



University of Florida Conservation Areas Land Management Plan
University Park Arboretum

Introduction

W.A. and Catherine Shands donated 2.4 acres, at the corner of University Avenue and N.W. 23 Avenue, to the University of Florida in 1950 to be utilized as an Arboretum. Since named the University Park Arboretum, the property was classified as a Conservation land use in the Comprehensive Campus Master Plan 1995 - 2005.

Due to its proximity to the stadium, the property has been used primarily as a parking (tailgating) area during football games and as a neighborhood and campus natural area. In 2003, the University in conjunction with the local neighborhood association joined forces to begin implementation of the Shands family's wishes to turn the property into a true Arboretum. Current plans include tree planting with identification markers, on-site stormwater improvements, invasive plant removal, and fencing.

Natural Areas Inventory

Water Resources

The Arboretum is bisected by Elizabeth Creek, which flows for approximately 300 ft on the property. This creek is a tributary of Hogtown Creek, the primary drainage feature for most of the older portions of Gainesville. As with many of the creeks in the Gainesville area, Hogtown and Elizabeth Creeks are seepage streams that receive almost constant flow from the surficial aquifer. Seepage streams are common in stream to sink watersheds, where streams cut through sands and clays and then empty into sinkholes that recharge the aquifer. Hogtown creek drains into Sargarfoot Prairie and Haile Sink, a wetland sink where eventually most of Gainesville's stormwater recharges the Floridan aquifer. During rainfall events these creeks are augmented by sheet flow and stormwater, which is when major stream bank erosion and sedimentation occurs.

In 1998 Hogtown Creek was placed on the EPA's 303(d) List for nutrients, however Elizabeth Creek itself was not a listed segment. The portion of Elizabeth Creek on the University of Florida property collects stormwater from University Avenue (SR 26) via two main culverts as well as sheet flow from adjacent neighborhoods and roads. Much of the Hogtown Creek watershed, which includes portions of the University of Florida campus and downtown Gainesville, was developed before modern stormwater rules were in place and little forethought was given to the impacts of development and its consequences on stream systems (City of Gainesville Report, 2003). The results of previous development and increased impervious surfaces has resulted in downstream erosion of sediments due to high water velocities from water running off of pavement and roofs as opposed to natural / agricultural areas that retain and percolate rainfall. The resulting erosion in the streams has led to large amounts of sedimentation in the low slope, flatter, areas, which has in turn raised the floodplain and led to flooding in areas that were not previously within the floodplain. Due to the resulting flooding issues, the City of Gainesville has been conducting more detailed watershed analysis within the Hogtown basin, looking for opportunities to capture more rainfall before it impacts the streams.

Elizabeth Creek's banks are fairly eroded, due to the lack of upstream stormwater retention, which would help treat the water coming off of impervious surfaces like University Avenue and reduce sedimentation and velocity during storm events. Currently, there is a lack of water quality

measurements available for this portion of the Creek, however the University's Wetlands Club intends to start a monitoring program in the near future.



Elizabeth Creek at the University Arboretum

Natural Communities

The University Park Arboretum is a 2.4-acre area comprised primarily of a mesic / upland-mixed hardwood forest with a small area of bottomland forest running through it. Due to the relatively small size of the property, biodiversity is limited by substantial edge effects. Additionally, the site is impacted by sewer and transportation easements, un-improved parking, non-native invasive plant species, resulting in both the over and under story lacking the biodiversity common in such systems. In larger, less strenuous conditions mesic forests typically support significant wildlife and plant diversity, which result from the nutrient rich nature of hardwood forests and flowering and fruiting plants. Since these systems are mature hardwood dominated, future management of this Conservation Area will be focused on invasive plant removal and replanting of specimen trees.

Plant Species

The tree canopy of the Arboretum is made up of hackberry, laurel cherry, water oak, cabbage palm, winged elm, black cherry, pignut hickory, southern magnolia, sweetgum, Florida maple, red maple, devil's walking stick, redbud, eastern hophornbeam, loblolly pine, live oak, and swamp chestnut oak.

Invasive – Non-Native Plant Species

Elizabeth Creek and surrounding residential neighborhoods have been the source for invasive, non-native plants, of which University staff have documented the following list on site: Cat-Claw Vine, Scratchthroat, Air Potato, Elephant Ear, White-flowered, wandering Jew, camphor tree, Chinese privet, Japanese privet, Glossy privet.

Animal Species

Since the Arboretum is surrounded by residential land uses and is relatively small in size, terrestrial usage by mammals is limited to cats, dogs, raccoons, gray squirrels and armadillos. Other animals typically found in mesic hardwood systems, but which have not been documented on the property, include: slimy salamander, Cope's gray treefrog, bronze frog, box turtle, eastern glass lizard, green anole, broadhead skink, ground skink, red-bellied snake, gray rat snake, rough green snake, coral snake, woodcock, barred owl, pileated woodpecker, shrews, eastern mole, wood rat, cotton mouse, gray fox, and white-tailed deer. At present, an inventory on mammals, herps, and birds has not been completed for this area.



Tree Canopy at the University Arboretum

Soils Inventory

In general, Mesic upland mixed hardwood forests occur on rolling hills that often have limestone or phosphatic rock near the surface and occasionally as outcrops. Soils are generally sandy-clays or clayey sands with substantial organic and often calcareous components. The topography and clayey soils increase surface water runoff, although this is counterbalanced by the moisture retention properties of clays and by the often thick layer of leaf mulch which helps conserve soil moisture and create decidedly mesic conditions (FNAI).

The following soil information for on-site soils was gathered from Soil Survey of Alachua County (1985).

Arredondo Fine Sand (0-5% slope)

This nearly level to gently sloping, well-drained soil is in both small and large areas of uplands. Slopes are smooth to complex. Typically, the surface layer is dark grayish brown fine sand about 8 inches thick. The subsurface layer is fine sand to a depth of 49 inches.

Blichton Sand (0-5% slope)

This gently sloping, poorly drained soil is on gently rolling uplands. Slopes are slightly convex. The areas are mostly irregular in shape and elongated and range from 10 to 40 acres. Typically, the surface layer is dark brown sand about 6 inches thick.

Millhopper Sand (0-5% slope)

This nearly level to gently sloping, moderately well drained soil is in small and large irregularly shaped areas on uplands and slightly rolling knolls in the broad flatwoods. Typically, the surface layer is dark grayish brown sand about 9 inches thick. The subsurface layer is sand or fine sand about 49 inches thick.

Cultural and Passive Recreational Resources

As previously stated, the University Park Arboretum is located just north of University Avenue, on the corner of NW 23rd Street. It's proximity to sporting facilities, like Ben Hill Griffin Stadium, the O'Connell Center, and Perry Field has made the University Arboretum a desirable location for game day parking. Additionally, the site has been used for overflow visitor parking, and in some cases, as a staging area for public works construction projects. Finally, the Arboretum has also served as a pocket park and natural area for nearby residents.

During game days infrastructure such as portable restrooms and dumpsters have been placed on site. The combination of automotive parking and temporary infrastructure has compacted the soils and the quality of the forested area. Undesignated footpaths in the area lead back to the wooded portion of the property. Several exposed sewer mains transverse the wooded portion of the property. Trash not collected by Physical Plant Division after game days ends up in Elizabeth Creek, which gives this property an appearance of abandonment.

There are no known archeological sites within this conservation area.

Future Improvements

University Park Arboretum serves as a Nature Park for area residents, faculty, students and staff. In 2003, the NW 23rd Street Neighborhood Association began a dialogue with the University of Florida to encourage a shift in perception of the cultural and natural resources at the University Park Arboretum. Subsequent partnerships with neighborhood residents have helped to realize many improvements to the site. Additional recommendations for this area include: fencing to keep people from parking (completed in the fall of 2004), planting of specimen trees (ongoing) and stormwater improvements like rain gardens (to treat untreated run-off originating from NW 23rd Street and DOT outfall along University Avenue). In 2004, the City of Gainesville, in cooperation with the University, installed curb and gutter to address some of the sheet flow erosion issues associated with a tributary to the main creek. Additionally, habitat enhancements like bird and bat boxes and wildlife friendly plantings, along with the control of invasive plants in and adjacent to the creek are recommended.

Maps on the following pages:

1. Aerial Photo
2. Water Resources

3. Natural Communities
4. Soils