



University of Florida Conservation Area Land Management Plan  
**Fraternity Wetland**

## **Introduction**

Fraternity Wetland is a 4.6 acre forested Conservation Area, located immediately behind (east and south) Fraternity Row and west of the Band Shell. This forest grades from a mixed hardwood forest into a narrow stream valley wetland. The steep slopes of the riparian corridor limit the development potential of these woods as both a future building site and as a more passive recreation park. Therefore, management of the site should to be focused on stormwater management and invasive plant removal, where appropriate. Public access and related improvements should be limited, due to the steep slopes and small size. The 2000 – 2010 Campus Master Plan identified Fraternity Wetland as Preservation Area 13.

## **Natural Areas Inventory**

### **Water Resources**

Fraternity Wetland is within the Lake Alice watershed and contains a permanent unnamed stream. At the north end of the woods, three stormwater culverts, along with a couple of hardscaped drainage swales, help to create the stream valley that runs the length of the Conservation Area. Additional flow is likely added by surficial aquifer seepage that flows downward and laterally from higher elevations.

While this creek does not show evidence of the steep side banking under cutting evidenced on other creeks elsewhere on campus, there is still some small under cutting that will likely increase as the upstream basin is further developed. Approximately the bottom quarter of the creek has been channelized with concrete pavers that stabilize the banks from further erosion. Upstream areas that are left unaddressed will eventually lead to more erosion and sedimentation in the stream. As with most of the watersheds on campus and in Gainesville, the solution to these problems will be primarily found in picking up stormwater before it enters the stream with small retention / detention basins throughout campus in both existing green space and in future building sites. Specific to this site, measures should be taken to treat water before it leaves adjacent fraternity parking lots with retention / detention put in place of the hardscaped swales now present.



Unnamed stream running through Fraternity Woods

## Natural Communities

Fraternity Wetland is comprised of an upland-mixed hardwood forest that grades into a bottomland hardwood along the creek that runs through the property. Due to the topographic grades, and limited porosity of underlying clays, some lateral seepage likely occurs from neighboring upland areas. Thus, some small areas may be better described as seepage slope rather than as bottomland forest. As with most sites on campus, these woods have been invaded by invasive exotics that are particularly prevalent along forested edges. A survey of flora and fauna for this Conservation Area is included below.

### Plant Species

The upland hardwood forest canopy is dominated by *Carpinus caroliniana* (American Hornbeam), *Carya glabra* (Pignut Hickory), *Liquidambar styraciflua* (Sweetgum), *Pinus taeda* (Loblolly Pine), *Quercus hemisphaerica* (Upland Laurel Oak), *Pinus elliotii* (Slash Pine), *Tilia americana* var *caroliniana* (Carolina basswood) and *Ulmus alata* (Winged Elm). Also found here are *Juniperus virginiana* (Red Cedar), *Magnolia grandiflora* (Southern Magnolia), *Ostrya virginiana* (Eastern Hophornbeam), *Prunus caroliniana* (Carolina Laurelcherry), *Quercus michauxii* (Basket Oak), *Quercus nigra* (Water Oak), *Quercus shumardii* (Shumard's Oak), *Quercus virginiana* (Live Oak) and *Sabal palmetto* (Cabbage Palm). Understory natives encountered in the mesic hammock include *Ampelopsis arborea* (Peppervine), *Aralia spinosa* (Devil's walkingstick), *Asimina parviflora* (Smallflower Pawpaw), *Bignonia capreolata* (Crossvine), *Callicarpa americana* (American Beautyberry), *Campsis radicans* (Trumpet Creeper), *Erythrina herbacea* (Coralbean), *Mitchella repens* (Partridgeberry), *Oplismenus hirtellus* (Woodsgrass), *Parthenocissus quinquefolia* (Virginia creeper), *Passiflora lutea* (Yellow Passionflower), *Phytolacca americana* var. *rigida* (American Pokeweed), *Pleopeltis polypodioides* (Resurrection Fern), several *Smilax* (Greenbriar) species, *Stachys floridana* (Florida Betony), *Symphotrichum dumosum* (Rice Button Aster), *Tillandsia recurvata* (Ballmoss), *Tillandsia usneoides* (Spanish moss), *Toxicodendron radicans* (Poison Ivy), *Vernonia gigantea* (Giant Ironweed), *Viola palmata* (Early Blue Violet), *Viola sororia* (Common Blue Violet), *Vitis aestivalis* (Summer Grape), *Vitis rotundifolia* (Muscadine Grape) *Woodwardia areolata* (Netted Chain Fern) and *Woodwardia virginiana* (Virginia Chain Fern).

The lowland hydric forest bordering the creek is dominated by *Acer rubrum* (Red Maple), *Celtis laevigata* (Hackberry), *Liquidambar styraciflua* (Sweetgum), *Pinus taeda* (Loblolly Pine), and *Quercus nigra* (Water Oak). Also present are *Magnolia virginiana* (Sweetbay), *Quercus michauxii* (Basket Oak), *Sabal palmetto* (Cabbage Palm), *Salix caroliniana* (Carolina Willow, in open areas) and *Tilia americana* var *caroliniana* (Carolina basswood). Low shrubs, vines, herbaceous plants and ferns found in and near the stream include *Ampelopsis arborea* (Peppervine), *Arisaema triphyllum* (Jack in the Pulpit), *Decumaria barbara* (Climbing Hydrangea), *Hydrocotyle* sp. (Marshpennywort), *Itea virginica* (Virginia Willow), *Myrica cerifera* (Wax Myrtle), *Sabal minor* (Bluestem Palm, a characteristic floodplain species), *Salvia lyrata* (Lyreleaf Sage), *Sambucus nigra* subsp. *canadensis* (Elderberry, in open areas), *Thelypteris kunthii* (Widespread Maiden Fern), *Thelypteris palustris* (Marsh Fern), *Toxicodendron radicans* (Poison Ivy), *Vitis rotundifolia* (Muscadine Grape) and *Woodwardia areolata* (Netted Chain Fern).

Despite the encroachment of many exotic plant species into this natural area, Fraternity Wetland houses a diversity of native flora, which include the following species of note: *Arisaema draconitum* (Greendragon, an uncommon species), *Arisaema triphyllum* (Jack in the Pulpit, and uncommon species), *Athyrium filix-femina* subsp. *asplenioides* (Southern Lady Fern, Threatened FL, at the southern limit of its range) and *Dioscorea floridana* (Florida Yam, an uncommon species).

### Invasive non-native plant species

Future management of the site will need to address invasive plant management. Fraternity Wetlands is comprised of a mix of native and exotic species. The edges of the Conservation Area in particular have large populations of non-native plants. These include *Ardisia crenata* (Scratchthroat), *Disocorea bulbifera* (Air Potato), *Hedera helix* (English Ivy), *Macfadyena unguis-cati* (Catclaw Vine), *Tradescantia fluminensis* (Small-leaf Spiderwort), and *Ligustrum lucidum* (Glossy Privet). Non-native species present but in less abundance include: *Citrus x aurantium* (Sour Orange), *Colocasia esculenta* (Wild Taro, in stream), *Eriobotrya japonica* (Loquat), *Lantana camara* (Lantana), *Liriope spicata* (Bordergrass, one population on the southwest corner of the property), *Ludwigia peruviana* (Peruvian Primrosewillow, in wet open areas), *Syngonium podophyllum* (American Evergreen), and *Urena lobata* (Caesarweed).

### Animal Species

Fraternity Woods is relatively small in size, which limits the amount of habitat for terrestrial species. Only common mammals like raccoons, gray squirrels and armadillos have been documented on site. Other animals typically found in these hardwood dominated systems include: American Crow, American Goldfinch, American Redstart, American Robin, Black and White Warbler, Blue-Gray gnatcatcher, Brown-headed cowbird, Blue Jay, Brown Thrasher, Carolina Chickadee, Carolina Wren, Cedar Waxwing, Chimney Swift, Downy Woodpecker, Eastern Phoebe, Eastern Tufted Titmouse, Fish Crow, Great Crested Flycatcher, Gray Catbird, House Finch, House Wren, Mourning Dove, Northern Cardinal, Northern Flicker, Northern Mockingbird, Northern Parula, Osprey, Palm Warbler, Pileated Woodpecker, Red-bellied Woodpecker, Ruby-crowned Kinglet, Red-eyed Vireo, Rock Dove, Red-winged Blackbird, Yellow-breasted Chat, Yellow-rumped Warbler, Yellow-throated Warbler, Brown anole, Squirrel Tree Frog, Florida Box Turtle, Gray Squirrel, and Black Rat.



Invasive exotic understory at fraternity woods

### Soils Inventory

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

#### Blichton Sand (2-5% slope)

This gently sloping, poorly drained soil is on gently rolling uplands. Typically the surface layer is dark grayish brown sand about 6 inches thick. It is about 3 percent nodules of ironstone and fragments and nodules of phosphatic limestone.

#### Monteocha Loamy Sand

This nearly level, very poorly drained soil is in wet ponds and shallow depressional areas in the flat woods. Slopes are less than 2 percent. Typically, the surface layer is black loamy sand about 12 inches thick. The subsurface layer is light brownish gray sand to a depth of 18 inches.

### Cultural and Passive Recreational Resources and Future Improvements

These woods are relatively inaccessible except for residents of the adjacent Fraternity Halls. This is due to the steep slopes and overgrown thicket on the eastern side of the property that would be, theoretically, accessible to others. There are no known archeological sites, nor significant cultural resources on site.

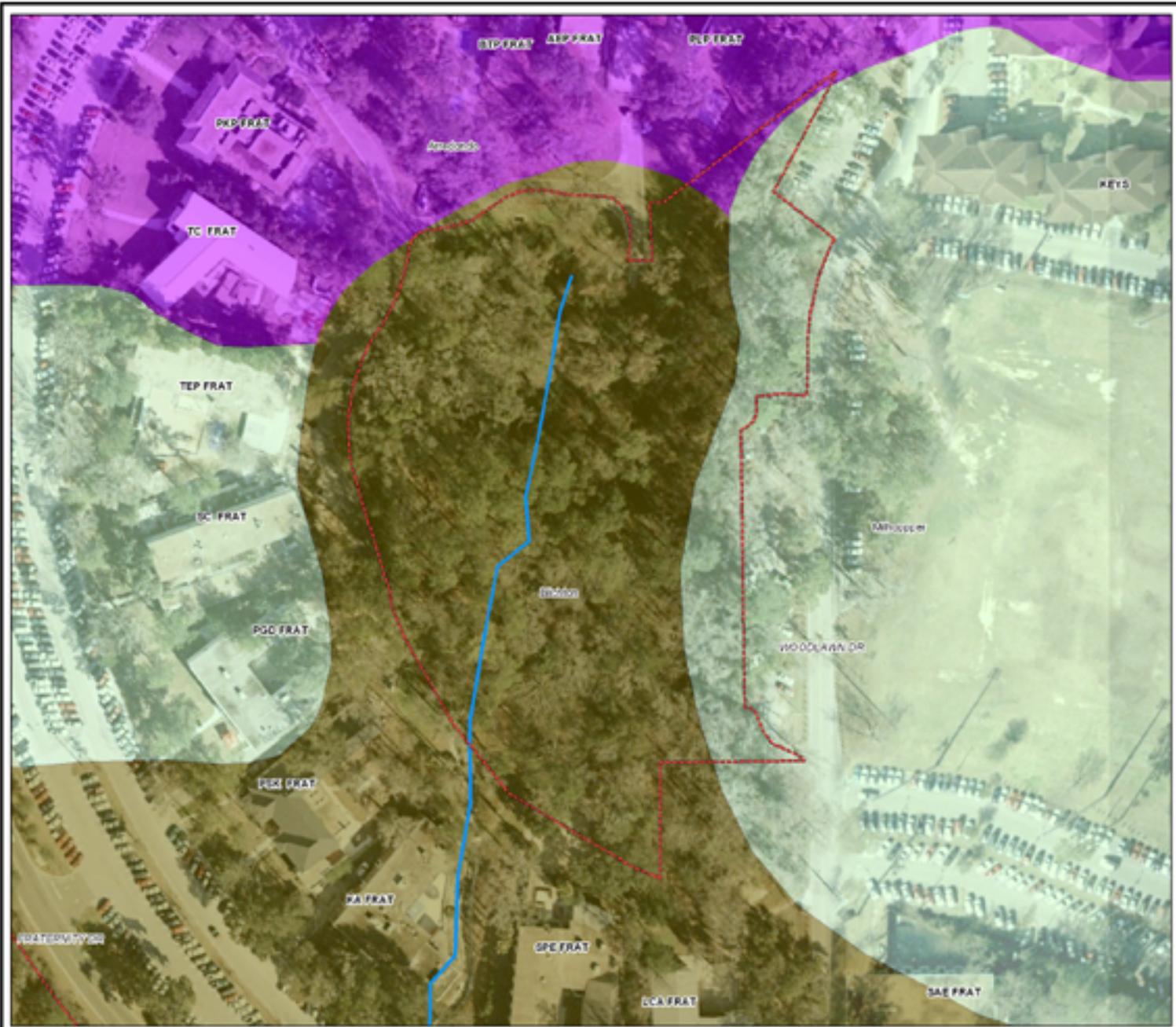
### Future Improvements

Although Fraternity Wetlands is located adjacent to Fraternity Row and the Keys residential complex, its wetlands and steep slopes make it a poor site for public use. Of course, these same features are the features that point to this area being considered a Nature Preserve. Available space for physical improvements such as trails and benches is limited even along the edges of this forested area, and should therefore be discouraged. The primary management activity that needs to be addressed is to place fencing along the perimeter to prevent dumping and encroachment by the adjacent fraternity houses. This fencing needs to follow approximately ½ of the perimeter of the Conservation Area. An additional improvement that should be considered is bird and bat boxes to encourage wildlife habitation.

Maps on the following pages:

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





### Soils Fraternity Wetlands Conservation Area

-  Conservation Area
-  Arredondo
-  Blichton
-  Milhopper
-  Creeks



Facilities, Planning and Construction  
August 2005



This map is intended for planning purposes only.

# Water Resources Fraternity Wetland Conservation Area

- Conservation Area
- Lake Alice Watershed
- Bivens Arm Watershed
- Hogtown Creek Watershed
- UF Depressional Watershed
- 100-year floodplain
- Wetland
- Water
- UF building
- Contour
- Creek

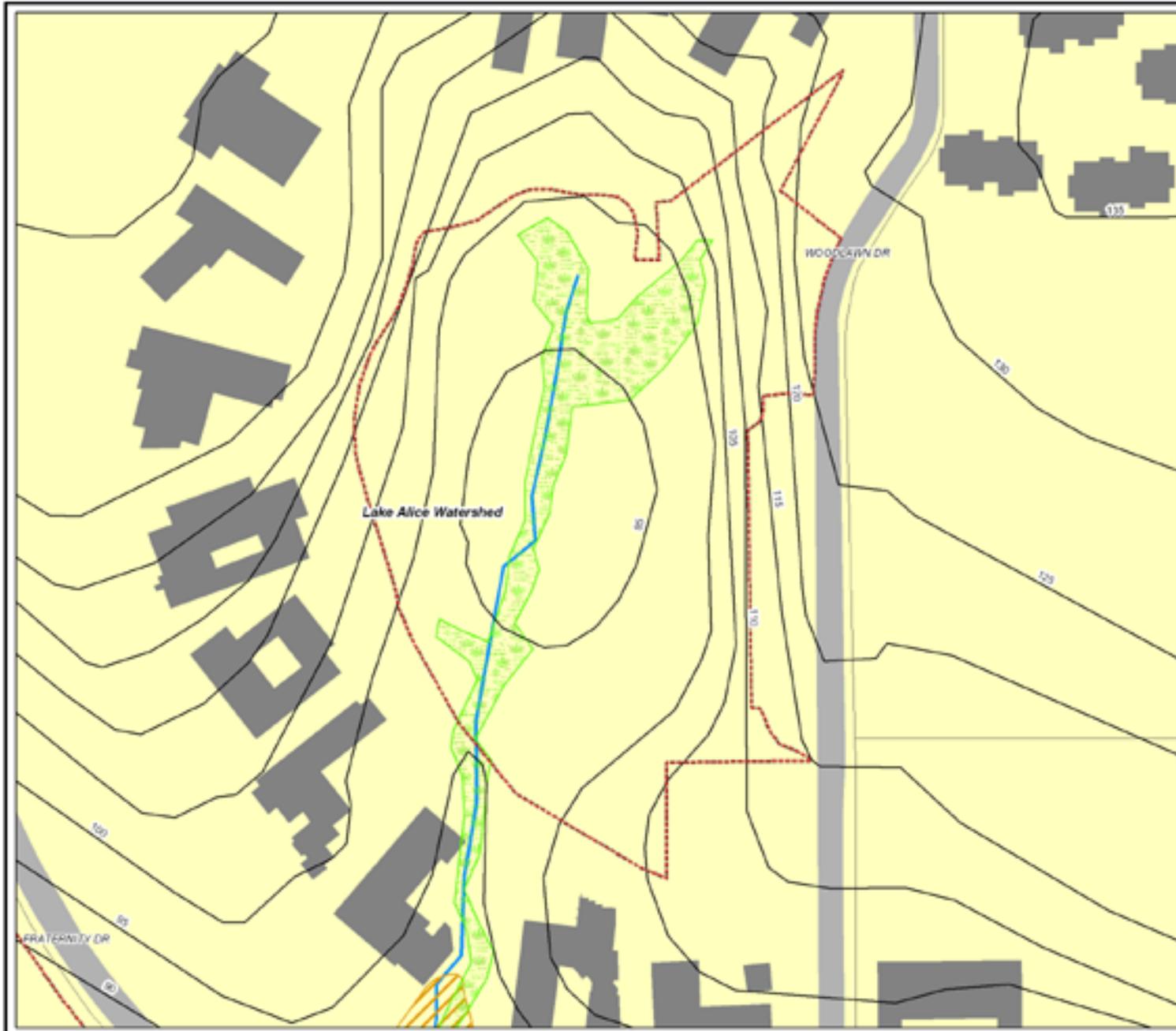


Facilities, Planning  
and Construction

August 2005



This map is intended for planning purposes only.





Natural Communities  
Fraternity Wetland  
Conservation Area

-  Conservation Area
-  Pasture and Grass
-  Freshwater Marsh
-  Upland Mixed Forest
-  Mesic Flatwoods
-  Water
-  Bottomland Forest
-  Shrub Wetland - Basin Marsh
-  Emergent Aquatic - Marsh Lake
-  Urban
-  Utilities



Facilities, Planning  
and Construction  
August 2005



This map is intended for planning purposes only.