



University of Florida Conservation Area Land Management Plan  
**Graham Woods**

## **Introduction**

Graham Woods Conservation Area is 7.5 acres of forested hardwoods that lie east of Flavet Field (Bandshell) and north of Graham Hall. The unnamed creek that runs through these woods drains into Graham Pond through culverts under Graham Hall. The woods are dominated by an upland mixed hardwood forest that grades down to a bottomland / floodplain swamp stream valley, which has been created by a deeply incised creek / ravine that runs southeasterly through the Conservation Area. The primary human use of the woods is as a short-cut between Flavet Field and the main campus. The steep slopes of the ravine and the wetland composition of the bottomland forest limit the development potential of these woods for future building sites. The 2000 – 2010 Campus Master Plan identified Graham Woods as Preservation Area 14.

## **Natural Areas Inventory**

### **Water Resources**

Graham Woods contains a permanent stream that runs southwesterly toward Graham Pond and ultimately empties into Lake Alice. Upstream areas that drain into this creek and pond include the sports complex of Perry Field, O'Connell Center, Beard Track and associated athletic fields, along with three on-campus living facilities Tolbert, Weaver, and Keys. Like most other creek systems on campus, this creek's base flow is a mix of both stormwater runoff and natural surficial aquifer seepage. The banks of the creek are deeply incised by years of down-cutting from stormwater coming off of impervious surfaces. Graham Woods has over 15 stormwater culverts and / or concrete swales poring untreated stormwater into it from three sides.

As with most creeks within campus, this creek and pond system would benefit greatly from upstream stormwater improvements. Unfortunately, there does not appear to be many areas within the woods that are readily available to place retention, due to the steep banks and surrounding development. Long-term solutions will have to come from picking up stormwater offsite, which given the heavy development of neighboring upstream areas, will not be easily accomplished. However, Graham Pond should be studied as a potential stormwater enhancement site where a Stormwater Ecological Enhancement Project (SEEP) similar to the one constructed adjacent to the Natural Areas Teaching Lab may be appropriate. The concept behind a SEEP type retention pond, that sets it apart from traditional wet retention, is that it also is meant to serve as wildlife habitat. Thus, all elements of design look at maximizing habitat values, pollutant uptake and water storage.

According to surveying completed by Casseau and Ellington, Graham Woods contains approximately 4 acres of forested wetland and 3 acres of floodplain. These two areas overlap within the woods, occurring in the creek basin where it flattens out before entering a culvert to Graham Pond. Concrete re-enforcements around this culvert, testify to the stream velocities that occur as water rushes downhill during major storm events.

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Graham Woods showing sedimentation build up

### Natural Communities

Graham Woods is comprised of a mix of upland mesic upland-mixed hardwood forest that grades into a bottomland hardwood / floodplain forest along the creek that runs through the property. Due to the topographic grades and limited porosity of underlying clays, some seepage likely occurs coming from neighboring upland areas. Thus, some small areas may be better described as seepage slope rather than as bottomland forest.

### Plant Species

The upland hardwood forest canopy is dominated by *Carpinus caroliniana* (American Hornbeam), *Carya glabra* (Pignut Hickory), *Liquidambar styraciflua* (Sweetgum), *Celtis laevigata* (Hackberry), *Ulmus alata* (Winged Elm) and *Pinus taeda* (Loblolly Pine). Also found here were *Juniperus virginiana* (Red Cedar), *Magnolia grandiflora* (Southern Magnolia), *Ostrya virginiana* (Eastern Hophornbeam), *Prunus caroliniana* (Carolina Laurelcherry), *Quercus hemisphaerica* (Upland Laurel Oak), *Tilia americana* var. *caroliniana* (Carolina basswood), *Quercus michauxii* (Basket Oak), *Quercus nigra* (Water Oak), *Quercus virginiana* (Live Oak) and *Sabal palmetto* (Cabbage Palm).

Low shrubs, vines, herbaceous plants and ferns encountered in the mesic hammock include *Ampelopsis arborea* (Peppervine), *Asimina parviflora* (Smallflower Pawpaw), *Bignonia capreolata* (Crossvine), *Callicarpa americana* (American Beautyberry), *Elephantopus carolinianus* (Carolina Elephantsfoot), *Erythrina herbacea* (Coralbean), *Euonymus americanus* (American Strawberrybush), *Matelea floridana* (Florida Milkvine), *Oplismenus hirtellus* (Woodsgrass), *Parthenocissus quinquefolia* (Virginia creeper), *Phytolacca americana* var. *rigida* (American Pokeweed), several *Smilax* (Greenbriar) species, *Stachys floridana* (Florida Betony), *Tillandsia usneoides* (Spanish moss), *Toxicodendron radicans* (Poison Ivy), *Vernonia gigantea* (Giant Ironweed), *Vitis aestivalis* (Summer Grape), *Vitis rotundifolia* (Muscadine Grape) *Woodwardia areolata* (Netted Chain Fern) and *Woodwardia virginiana* (Virginia Chain Fern).

The hydric bottomland forest bordering the creek is dominated by *Acer rubrum* (Red Maple), *Carpinus caroliniana* (American Hornbeam), *Liquidambar styraciflua* (Sweetgum), *Nyssa sylvatica* Marshall var. *biflora* (Swamp Tupelo), *Pinus taeda* (Loblolly Pine), and *Quercus*

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nigra (Water Oak), and Sabal palmetto (Cabbage Palm),). Also present are Celtis laevigata (Hackberry), Magnolia grandiflora (Southern Magnolia), Magnolia virginiana (Sweetbay), Quercus michauxii (Basket Oak), Salix caroliniana (Carolina Willow, in open areas) and Tilia americana var caroliniana (Carolina basswood). Low shrubs, vines, herbaceous plants and ferns found in this area include Ampelopsis areborea (Peppervine), Arisaema triphyllum (Jack in the Pulpit), Decumaria barbara (Climbing Hydrangea), Hydrocotyle umbellata (Manyflower Marshpennywort), Itea virginica (Virginia Willow), Myrica cerifera (Wax Myrtle), Sabal minor (Bluestem Palm, a characteristic floodplain species), Sambucus nigra subsp. canadensis (Elderberry, in open areas), Saururus cernuus (Lizard's Tail), Thelypteris kunthii (Widespread Maiden Fern), Toxicodendron radicans (Poison Ivy), Vitis rotundifolia (Muscadine Grape) and Woodwardia areolata (Netted Chain Fern).

In Graham Woods the following noteworthy species were observed: Arisaema triphyllum (Jack in the Pulpit, and uncommon species), Dioscorea floridana (Florida Yam, an uncommon species) and Matelea floridana (Florida Milkvine, endangered-FL).

### Invasive non-native plant species

Future management of the site will need to address invasive plant management. The vegetation in the north and northeastern edges of Graham Woods is most disrupted, with large populations of Hedera helix (English Ivy), Macfadyena unguis-cati (Catclaw Vine) and Tradescantia fluminensis (Small-leaf Spiderwort) covering the ground, climbing into the canopy, and dominating the vegetation. Dioscorea bulbifera (Air Potato) is common in open sunny areas in the wetter parts of the property. The following non-native species were also found on the property: Ardisia crenata (Scratchthroat, occasional), Cinnamomum camphora (Camphortree), Citrus x aurantium (Sour Orange), Colocasia esculenta (Wild Taro), Ehretia acuminata (Koda Wood, very common), Eriobotrya japonica (Loquat), Ipomoea cairica (Mile A Minute Vine), Lantana camara (Lantana), Ligustrum lucidum (Glossy Privet, common), Melia azedarach (Chinaberry Tree), Nephrolepis sp. (Swordfern) and Sapium sebiferum (Popcorn Tree).

### Animal Species

These woods are relatively small in size, which limits the amount of habitat for terrestrial species. The following list of animals has been documented on site. American Crow, American Goldfinch, American Redstart, American Robin, Baltimore Oriole, Black and White Warbler, Blue-Gray Gnatcatcher, Brown-headed cowbird, Blue Jay, Carolina Chickadee, Carolina Wren, Cedar Waxwing, Common Yellowthroat, Downy Woodpecker, Eastern Phoebe, Eastern Tufted Titmouse, Fish Crow, Great Crested Flycatcher, Gray Catbird, House Finch, House Wren, Mourning Dove, Northern Cardinal, Northern Mockingbird, Orange Crowned Warbler, Orchard Oriole, Pileated Woodpecker, Red-bellied Woodpecker, Ruby-crowned Kinglet, Red-eyed Vireo, Red-Shouldered Hawk, Yellow-bellied Sapsucker, Yellow-rumped Warbler, Brown Anole, Bronze Frog, Florida Box Turtle, Gray Squirrel, Black Rat, Raccoon, and Feral Cat.



Upland hardwood hammock.

#### Soils Inventory

In general, 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 the Soil Survey of Alachua County (1985).

#### 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.

#### 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.

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### Cultural and Recreational Resources

Graham Woods is primarily used as a short cut for people heading to and from Flavet Field (Band Shell), which is home to both recreational and musical activities. Although these woods are bisected with small-unmarked footpaths, the main access path is off Stadium Road across from Perry Field. This path follows the western edge south to Graham Hall, with a spur path veering west to Flavet Field. A known archeological site does exist on site.

### Future Improvements

Graham Woods is an area that should be considered as a hybrid between Nature Park and Nature Preserve. Areas around the edge on the south and western side appear appropriate for some Nature Park type of improvements, while the eastern side and interior should be largely off limits and, therefore, considered a Nature Preserve. Future improvements to Graham Woods that should be considered are placement of sitting areas along a more formalized loop trail that will encircle the property (on the eastern side this trail will be outside of the Conservation Area). This trail would create multiple short cuts opportunities, while helping to keep visitors out of dangerous and sensitive areas within the Conservation Area. Also, habitat enhancements like bird and bat boxes and wildlife friendly plantings should also be considered. Finally, as discussed in the water resources section, the stormwater drains that empty into northern portions of this Conservation Area are in need of repair. Potential solutions are being studied and will be forth-coming in the next edition of this plan.

### Actions Since 2005

Since 2005 the primary actions taken has been the placement of a conservation sign and some small efforts at controlling invasive exotic vegetation. Additionally, in 2009 a group of locally residing students volunteered to clean up trash in the area. Once additional funding is identified, the next project that should be taken within this area is the treatment of invasive exotic vegetation.

Maps on the following pages:

1. Aerial Photo
2. Water Resources
3. Natural Communities
4. Soils