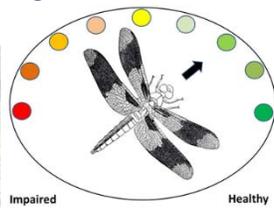


Waterbody: Chicken Branch



body degradation. Human stressors may include increased inputs of nutrients, sediments, and/or other contaminants from watershed runoff, 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 sampling was conducted to determine the health of Chicken Branch and met the collection and analysis requirements of the Florida Department of Environmental Protection (FDEP).

Results

The nutrient thresholds and results are found in Table 1. According to FDEP requirements, Numeric Nutrient Criteria (expressed as an annual geometric mean) 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 from this station from 2006-2008, 2011-2012 and 2015. The State criteria were not exceeded for either parameter. While neither nitrogen nor phosphorus exceeded historic values in 2014, values were elevated when compared to 2013.

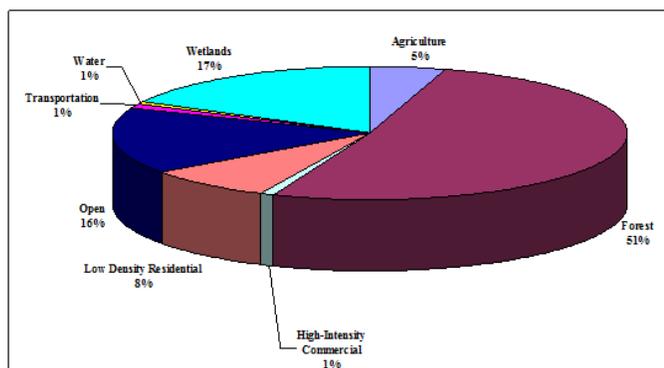
Table 1. FDEP's total nitrogen and phosphorus criteria for streams applied to Chicken Branch. The absence of data mean there was not enough data collected (due to lack of water) to fulfill data requirements.

Chicken Branch	Total Nitrogen Threshold 1.03 mg/L	Total Phosphorus Threshold 0.18 mg/L
2006- 2008	-	-
2009	0.15	0.04

Basin: St. Marks River

Chicken Branch is located in southeastern Leon County. The stream is partially fed by Chicken Branch Spring and flows southeast, eventually draining into the St. Marks River.

While the following pie chart shows the majority of the 5,054 acre watershed is relatively undeveloped, residential, commercial, agricultural, and transportation uses make up approximately 15% of the watershed. Increases in stormwater runoff and waterbody nutrient loads can often be attributed to these types of land uses.



Background

Healthy, well-balanced stream communities may be maintained with some level of human activity, but excessive human disturbance may result in water-

Chicken Branch	Total Nitrogen Threshold 1.03 mg/L	Total Phosphorus Threshold 0.18 mg/L
2010	0.43	0.05
2011- 2012	-	-
2013	0.27	0.03
2014	0.41	0.05
2015	-	-

Based on three sampling events in 2015, geometric means of total nitrogen (0.36 mg/L) and total phosphorus (0.08 mg/L) would meet the nutrient criteria.

Dissolved Oxygen

As Figure 1 shows, Chicken Branch did not always meet the Class III criteria for dissolved oxygen (DO). Low DO levels are typical of Florida spring-run streams and are considered normal for Chicken Branch.

Escherichia coli

Recently, *E. coli* standards supplanted fecal coliform standards in Florida as an indicator of bacterial contamination. The recently adopted *E. coli* water quality limit of > 126 in 10% of samples collected over a 30 day period was exceeded for the first and third quarters of 2015 (Figure 2). Since the watershed is relatively undeveloped, elevated coliform levels are probably the result of wildlife in the area.

Other Parameters

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

Conclusions

Based on ongoing sampling, Chicken Branch met the nutrient thresholds for the Panhandle East Region. Staff considers the low DO values at Chicken Branch a natural condition for spring fed systems. The recently adopted *E. coli* water quality limit of > 126 in 10% of samples collected over a 30 day period was exceeded for the first and third quarters of 2015. Since the watershed is relatively undeveloped, elevated coliform levels are probably the result of wildlife in the area. 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.LeonCountyFL.gov/WaterResources

[Click here to access the results for all water quality stations sampled in 2015.](#)

[Click here for map of watershed – Sample site 53.](#)

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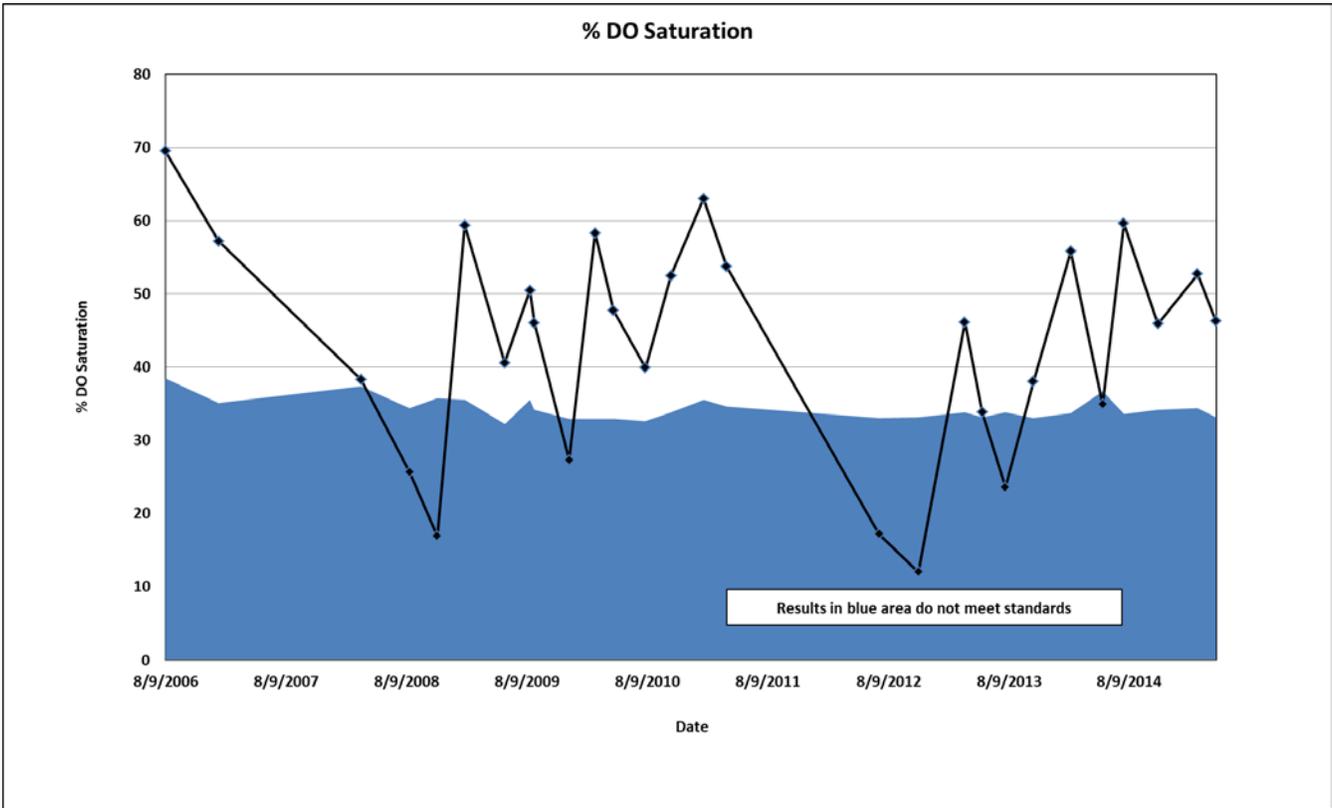


Figure 1. Dissolved Oxygen Percent Saturation results for Chicken Branch.

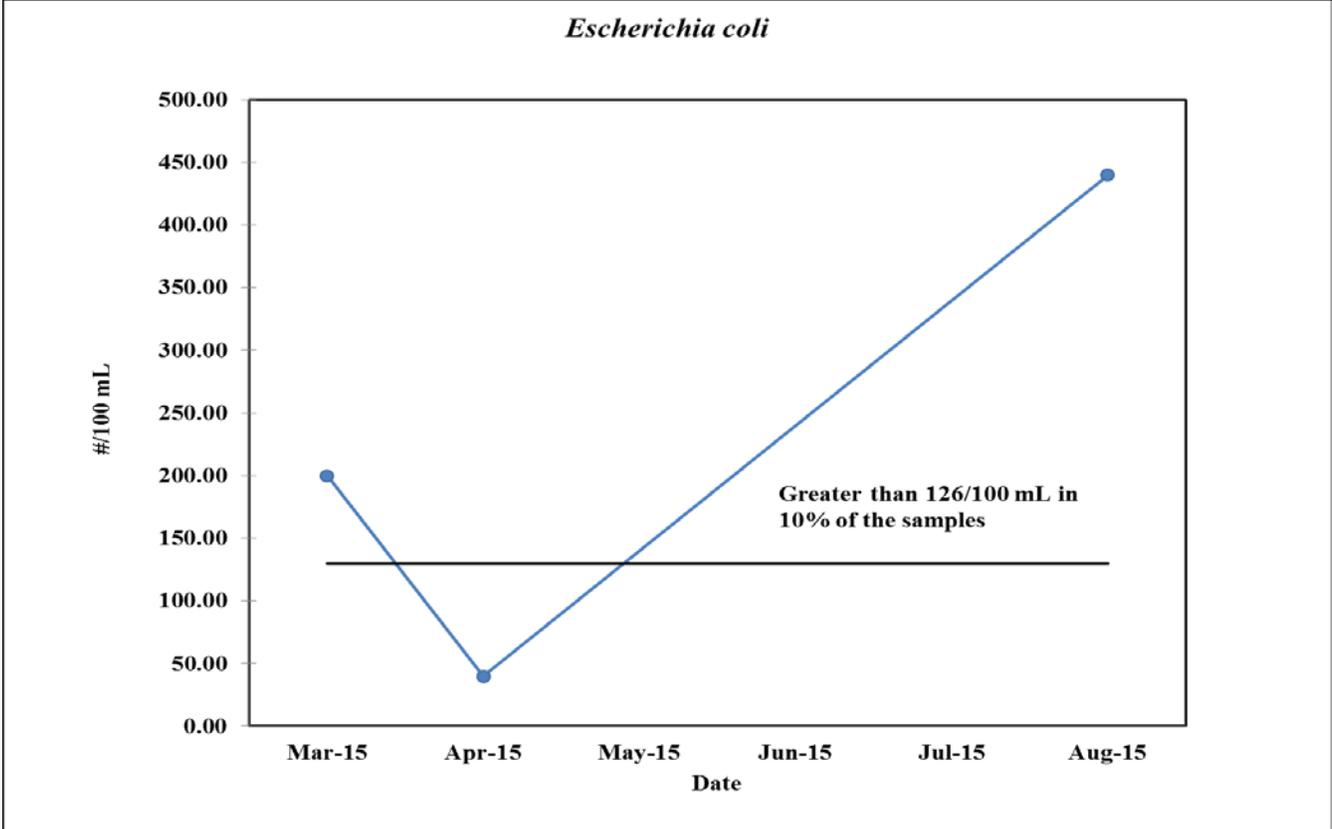


Figure 2. *Escherichia coli* results for Chicken Branch.