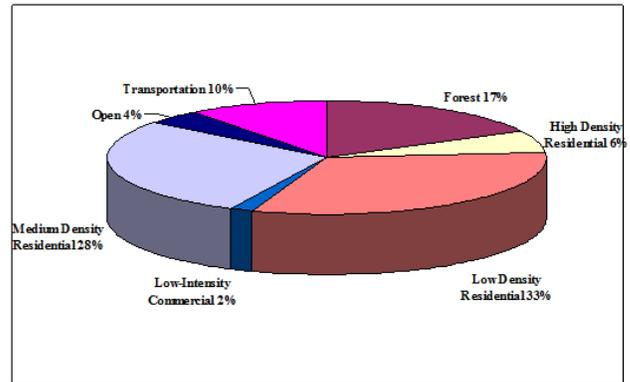


Waterbody: Jackson Heights Creek



Basin: Lake Jackson

Jackson Heights Creek is a heavily altered stream located off of Hwy 27 in northern Leon County. The stream receives runoff from the Parkhill and Greenwood Hills subdivisions, and then continues north through Lake Jackson Heights and Harbinwood subdivisions before finally entering Lake Jackson. This watershed, with residential development dating from the 1950's, displays impacts from channelized flow and aging septic tanks. Sampling was intermittent from February 2007 through October 2008, due to low flow conditions and stormwater facility construction in the channel. The stormwater facility was constructed to mitigate development impacts and to benefit both the creek and Lake Jackson.

As shown in the following pie chart, residential, commercial, and transportation land uses make up approximately 79% of the 445 acre 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 waterbody 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.

In late 2006, the U.S. Environmental Protection Agency (USEPA) set a TMDL target for total phosphorus of 0.15 mg/L, a 35% reduction of the previous existing concentration of 0.23 mg/L.

Methods

Surface water samples were collected to determine the health of Jackson Heights Creek and meet the requirements of the Florida Department of Environmental Protection (FDEP). Due to low water conditions, several stations were dry or "puddled" during the sampling period. When viewing tables and figures, the absence of data mean there was not enough data collected to fulfill data requirements.

Results

Nutrients

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. Thresholds were never exceeded during the period of record.

Table1. FDEP’s total nitrogen and phosphorus criteria for streams applied to Jackson Heights Creek. Due to low water levels, the numeric nutrient criteria data requirements could not be calculated for years 2011 and 2012.

| Jackson Heights Creek | Total Nitrogen Threshold 1.03 mg/L | Total Phosphorus Threshold 0.18 mg/L |
|-----------------------|------------------------------------|--------------------------------------|
| 2009 | 0.38 | 0.09 |
| 2010 | 0.56 | 0.12 |
| 2011- 2012 | - | - |
| 2013 | 0.30 | 0.08 |

Phosphorus

As mentioned previously, USEPA set a TMDL target for total phosphorus of 0.15 mg/L, a 35% reduction of the previous existing concentration of 0.23 mg/L. During the 2006-2013 sampling period, total phosphorus concentrations ranged from 0.036 mg/L to 0.29 mg/L (Figure 1), with an average of 0.12 mg/L. It appears that the stormwater facility constructed upstream has resulted in lower phosphorus levels in Jackson Heights Creek leading to lower levels in the receiving water, Lake Jackson.

Dissolved Oxygen (DO)

While past results showed Jackson Heights not meeting FDEP’s DO criteria, the criteria was met in 2013 (Figure 2).

Fecal coliforms

Fecal coliforms exceeded FDEP’s 800/100 mL limit during the December 2013 sampling event (829/100mL).

Other Parameters

Several species of exotic plants line the bank of Jackson Heights Creek, primarily *Colocasia* sp. (taro). In many cases, exotic plants will crowd out and replace native plants. This may stress native wildlife, which have evolved to depend on native plants for food and shelter. The native wildlife may move away or perish if the native vegetation is replaced by exotic plants.

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

Conclusions

Based on ongoing sampling, Jackson Heights Creek met the nutrient thresholds for the East Panhandle Region and it appears that phosphorus levels are lower due to the recently constructed upstream stormwater facility. Fecal coliforms exceeded FDEP’s 800/100 mL limit during the December 2013 sampling event. Several species of exotic plants line the bank of Jackson Heights Creek which may affect native wildlife dependent on native plants for food and shelter. 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.LeonCountyFL.gov/WaterResources

[Click here to access the results for all water quality stations sampled in 2013.](#)

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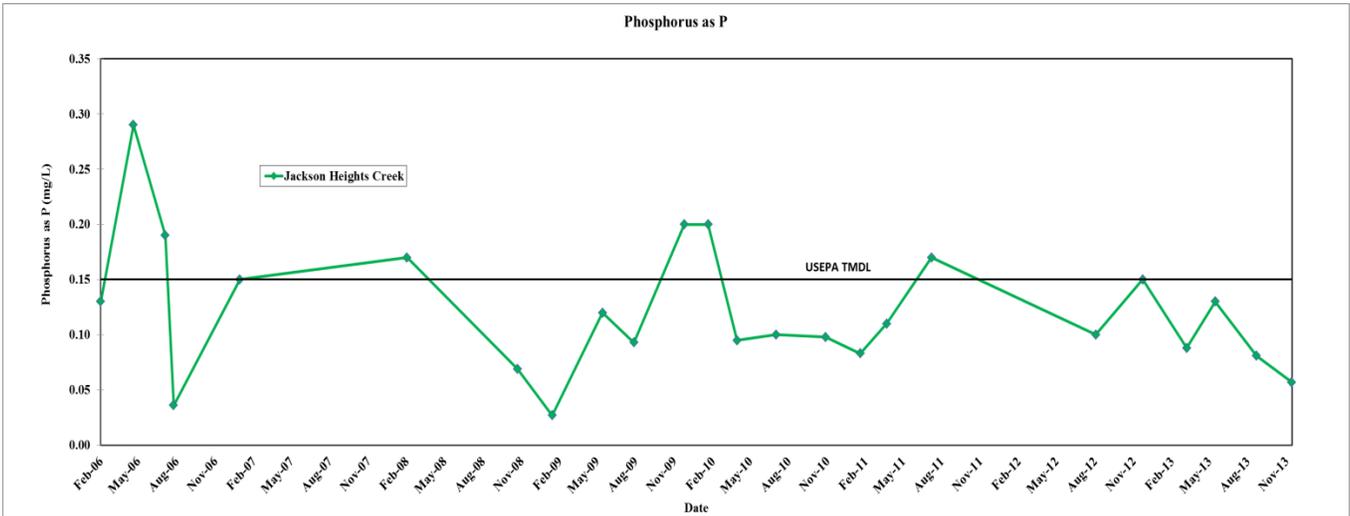


Figure 1. Total phosphorus results for Jackson Heights Creek.

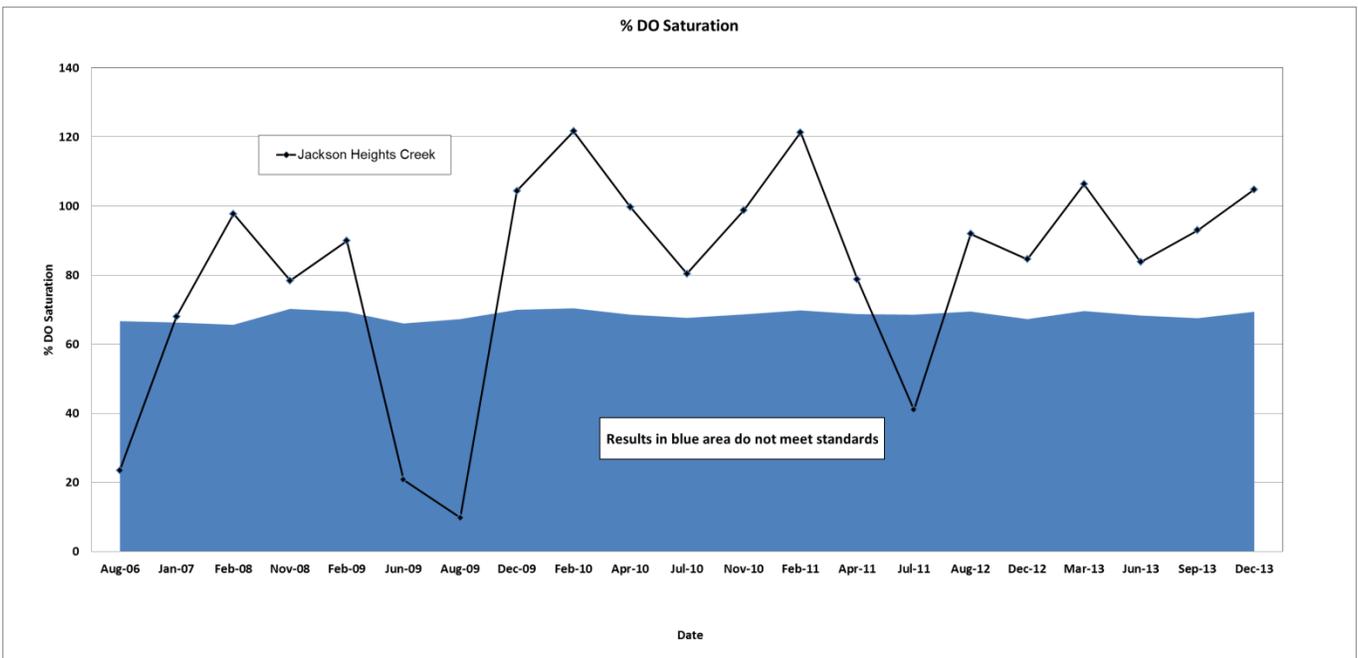


Figure 2. Dissolved Oxygen Percent Saturation results for Jackson Heights Creek.