

# The Lake Alice Conservation Area at the University of Florida

The Lake Alice Conservation Area is the largest on the UF main campus, at approximately 129.5 acres. Lake Alice is named after the daughter of the farmer that owned the land at the turn of the century. It is currently an 82 acre open water/marsh system that receives inputs from stormwater runoff, inter-storm discharges, irrigation water, and direct rainfall. In the early 1900s Lake Alice was only 2.5 acres, but has increased in size due to greater amounts of water entering the lake and the damming of natural drainage outlets. This Conservation Area has the most significant and diverse environmental resources on the main campus because of its size, mix of community types, and undeveloped shoreline buffer. It is home to a variety of wading birds, fish, invertebrates, native plants, and, of course, alligators.

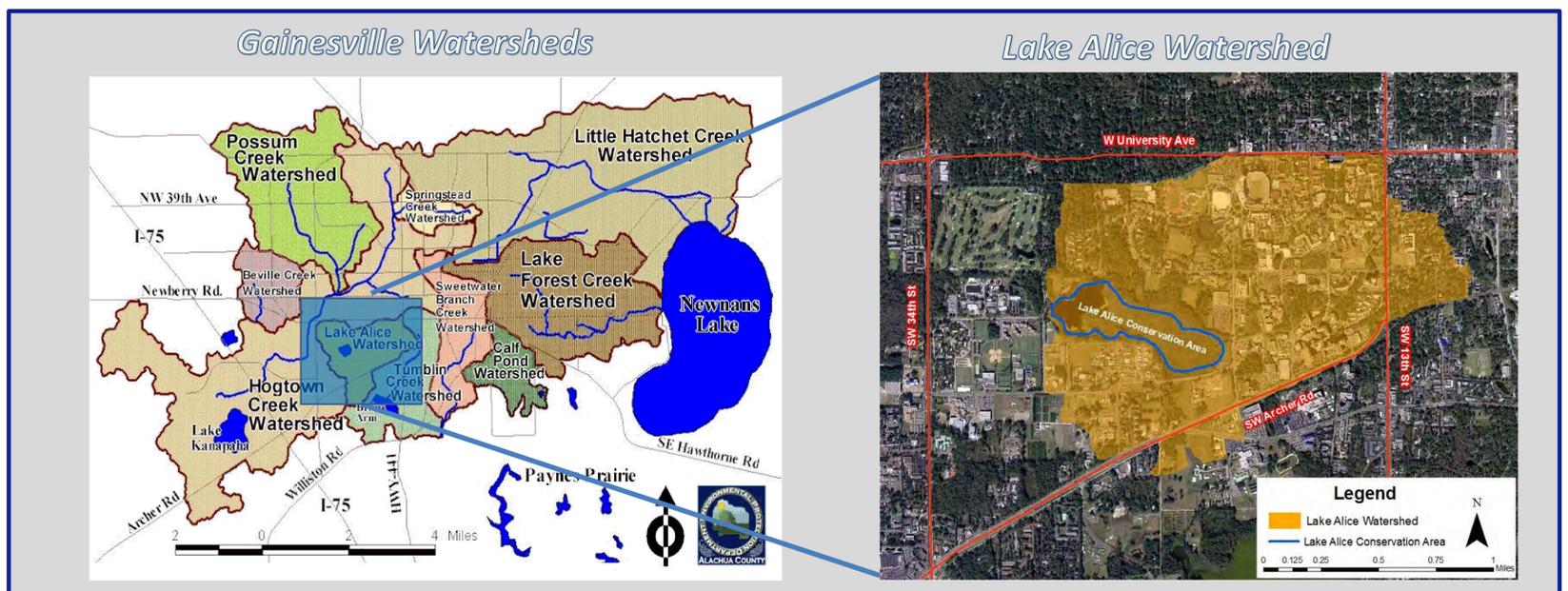


Photo by Casey Schmidt

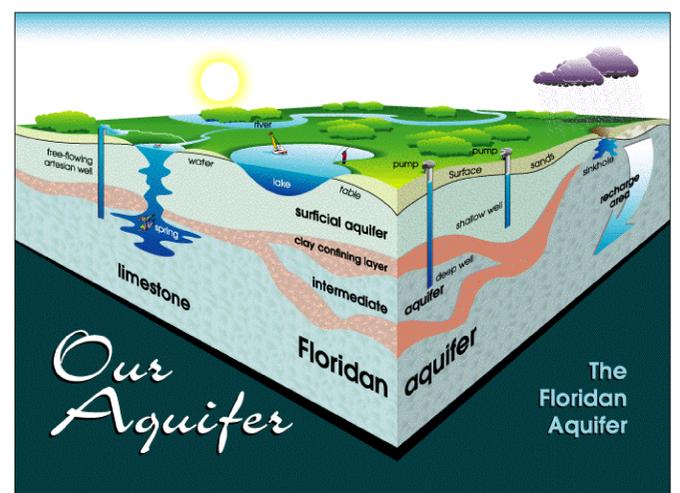


## The Lake Alice Watershed

The Lake Alice watershed (1,140 acres) covers more than 60 % of the 1,827 acre UF main campus. Portions of campus drain to other watersheds – Hogtown Creek and Bivens Arm. There are several depressional basins that have no surface water outlet and drain directly to the aquifer. The Lake Alice watershed is a closed basin, which means that water that enters the lake can only leave the basin through evaporation, transpiration, or infiltration to groundwater.



About 40 % of the watershed is covered by impervious surfaces i.e., roads, buildings, parking spaces, and other hard surfaces. Runoff from these impervious surfaces is conveyed through a series of culverts, storm drains, creeks, and ponds directly into Lake Alice. Because of the increased volume of water that drains into Lake Alice from impervious surfaces during periods of high rainfall, a drainage well was installed in Lake Alice to control flooding. A second drainage well receives water on a more regular basis and helps to stabilize lake levels. Water entering these wells flows directly into the surficial Floridan aquifer.



**Fact:** The Floridan aquifer is the principal source of water supply in most of north and central Florida, including Gainesville.

Did you know the Lake Alice Conservation Area is home to over 75 plant species and over 60 animals? For a complete list and information on the current management plan for Lake Alice, visit

[http://www.facilities.ufl.edu/cp/clmp/clmp\\_plans.htm](http://www.facilities.ufl.edu/cp/clmp/clmp_plans.htm)

# University of Florida Clean Water Campaign

In 2003, a collection of faculty, students, and staff started the UF Clean Water Campaign to educate the UF community and raise awareness about stormwater and water quality issues on campus. The Campaign was started in support of a National Pollutant Discharge Elimination System (NPDES) Phase II permit obtained by the University in 2003. The NPDES Phase II program was implemented by the EPA in 1999 to help identify, manage, and prevent non-point source water pollution from municipalities and communities nationwide.



**Over 75 storm drains on campus have been marked with the Clean Water Campaign logo (as seen above).**

If you see this logo, stop to think about how your actions may be affecting campus water quality.

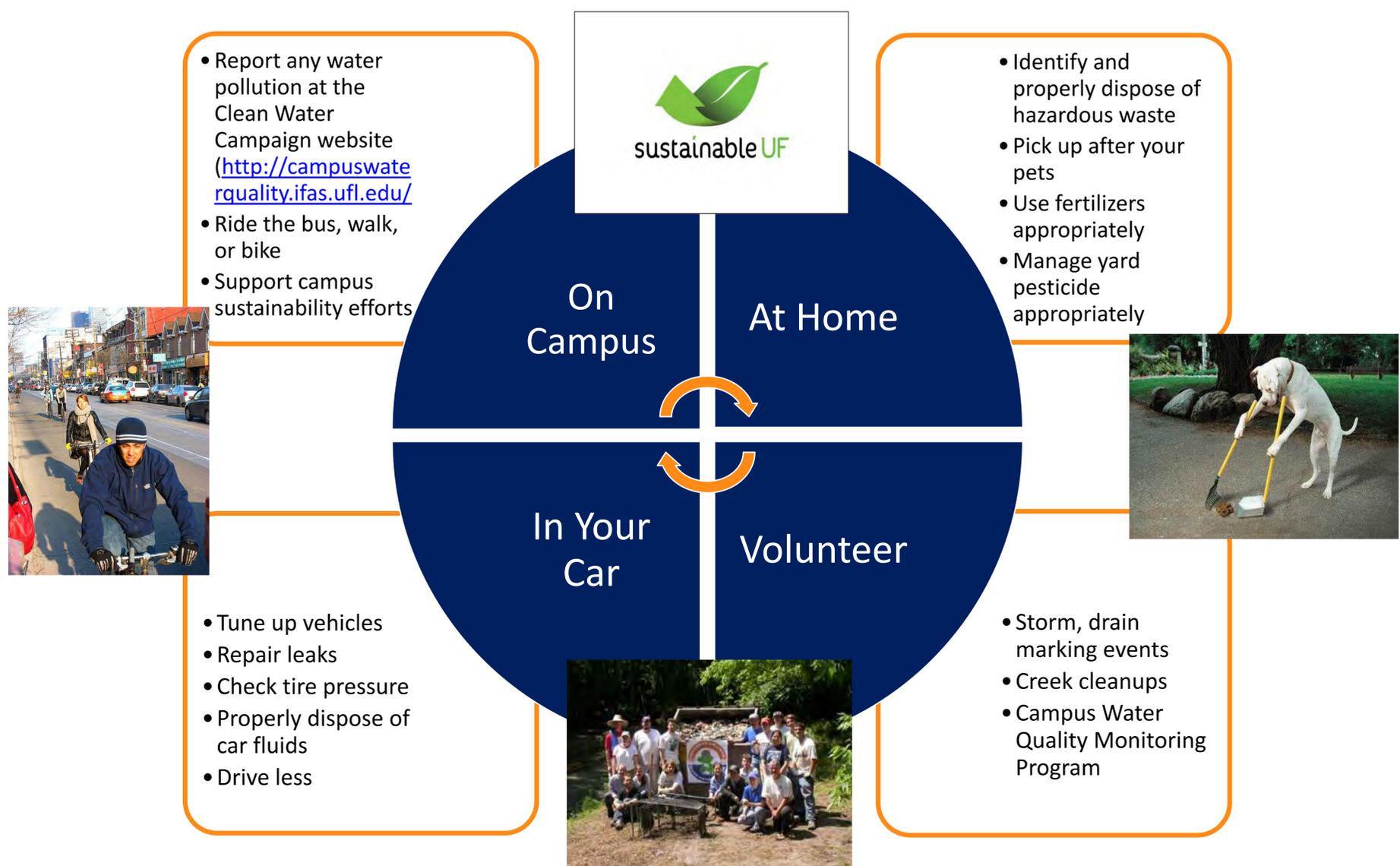


## Survey Results

A recent Clean Water Campaign survey of UF students, faculty, and staff indicated that 90% of respondents value Lake Alice because of its aesthetic values and beauty and that 70% use it for wildlife viewing. The survey also showed that respondents knew very little about Lake Alice, but want it protected from pollution.

The UF Clean Water Campaign is raising awareness about simple behaviors that can prevent stormwater pollution. For example, there are over **23,000 parking spaces on campus**, most of which are used at least once a day. A recent survey done by the Clean Water Campaign indicated that 10% of vehicles may be leaking engine fluids. This equates to over 2,300 vehicles every day adding hydrocarbons, heavy metals and other potential contaminants to road and parking surfaces that are prone to runoff during a rain event. **Just checking your car once or twice a week for any fluid leaks and getting regular tune-ups can reduce stormwater pollution.**

## What you can do to help



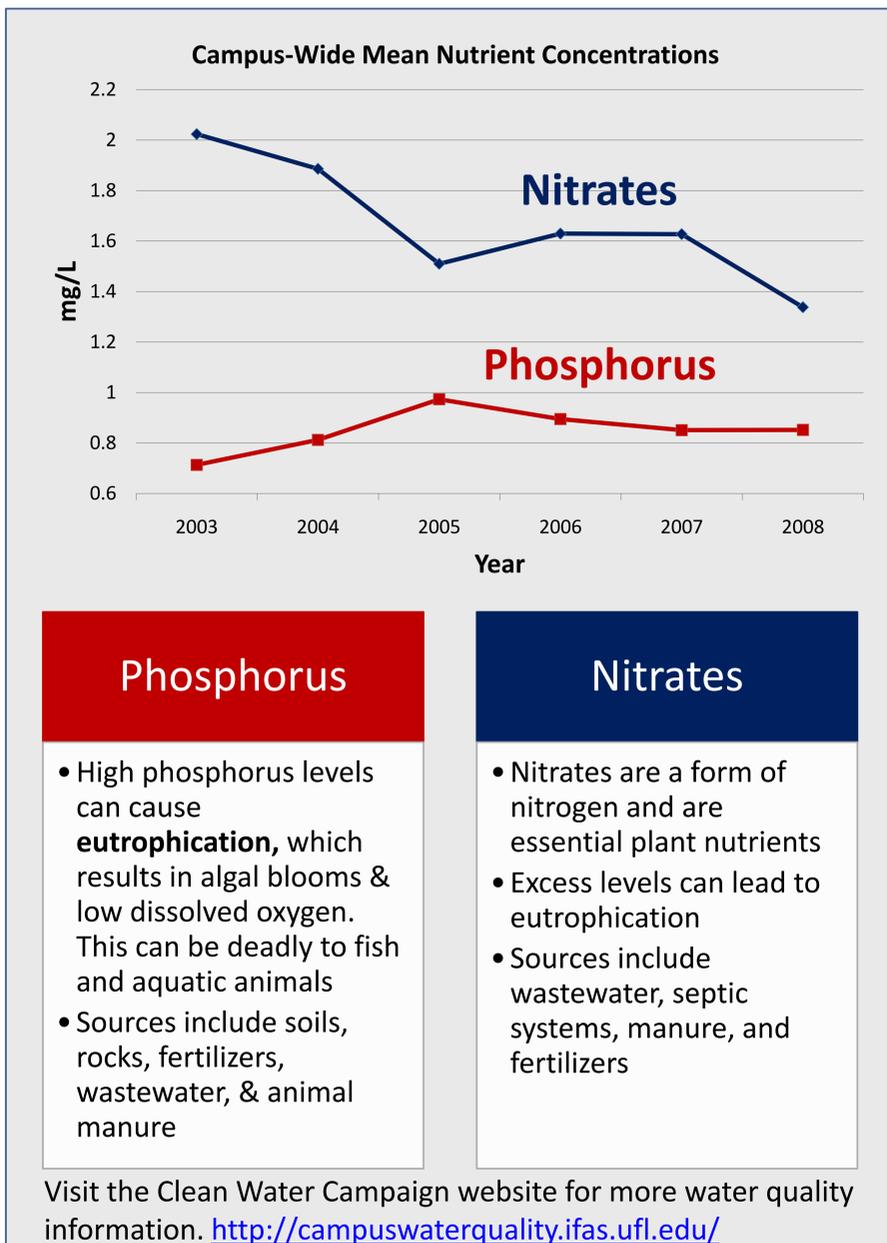
## For more information

Visit the Clean Water Campaign website at <http://campuswaterquality.ifas.ufl.edu/>

# University of Florida Campus Water Quality Monitoring Program

The campus water quality monitoring program was started in 2003. 20 locations on the UF main campus are monitored for 6 physical parameters – temperature, pH, dissolved oxygen, TDS, TSS, conductivity – and 6 chemical parameters – nitrates, ammonium, total kjeldahl nitrogen, total nitrogen, total phosphorus, and soluble reactive phosphorus (SRP).

Data from the monitoring program indicate that Lake Alice has higher nitrogen and phosphorus levels than comparable waterbodies, such as Bivens Arm. An analysis of 5 years of data shows that nitrate levels are decreasing slightly at most of the sampling locations, while phosphorus levels are increasing.



*These gnarly looking things are cypress roots or "knees". Their exact function is unknown.*



## Wetlands and Water Quality

Wetlands are not only among the **most biologically productive ecosystems** on Earth, but they are also the world's best filters. They have been called the "kidneys of the watershed" because of their ability to break down pollutants and improve water quality.

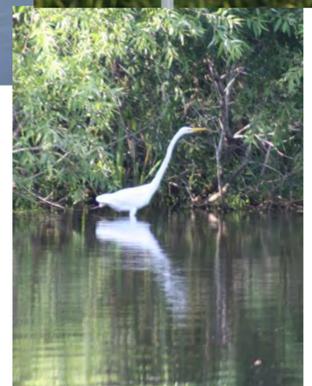
## Functions and Values of Wetlands



**Floodwater Storage:** Lake Alice functions as a sponge, storing stormwater from campus and preventing flooding.



**Wildlife Habitat:** Lake Alice provides a myriad of habitats for numerous species of fish and wildlife, such as this turtle, alligator, and great egret.



**Groundwater Recharge:** Many wetlands are important in recharging groundwater. When water levels are high in Lake Alice, water flows into a drainage well and eventually into the Floridan aquifer.



Did you know that Best Management Practices (BMPs) are being implemented throughout campus to improve water quality? For more info on BMPs, visit the UF Clean Water Campaign Website at <http://campuswaterquality.ifas.ufl.edu/>