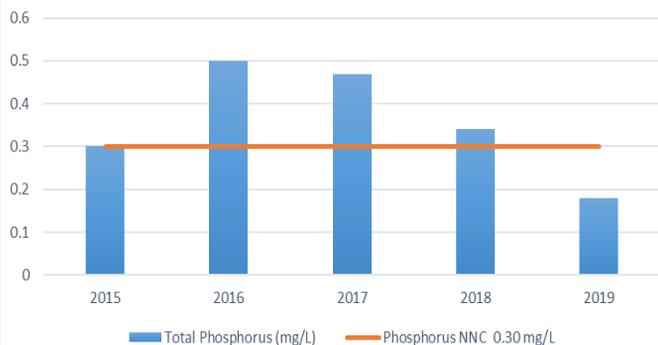
Blues Creek.

In-Stream Biology

Biological surveys of Blues Creek indicated that the stream had a healthy population of benthic macroinvertebrates with ample habitat. The 2014 survey scored Blues Creek as healthy for the Stream Condition Index (SCI). The greatest challenge to macroinvertebrates living in Blues Creek is the intermittent nature of the creek. During the summers there is often no water in the creek. As a result, no long lived (requiring more than one year to complete their life cycle) benthic macroinvertebrates were found during the survey.

Water Quality

Blues Creek Total Phosphorus A



Blues Creek Total Nitrogen B



Figure 1. Annual geometric mean of A) total phosphorus (TP) and B) total nitrogen (TN) with NNC denoted by orange line.

Nutrients: The current FDEP water quality rule on nutrient standards went into effect February 2016. As a result, Blues Creek has been above the Numeric Nutrient Criteria (NNC) threshold for total phosphorus (TP) and 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.

Blues Creek *E. coli* Concentration

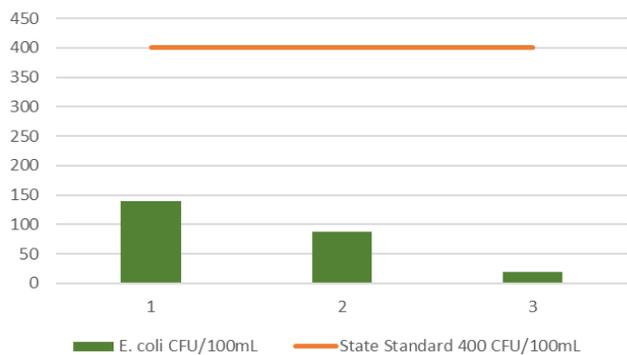


Figure 2. Annual geometric mean fecal coliform colony forming units (CFU)/100mL.

Bacteria: Blues Creek rarely exceeds the state standard for *E. coli* coliform of a single sample having no more than 400 colony forming units (CFU)/100 mL. Fecal Coliform bacteria are an indicator of the possible presence of pathogens. The source of this bacteria is most likely domestic and wild animals. Other potential sources are leaky sanitary line, sewer connections, and failing septic tanks. Decreased abundance in fecal coliform in 2013-2015 may be attributed to dilution from increased stream flow. Blues Creek is listed by FDEP to be impaired for fecal coliform.

Current Human Impacts

- Fertilizer from residential application.
- Possible leaky sewer lines and connections as well as failing septic tanks.
- The City of Gainesville’s Blues Creek Park and San Felasco Hammock State Park are preserved areas in Blues Creek watershed, yielding positive impacts on water quality.



Blues Creek at City of Gainesville’s San Felasco Park during high water levels.