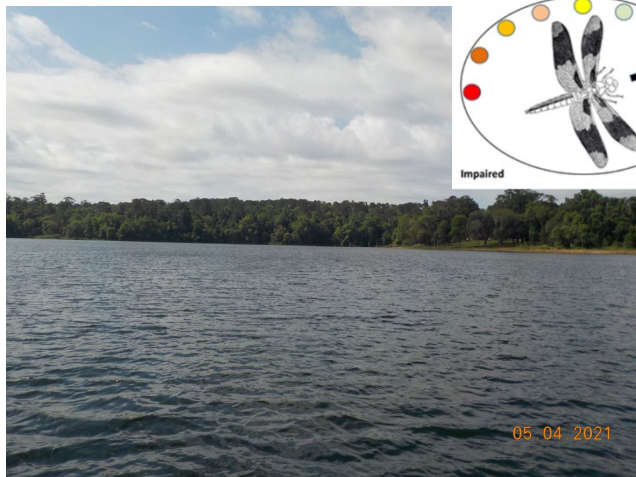


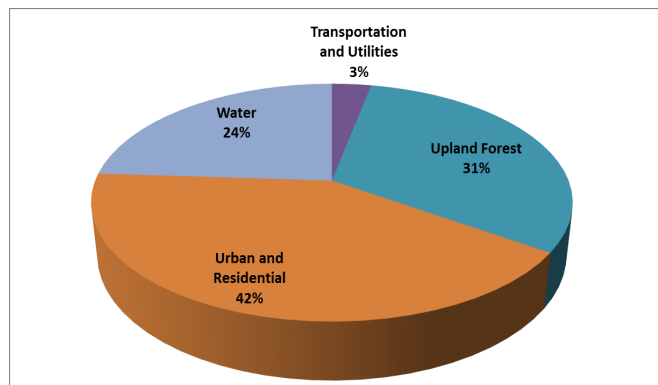
Waterbody: Lake Hall



Basin: Lake Jackson

Lake Hall is an approximately 182-acre lake located in northern Leon County, just north of Interstate 10 and slightly west of U.S. Highway 319. Lake Hall is part of the Alfred B. Maclay Gardens State Park, a state recreation area and botanical garden, and is an “Outstanding Florida Waters” by the Florida Department of Environmental Protection (FDEP).

As shown in the figure below, approximately 45% of land uses in the 773-acre Lake Hall watershed are transportation, utilities, urban and residential. Increases in stormwater runoff and waterbody nutrient loads can often be attributed to these types of land uses.



Background

Healthy, well-balanced lake 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.

Methods

Surface water sampling, sediment sampling and a Lake Vegetation Index (LVI) survey was conducted to determine the health of Lake Hall and met the collection and analysis requirements of the FDEP.

Results

The nutrient thresholds and results are found in Table 1. According to FDEP requirements, Numeric Nutrient Criteria thresholds (expressed as an annual geometric mean) cannot be exceeded more than once in a three-year period. The State criteria were not exceeded during the period of record.

FDEP requires four temporally independent samples per year to be collected to fulfill data requirements for the Numeric Nutrient Criteria (NNC) thresholds. Due to access restrictions associated with the COVID-19 pandemic, staff could not access the lake during the 2nd quarter of 2020 and thus could not determine the NNC for 2020. However, based on three results, the geometric means of chlorophyll-a (3.1 µg/), total nitrogen (0.27 mg/L) and total phosphorus (0.01 mg/L) would appear to meet the NNC.

Table 1. FDEP's chlorophyll-a, total nitrogen and phosphorus criteria for lakes applied to Lake Hall.

| Clear Lake, Low Alkalinity | Chlorophyll-a 6.0 µg/L | Total Nitrogen Threshold 0.51-0.93 mg/L | Total Phosphorus Threshold 0.01-0.03 mg/L |
|----------------------------|---------------------------|--|--|
| 2004 | 2.1 | 0.13 | 0.01 |
| 2005 | 1.4 | 0.22 | 0.01 |
| 2006 | 1.3 | 0.22 | 0.01 |
| 2007 | 1.5 | 0.42 | 0.01 |
| 2008 | 2.2 | 0.33 | 0.00 |
| 2009 | 1.8 | 0.43 | 0.00 |
| 2010 | 2.2 | 0.33 | 0.01 |
| 2011 | 1.3 | 0.41 | 0.01 |
| 2012 | 1.4 | 0.34 | 0.01 |
| 2013 | 3.0 | 0.15 | 0.01 |
| 2014 | 1.6 | 0.26 | 0.01 |
| 2015 | 3.3 | 0.26 | 0.02 |
| 2016 | 4.1 | 0.32 | 0.01 |
| 2017 | 2.9 | 0.32 | 0.01 |
| 2018 | 3.6 | 0.31 | 0.01 |
| 2019 | 3.2 | 0.26 | 0.01 |
| 2020 | - | - | - |
| 2021 | 1.3 | 0.30 | 0.01 |

Other parameters

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

Floral Assessment

The Lake Vegetation Index (LVI) score for Lake Hall was 79, placing the lake's vegetative community at the low end of the Excellent category.

Thirty-five species were found during the survey. The native species, fanwort (*Cabomba caroliniana*), and watershield (*Brasenia schreberi*) were the most dominant species in the lake. Other native vegetation included red maple (*Acer rubrum*) and buttonbush (*Cephalanthus occidentalis*).

Unfortunately, hydrilla (*Hydrilla verticillata*) a Category I Invasive Exotic was found in Lake Hall. No other exotic plants were noted during this survey.

For more information concerning Florida Invasive Exotics, please click on the Florida Exotic Pest Control Council website; <http://www.fleppc.org/>.

[Click here for more information on the Lake Hall LVI.](#)

[Click here for more information on common exotic and invasive plants in Leon County wetlands and waterbodies.](#)

Conclusions

Based on ongoing sampling, Lake Hall met the nutrient thresholds for the Eastern Panhandle Region and the floral community is considered "Excellent" by the LVI. Other water quality parameters appeared to be normal for the area and no 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.LeonCountyWater.org

[Click here to access the results for all water quality stations sampled in 2021.](#)

[Click here for a map of the watershed – Sample Site H07.](#)

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