

Lafayette Creek – Fourth Annual Monitoring Report 2010

Impact: US 331 Freeport Re-alignment; 8.63 Acre impact; CORPS Permit No. SAJ-2001-1118 (IP-DEB) Issued 2/4/05, Walton County

Monitoring date: October 26, 2010

SCOPE

A wetland restoration/mitigation plan was developed for the realignment of US 331 at Freeport from SR 20 to Owl Head Road. Wetland impacts totaled 8.63 acres of moderate to high quality forested wetlands (FLUCCS 615) and wet pine flatwoods (FLUCCS 626).

MITIGATION PROJECT

In 2006, a total of 490 acres were acquired by the Northwest Florida Water Management District (Figure 1 and 2). In 2006, the NFWFMD acquired the 3,160-acre Lafayette Creek tract. To mitigate for the wetland impacts associated with the US 331 re-alignment, approximately 490 acres containing approximately 312 acres of freshwater stream and hydric or mesic pine flatwoods as well as 178 acres of upland buffer were selected as suitable mitigation for the wetland impacts.

MITIGATION ACTIVITIES

The restoration plan called for native upland pine forest buffers (FLUCCS 411) to be restored from existing slash and sand pine plantation using restoration techniques that may include thinning of bedded slash pine, eradication of sand pine, potential seeding of herbaceous vegetation, prescribed fire, brush reduction and perpetual ecological management. Actual restoration techniques implemented were dependent upon site-specific conditions and adaptive management. In both upland and wetland polygons, management strategies of nuisance and exotic species will be implemented as necessary.

Of the approximately 390 acres of wetlands that remain available for FDOT mitigation, ~260 acres that border major stream channels will be preserved as bottomland systems (FLUCCS 615), with ecological lift being generated from buffer improvements, exotics and nuisance species management, and implementation of perpetual management for ecological integrity. Approximately 120 wetland acres along minor stream tributaries and ~10 acres of isolated wetlands will be restored from FLUCCS 614 (Titi Swamp) to a mix of FLUCCS 613 (Gum Swamp) and FLUCCS 625 (Hydric Pine Flatwoods). Restoration activities include prescribed fire, shrub layer reduction, planting of appropriate wetland vegetation, exotics and nuisance species control, and restoration of upland buffers.

WORK SCHEDULE

- Land acquired: **2006**

- The failing culverts and a dilapidated bridge were removed: **August 2006**
- The bridge and culvert replacement: **Completed 2007**
- Native upland pine forest buffers (FLUCCS 411; 178 acres) were restored from existing sand pine plantation to sandhill through eradication of the sand pine: **July 24th and completed on September 4, 2006**
- Longleaf pine seedlings were planted in the uplands adjacent to Lafayette Creek in Sections 4, 5, 6 and 31: **February 2007**
- Due to the drought in 2007, a supplemental planting of long leaf pine occurred in **2008**.
- A total of 51 acres adjacent to the unnamed stream in Section 31 were direct planted with wire grass seed: **January 10, 2007**.
- In addition wire grass tublings on 3 foot centers for were planted: **March 2007 and January 2008**.
- Fire was re-introduced to the site in accordance with the approved burn plan: Initial fuel reduction burns were conducted **September 22 and October 30, 2006**
- Exotics species monitoring for the wetlands and associated upland buffer has been conducted yearly: **2005-2010; completed 2010**
- Patchy cover of Bahia grass and a small patch of cogon grass was observed adjacent to the ravine system. **Areas were treated in August and September 2008 with herbicides designed to eradicate the exotics while not impacting the natives. These areas were treated again in April and July 2009 and have been treated in 2010.**
- The sandhill adjacent to the upper ravine has some patchy Bahia grass cover, remaining from before acquisition when the area was an abandoned sod farm. **Herbicide treatments have helped reduce the Bahia grass cover and no large infestations were observed in 2010.**
- The sandhills continue to develop adjacent to the upper ravine, and cover and diversity continue to increase. **The sandhill adjacent to the lower ravine is healthy and wire grass cover continues to increase. No Bahia or cogon grass has been observed in this area.**
- Additional planting of wire grass and long leaf pine in the 250 acres adjacent to the upper ravine and warm season burn in the sandhill adjacent to the lower ravine. **Completed January 2009**
- Live oak trees that are spreading into the 250-acre sandhill area will be thinned to <150 trees per acre. **Live oak invasion in the sandhill was not observed in 2010.**

SUCCESS CRITERIA

1. No observable decline in vegetation community health. **Community diversity and community health is stable in the wetlands and increasing in adjacent sandhills (Table 1 and 2).**
2. Species diversity is, at a minimum, stable in each wetland polygon. **Stable since 2006 and evidence of native species re-generation was present.**
3. No more than 1% coverage of invasive exotics and 5% coverage of nuisance native and non-invasive exotic species. **The cover of the non-invasive exotics (Bahia grass) has only been observed adjacent to the upper ravine and is on the order of 5-10% coverage.**
4. No more than 200 pine trees (longleaf or slash) per acre (saplings or mature trees) in upland areas. **Long leaf pine cover is less than 200 trees per acre.**

Conclusions:

Overall, the community appears healthy and is appropriately diverse and stratified. In the wetland system the fuel load is low to moderate, exhibits an open to moderate shrub layer, open to moderate herbaceous layer, and a closed canopy with seedling recruitment present. Indicators of appropriate hydrology were observed in all of the wetland communities including high water marks, hydric soil indicators, and wetland species dominance. No exotic/nuisance/invasive species were noted during monitoring.

In the adjacent uplands fuel load is moderate consisting of remnant woody vegetation and fine fuel is low. There is moderate wiregrass cover indicating successful re-seeding. Shrub cover is moderate and consists of native sandhill oaks such as *Quercus laevis*, *Q. margaretta*, *Q. incana*, and *Q. nigra*. Recruitment of desirable shrub and herb species is evident in the restored sandhill community. Very few Longleaf pine seedlings were observed in the sandhill, indicating that planting success is low to moderate.

An intact mesic flatwoods community was observed in the eastern portion of the property south of the power line. This community has good mature pine canopy cover and appropriate herbaceous and shrub composition and cover. This mesic flatwoods transitions into a wet prairie ecotone that contains a population of approximately 100 individuals of the state-endangered species White-topped pitcher plant (*Sarracenia leucophylla*). Although there is some invasion of titi (*Cyrilla racemiflora*), this wet prairie is in fairly good condition and should be maintained with prescribed fire to support this state-listed species.

The power line right-of-way bridge over Magnolia Creek is showing scour marks resulting from bank erosion and may need to be stabilized in some way to prevent further sediment input.

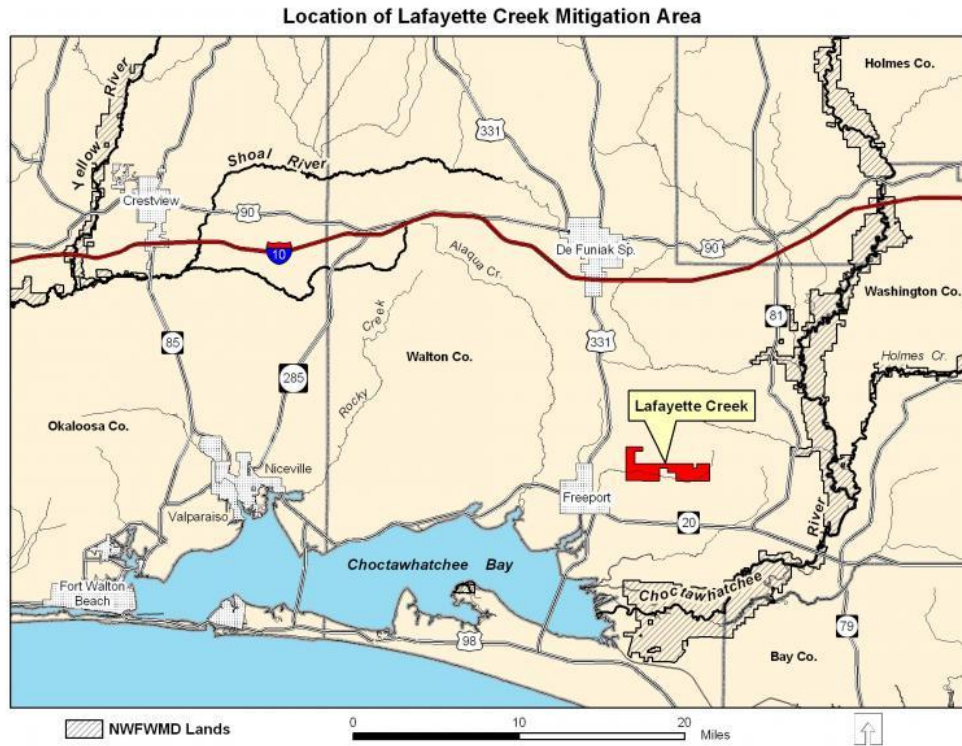


Figure 1. Location map for Lafayette Creek Mitigation Site

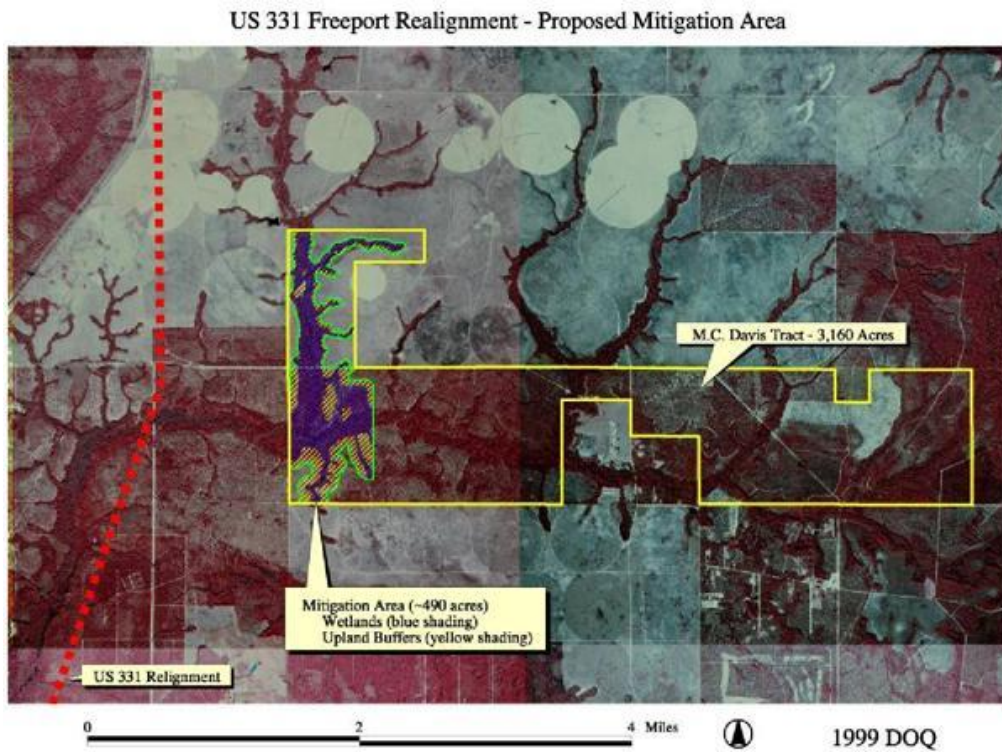


Figure 2. Mitigation area map



Figures 3 & 4. Sandhill adjacent to upper ravine (former Bahia grass pasture)



Figures 5 & 6. Mesic flatwoods and *Sarracenia leucophylla* in adjacent wet prairie ecotone.



Figure 7. Lafayette Creek stream



Figure 8. Lafayette Creek floodplain

Table 1. Species List for Lafayette Creek Ravine 10/26/10

<i>Scientific Name</i>	Common Name	Ravine	% Cover
<i>Acer rubrum</i>	Red maple	x	5-10
<i>Agalinis purpurea</i>	Purple false foxgloves		
<i>Amsonia ciliata</i>	Bluestar		
<i>Andropogon virginicus</i>	Broom sedge		
<i>Aristida stricta</i> var. <i>beyrichiana</i>	Wiregrass		
<i>Arundinaria gigantea</i>	Giant cane	x	5
<i>Asclepias humistrata</i>	Milkweed		
<i>Asimina parviflora</i>	Paw paw		
<i>Astragalus villosus</i>	Hairy milk vetch		
<i>Baccharis glomeruliflora</i>	Groundsel tree		
<i>Balduina angustifolia</i>	Coastal plain honeycomb head		
<i>Baptisia lanceolata</i>	Pineland wild indigo		
<i>Callicarpa americana</i>	Beauty berry	x	<5
<i>Carex tenax</i>	Caric sedge	x	<5
<i>Clethra alnifolia</i>	Sweet pepper bush	x	5
<i>Cliftonia monopylla</i>	Black ti ti	x	5-10
<i>Cnidioscolus stimulosus</i>	Tread softly		
<i>Cyrilla racemiflora</i>	Red titi	x	10
<i>Dalea pinnata</i>	Summer-farewell		
<i>Dicanthelium</i> spp.	Panic grass	x	<5
<i>Diospyros virginiana</i>	Persimmon		
<i>Eupatorium compositifolium</i>	Dog fennel		
<i>Gnaphalium pensylvanicum</i>	Cudweed		
<i>Helianthemum carolinianum</i>	Rock-rose		
<i>Hypericum gentinoides</i>	Pineweed		
<i>Ilex coriacea</i>	Large gallberry	x	10
<i>Ilex vomitoria</i>	Yaupon	x	5-10
<i>Kalmia latifolia</i> *	Mountain laurel		
<i>Licania michauxii</i>	Gopher apple		
<i>Liriodendron tulipifera</i>	Tulip poplar	x	5
<i>Lithospermum caroliniense</i>	Pucoon		
<i>Lupinus diffuses</i>	Sky-blue lupine		
<i>Lupinus perennis</i>	Sundial lupine		
<i>Magnolia grandiflora</i>	Southern magnolia		
<i>Magnolia virginiana</i>	Silver bay	x	10
<i>Myrica inodorata</i>	Odorless wax myrtle	x	<5
<i>Nyssa biflora</i>	Black gum	x	15
<i>Opuntia humifusa</i>	Prickly-pear cactus		
<i>Osmunda regalis</i>	Royal fern	x	<5
<i>Oxydendron arboreum</i>	Sourwood	x	5-10
<i>Paspalum notatum</i>	Bahia grass		
<i>Persea borbonia</i>	Red bay	x	5
<i>Persea paulistris</i>	Silk bay	x	5
<i>Phytocalla americana</i>	Pokeweed		
<i>Pinus clausa</i>	Sand Pine		
<i>Pinus elliotii</i>	Slash pine	x	5
<i>Pinus palustris</i>	Longleaf pine		
<i>Pityopsis aspera</i>	Pineland silkgrass		
<i>Polygonella</i> sp.	Jointweed		
<i>Pteridium aquilinum</i>	Brachen fern		
<i>Quercus geminata</i>	Sand live oak		
<i>Quercus hemisphaerica</i>	Diamond oak		
<i>Quercus incana</i>	Blue jack oak		
<i>Quercus laevis</i>	Turkey oak		

Scientific Name	Common Name	Ravine	% Cover
<i>Quercus laurifolia</i>	Laurel oak		
<i>Quercus margaretta</i>	Sand post oak		
<i>Quercus nigra</i>	Water oak	x	5
<i>Rhododendron sp.</i>	Azalea	x	5
<i>Rubus cuneifolius</i>	Sand blackberry		
<i>Sagittaria latifolia</i>	Broadleaf arrowhead	x	<5
<i>Salix caroliniana</i>	Willow		
<i>Schrankia microphylla</i>	Sensitive briar		
<i>Serenoa repens</i>	Saw palmetto	x	<5
<i>Smilax bonna-nox</i>	Greenbriar	x	<5
<i>Smilax laurifolia</i>	Bamboo vine	x	<5
<i>Smilax smallii</i>	Greenbriar		
<i>Sphagnum sp.</i>	Sphagnum moss	x	<5
<i>Taxodium sp.</i>	Cypress	x	5-10
<i>Tephrosia virginiana</i>	Devil's Shoestring		
<i>Tradescantia hirsutiflora</i>	Hairy spiderwort		
<i>Typha latifolia</i>	Cattail		
<i>Vaccinium arboreum</i>	Sparkleberry		
<i>Vaccinium corymbosum</i>	High-bush blueberry	x	<5
<i>Vaccinium elliotii</i>	Elliott's blueberry	x	5
<i>Vitis rotundifolia</i>	Muscadine grape		
<i>Woodwardia areolata</i>	Netted chain fern	x	<5
<i>Woodwardia virginica</i>	Virginia chain fern	x	<5
<i>Yucca filamentosa</i>	Adam's needle		

* State Threatened Species

Table 2. Species List for Lafayette Creek Uplands 10/26/10

Scientific Name	Common Name	Uplands (North)	Uplands (South)	% Cover (Upl-north/ Upl-south)
<i>Agalinis purpurea</i>	Purple false foxgloves			
<i>Amsonia ciliata</i>	Bluestar			
<i>Andropogon virginicus</i>	Broom sedge	x	x	5/5
<i>Aristida stricta</i> var. <i>beyrichiana</i>	Wiregrass	x	x	5/5
<i>Asclepias humistrata</i>	Milkweed			
<i>Asimina parviflora</i>	Paw paw			
<i>Astragalus villosus</i>	Hairy milk vetch			
<i>Baccharis glomeruliflora</i>	Groundsel tree			
<i>Balduina angustifolia</i>	Coastal plain honeycomb head			
<i>Baptisia lanceolata</i>	Pineland wild indigo	x		<5
<i>Callicarpa americana</i>	Beauty berry			
<i>Carex tenax</i>	Caric sedge			
<i>Chysoma paucifloculosa</i>	Woody goldenrod		x	80
<i>Clethra alinifolia</i>	Sweet pepper bush			
<i>Cliftonia monophylla</i>	Black ti ti			
<i>Cnidocolus stimulosus</i>	Tread softly	x	x	<5/<5
<i>Dalea pinnata</i>	Summer-farewell	x	x	<5/<5
<i>Dicanthelium spp.</i>	Panic grass	x	x	<5/<5
<i>Diospyros virginiana</i>	Persimmon	x	x	<5/<5
<i>Eupatorium compositifolium</i>	Dog fennel	x	x	<5/<5
<i>Gnaphalium pensylvanicum</i>	Cudweed			
<i>Helianthemum carolinianum</i>	Rock-rose			

<i>Scientific Name</i>	Common Name	Uplands (North)	Uplands (South)	% Cover (Upl-north/ Upl-south)
<i>Hypericum gentinoides</i>	Pineweed	x	x	<5/<5
<i>Ilex coriacea</i>	Large gallberry			
<i>Ilex vomitoria</i>	Yaupon			
<i>Kalmia latifolia*</i>	Mountain laurel			
<i>Licania michauxii</i>	Gopher apple			
<i>Lithospermum caroliniense</i>	Pucoon			
<i>Lupinus diffuses</i>	Sky-blue lupine			
<i>Lupinus perennis</i>	Sundial lupine			
<i>Magnolia grandiflora</i>	Southern magnolia			
<i>Magnolia virginiana</i>	Silver bay			
<i>Myrica inodorata</i>	Odorless wax myrtle			
<i>Opuntia humifusa</i>	Prickly-pear cactus	x	x	<5/<5
<i>Oxydendron arboreum</i>	Sourwood			
<i>Paspalum notatum</i>	Bahia grass	x		5-10
<i>Persea borbonia</i>	Red bay			
<i>Persea paulistris</i>	Silk bay			
<i>Phytocalla americana</i>	Pokeweed			
<i>Pinus clausa</i>	Sand Pine	x		5
<i>Pinus elliottii</i>	Slash pine			
<i>Pinus palustris, grass stage</i>	Longleaf pine	x	x	<5/<5
<i>Pityopsis aspera</i>	Pineland silkgrass	x	x	<5/<5
<i>Polygonella sp.</i>	Jointweed	x	x	<5/5
<i>Pteridium aquilinum</i>	Brachen fern	x	x	<5/5
<i>Quercus geminata</i>	Sand live oak			
<i>Quercus hemisphaerica</i>	Diamond oak			
<i>Quercus incana</i>	Blue jack oak	x		5
<i>Quercus laevis</i>	Turkey oak	x	x	5/5
<i>Quercus laurifolia</i>	Laurel oak			
<i>Quercus margaretta</i>	Sand post oak	x		5
<i>Quercus nigra</i>	Water oak	x		5
<i>Rubus cuneifolius</i>	Sand blackberry	x	x	<5/<5
<i>Salix caroliniana</i>	Willow			
<i>Schrankia microphylla</i>	Sensitive briar	x	x	<5/5
<i>Serenoa repens</i>	Saw palmetto	x	x	<5/<5
<i>Smilax auriculata</i>	Ear-leaf greenbriar		x	<5
<i>Smilax bona-nox</i>	Greenbriar			
<i>Smilax smallii</i>	Greenbriar			
<i>Tephrosia virginiana</i>	Devil's Shoestring			
<i>Tradescantia hirsutiflora</i>	Hairy spiderwort			
<i>Typha latifolia</i>	Cattail			
<i>Vaccinium arboreum</i>	Sparkleberry			
<i>Vitis rotundifolia</i>	Muscadine grape			
<i>Woodwardia areolata</i>	Netted chain fern			
<i>Woodwardia virginica</i>	Virginia chain fern			
<i>Yucca filamentosa</i>	Adam's needle			
Unidentified dark green/silvery clumping low-growing grass, no flowers/seed head		x		80

Site Inspection Field Form	
Project: Lafayette Creek	Date: October 26, 2010
Name(s) of Data Collectors: Caitlin Elam and Alex Barth	Weather: sunny; high 70s/low 80s
Environmental Description: Lafayette Creek, floodplain, and slope forest	
Polygon: Lafayette Creek and associated floodplain and seep slope	
<p>On at least a yearly basis, the site will be inspected as follows:</p> <p>A: Perimeter for signs of trespassing, fencing and signage integrity and infestation by exotic or nuisance vegetation;</p> <p>No signs of trespassing. Fencing/signage at access gate intact.</p>	
<p>B: Internal Roads (Both public and maintenance) for signs of dumping or trespassing, erosion, bridges and road integrity, and exotic or nuisance species infestations;</p> <p>No dumping/trespassing noted. Erosion minimal; road near creek crossings are terraced and covered with relatively large gravel to control downhill erosion.</p>	
<p>C: All construction areas for stabilization and re-vegetation, structure, operation, and integrity;</p> <p>N/A</p>	
<p>D: Representative polygons for each UMAM community for fuel load, exotic or nuisance species, planted material survival, groundcover, and shrub condition.</p> <p>-fuel load low to moderate -relatively open to moderate shrub stratum -no exotic/nuisance/invasive species noted -overall, community appears healthy and is exhibits the appropriate species composition and cover</p>	

Vegetation Assessment Field Form Qualitative Assessment: Lafayette Creek

Project: Date: 10/26/2010

Name(s) of Data Collectors: Caitlin Elam and Alex Barth Weather: sunny 70's to 80's

Environmental Description: Photo #'s

Polygon: GPS Location: Time:

Nuisance Species: None seen. Fuel Load: low to moderate, primarily woody vegetation and debris

- Wildlife Observations:
- Water depth: +/- water in creek 2-3 ft deep, floodplain not inundated
- Is the community observed along the walk path representative of the community being measured? Yes
- To what degree is the restoration in this area trending towards success? No management has been performed in this polygon
- Potential Problems and solutions: None

Scientific Name	Common Name	Ravine	Uplands	Walk paths	% Cover	Condition	Dominant Species	Natural Recruitment	Flowering/Fruiting
<i>Acer rubrum</i>	Red maple	X			5-10		X		
<i>Agalinis purpurea</i>	Purple false foxgloves								
<i>Ahnu serrulata</i>	Hazel alder	X			<5				
<i>Amsonia ciliata</i>	Bluestar								
<i>Andropogon virginicus</i>	Broom sedge								
<i>Aristida stricta var. beyrichiana</i>	Wiregrass								
<i>Arundinaria gigantea</i>	Giant cane	X			5		X		
<i>Asclepias humistrata</i>	Milkweed								
<i>Asimina parviflora</i>	Paw paw								
<i>Astragalus villosus</i>	Hairy milk vetch								
<i>Baccharis glomeruliflora</i>	Groundsel tree								
<i>Balduina angustifolia</i>	Coastal plain honeycomb head								
<i>Baptisia lanceolata</i>	Pineland wild indigo								
<i>Bignonia capreolata</i>	Trumpet vine	X			<5				
<i>Callicarpa americana</i>	Beauty berry	X			<5				
<i>Carex tenax</i>	Caric sedge	X			<5				
<i>Carya glabra</i>	Pignut hickory	X			5-10		X		
<i>Chasmanthium laxum</i>	Slender woodoats	X			<5				
<i>Clethra alnifolia</i>	Sweet pepper bush	X			5		X		
<i>Cliftonia monophylla</i>	Black titi	X			5-10		X		
<i>Cnidioscolus stimulosus</i>	Tread softly								
<i>Colocasia esculenta</i>	Wild taro	X							
<i>Cornus florida</i>	Dogwood	X							
<i>Cyrilla racemiflora</i>	Red titi	X			10		X		
<i>Cyrilla racemiflora</i>	Red titi	X							
<i>Dalea pinnata</i>	Summer-farewell								
<i>Dicanthelium spp.</i>	Panic grass	X			<5				
<i>Diospyros virginiana</i>	Persimmon								
<i>Elephantopus caroliniana</i>	Elephant's foot	X			<5				
<i>Eupatorium compositifolium</i>	Dog fennel								
<i>Eupatorium serotinum</i>	Lateflowering thoroughwort	X			<5				
<i>Gelsemium rankii</i>	Swamp jessamine	X			<5				
<i>Gnaphalium pensylvanicum</i>	Cudweed								
<i>Hamamelis virginiana</i>	Witchhazel	X			<5				
<i>Helianthemum carolinianum</i>	Rock-rose								

Scientific Name	Common Name	Ravine	Uplands	Walk paths	% Cover	Condition	Dominant Species	Natural Recruitment	Flowering/ Fruiting
<i>Hypericum gentianoides</i>	Pineweed								
<i>Hypericum hypericoides</i>	St. Andrew's cross	X			<5				
<i>Ilex cassine</i>	Dahoon holly	X			5-10		X		
<i>Ilex coriacea</i>	Large gallberry	X			10		X		
<i>Ilex vomitoria</i>	Yaupon	X			5-10		X		
<i>Itea virginica</i>	Sweet spire	X			<5				
<i>Kalmia latifolia</i> *	Mountain laurel								
<i>Licania michauxii</i>	Gopher apple								
<i>Liriodendron tulipifera</i>	Tulip poplar	X			5				
<i>Lithospermum carolinense</i>	Pucoon								
<i>Ludwigia sp.</i>	Primrose willow	X			<5				
<i>Lupinus diffuses</i>	Sky-blue lupine								
<i>Lupinus perennis</i>	Sundial lupine								
<i>Lyonia lucidum</i>	Pink fetterbush	X			5-10		X		
<i>Magnolia grandiflora</i>	Southern magnolia								
<i>Magnolia virginiana</i>	Silver bay	X			10		X		
<i>Mitchella repens</i>	Twinberry	X			<5				
<i>Myrica inodorata</i>	Odorless wax myrtle	X			<5				
<i>Nyssa biflora</i>	Swamp black gum	X			15		X		
<i>Nyssa sylvatica</i>	Black gum	X			5-10		X		
<i>Opuntia humifusa</i>	Prickly-pear cactus								
<i>Osmunda cinnamomoea</i>	Cinnamon fern	X			<5				
<i>Osmunda regalis</i>	Royal fern	X			<5				
<i>Oxydendron arboreum</i>	Sourwood	X			5-10				
<i>Panicum verrucosum</i>	Warty panic grass	X			<5				
<i>Paspalum notatum</i>	Bahia grass								
<i>Persea borbonia</i>	Red bay	X			5				
<i>Persea paulistris</i>	Silk bay	X			5				
<i>Phytocalla americana</i>	Pokeweed								
<i>Pinus clausa</i>	Sand Pine								
<i>Pinus elliotii</i>	Slash pine	X			5				
<i>Pinus palustris</i>	Longleaf pine								
<i>Pityopsis aspera</i>	Pineland silkgrass								
<i>Pluchea rosea</i>	Camphor weed	X			<5				
<i>Polygonella sp.</i>	Jointweed								
<i>Preidium aquilinum</i>	Brachen fern								
<i>Quercus alba</i>	White oak	X			<5				
<i>Quercus geminata</i>	Sand live oak								
<i>Quercus hemisphaerica</i>	Diamond oak								
<i>Quercus incana</i>	Blue jack oak								
<i>Quercus laevis</i>	Turkey oak								
<i>Quercus laurifolia</i>	Laurel oak	X					X		
<i>Quercus margaretta</i>	Sand post oak								
<i>Quercus nigra</i>	Water oak	X			5		X		
<i>Rhododendron sp.</i>	Azalea	X			5				
<i>Rubus cuneifolius</i>	Sand blackberry								
<i>Sagittaria latifolia</i>	Broadleaf arrowhead	X			<5				
<i>Salix caroliniana</i>	Willow								
<i>Schrankia microphylla</i>	Sensitive briar								
<i>Serenoa repens</i>	Saw palmetto	X			<5				
<i>Smilax bona-nox</i>	Greenbriar	X			<5				
<i>Smilax laurifolia</i>	Bamboo vine	X			<5				
<i>Smilax smallii</i>	Greenbriar								
<i>Sphagnum sp.</i>	Sphagnum moss	X			<5				
<i>Taxodium distichum</i>	Bald cypress	X			5-10		X		

<i>Scientific Name</i>	Common Name	Ravine	Uplands	Walk paths	% Cover	Condition	Dominant Species	Natural Recruitment	Flowering/ Fruiting
<i>Taxodium sp.</i>	Cypress	X			5-10				
<i>Tephrosia virginiana</i>	Devil's Shoestring								
<i>Toxicodendron radicans</i>	Poison ivy	X			<5				
<i>Tradescantia hirsutiflora</i>	Hairy spiderwort								
<i>Typha latifolia</i>	Cattail								
<i>Vaccinium arboreum</i>	Sparkleberry								
<i>Vaccinium corymbosum</i>	High-bush blueberry	X			<5				
<i>Vaccinium elliotii</i>	Elliott's blueberry	X			5		X		
<i>Viola sp.</i>	Violet	X							
<i>Vitis rotundifolia</i>	Muscadine grape								
<i>Woodwardia areolata</i>	Netted chain fern	X			<5		X		
<i>Woodwardia virginica</i>	Virginia chain fern	X			<5		X		
<i>Xanthoxylum sp.</i>	Prickly ash	X			<5				
<i>Xyris sp.</i>	Yellow-eyed grass	X			<5				
<i>Yucca filamentosa</i>	Adam's needle								

Note: All plant species observed since 2008 are included in this list, only species that were observed in 2009 and 2010 are marked as observed in this document.

Plants in red were newly observed in 2010.

*Florida-threatened species

Site Inspection Field Form	
Project: Lafayette Creek	Date: October 26, 2010
Name(s) of Data Collectors: Caitlin Elam and Alex Barth	Weather: 70s/low 80s
Environmental Description: Upland sandhill, mesic flatwoods buffer	
Polygon: Upland buffer north of powerline GPS Location: see map for location	
On at least a yearly basis, the site will be inspected as follows:	
<p>A: Perimeter for signs of trespassing, fencing and signage integrity and infestation by exotic or nuisance vegetation;</p> <p>No signs of trespassing. Fencing/signage at access gate intact.</p>	
<p>B: Internal Roads (Both public and maintenance) for signs of dumping or trespassing, erosion, bridges and road integrity, and exotic or nuisance species infestations;</p> <p>No dumping/trespassing noted. Erosion minimal; road near creek crossings are terraced and covered with relatively large gravel to control downhill erosion. The heaviest erosion is in the power line right-of-way under the dilapidated bridge that crosses Magnolia creek.</p>	
<p>C: All construction areas for stabilization and re-vegetation, structure, operation, and integrity;</p> <p>N/A</p>	
<p>D: Representative polygons for each UMAM community for fuel load, exotic or nuisance species, planted material survival, groundcover, and shrub condition.</p> <ul style="list-style-type: none"> -fuel load minimal -moderate wiregrass cover observed in upland communities -shrub stratum moderate, consisting of common sandhill or mesic flatwoods species -approximately 80% groundcover by appropriate grasses and herbs -very few longleaf pine seedlings observed 	

Vegetation Assessment Field Form Qualitative Assessment: Lafayette Creek	
Project: Date: 10/26/2010	
Name(s) of Data Collectors: Caitlin Elam	Weather: sunny, 70-80
Environmental Description: upland sandhill, mesic flatwoods and some wet prairie	
Polygon: GPS Location: Time:	
Nuisance Species: None seen. Fuel Load: moderate, mostly woody vegetation and debris	
<ul style="list-style-type: none"> Wildlife Observations: Deer and small mammal tracks. Water depth: N/A Is the community observed along the walk path representative of the community being measured? <u>Yes</u> To what degree is the restoration in this area trending towards success? <u>Wiregrass is doing very well and species composition is appropriate for community, very few longleaf pine seedlings noted, overall doing well and trending towards the success criteria.</u> Potential Problems and solutions: <u>Prescribed fire will reduce woody cover and increase wiregrass and other herbaceous cover.</u> 	

Scientific Name	Common Name	Ravine	Uplands (North)	Uplands (South)	Walk paths	% Cover	Condition	Dominant Species	Natural Recruitment	Flowering/Fruiting
<i>Agalinis purpurea</i>	Purple false foxgloves									
<i>Amsonia ciliata</i>	Bluestar			X		<5				
<i>Andropogon virginicus</i>	Broom sedge		X	X		5				
<i>Aristida stricta</i> var. <i>beyrichiana</i>	Wiregrass		X	X		5				
<i>Andropogon virginicus</i> var. <i>glaucus</i>	Chalky bluestem		X			<5				
<i>Asclepias humistrata</i>	Milkweed		X			<5				
<i>Asimina parviflora</i>	Paw paw									
<i>Astragalus villosus</i>	Hairy milk vetch			X						
<i>Anthenantia villosa</i>	Green silkyscale		X			<5				
<i>Aristida stricta</i>	Wiregrass		X	X		5-10				
<i>Baccharis glomeruliflora</i>	Groundsel tree									
<i>Balduina angustifolia</i>	Coastal plain honeycomb head		X	X		<5				
<i>Baptisia lanceolata</i>	Pineland wild indigo		X			<5				
<i>Bulbosylis ciliatifolia</i>	Capillary hairsedge		X	X		<5				
<i>Callicarpa americana</i>	Beauty berry		X	X						
<i>Carex tenax</i>	Caric sedge									
<i>Chrysopsis</i> sp.	goldenaster		X	X		<5				
<i>Clethra alnifolia</i>	Sweet pepper bush		X	X		<5				
<i>Cliftonia monophylla</i>	Black ti ti		X			<5				
<i>Cnidocolus stimulosus</i>	Tread softly		X			<5				
<i>Conyza canadensis</i>	Canadian horseweed		X	X		<5				
<i>Croton argyratechnus</i>	Silver croton		X	X		<5				
<i>Dalea pinnata</i>	Summer-farewell		X	X		<5				
<i>Dicanthelium</i> spp.	Panic grass		X	X		<5				
<i>Diospyros virginiana</i>	Persimmon		X	X		<5				
<i>Eragrostis</i> sp.	Lovegrass		X	X		5-10				
<i>Eriocaulon decangulare</i>	Hatpins		X			<5				
<i>Eriogonum tomentosum</i>	Dog-toungue wild buckwheat		X	X		<5				

Scientific Name	Common Name	Ravine	Uplands (North)	Uplands (South)	Walk paths	% Cover	Condition	Dominant Species	Natural Recruitment	Flowering/ Fruiting
<i>Eupatorium compositifolium</i>	Dog fennel		X	X		<5				
<i>Gallactia elliotii</i>	Elliott's milkpea		X	X		<5				
<i>Gaylussacia frondosa</i>	Huckleberry		X	X		<5				
<i>Gaylussacia moseri</i>	Woolly huckleberry		X			<5				
<i>Gnaphalium pensylvanicum</i>	Cudweed			X		<5				
<i>Helianthemum carolinianum</i>	Rock-rose			X		<5				
<i>Heterotheca subaxillaris</i>	Camphorweed		XX			<5				
<i>Hypericum gentianoides</i>	Pineweed		X			<5				
<i>Ilex coriacea</i>	Large gallberry		X	X		<5				
<i>Ilex cassine var. myrtifolia</i>	Dahoon holly		X			<5				
<i>Ilex glabra</i>	Gallberry		X			<5				
<i>Ilex vomitoria</i>	Yaupon		X			<5				
<i>Kalmia latifolia*</i>	Mountain laurel									
<i>Lachnanthes caroliniana</i>	Redroot		X			<5				
<i>Licania michauxii</i>	Gopher apple		X	X		5				
<i>Liriodendron tulipifera</i>	Tulip poplar		X			<5				
<i>Lithospermum carolinense</i>	Pucoon									
<i>Lobelia glandulosa</i>	Glade lobelia		X			<5				
<i>Lophiola aurea</i>	Golden crest		X			<5				
<i>Lupinus diffuses</i>	Sky-blue lupine									
<i>Lupinus perennis</i>	Sundial lupine									
<i>Lycopodiella caroliniana</i>	Slender clubmoss		X			<5				
<i>Magnolia grandiflora</i>	Southern magnolia									
<i>Magnolia virginiana</i>	Silver bay									
<i>Myrica inodorata</i>	Odorless bayberry		X			<5				
<i>Myrica inodorata</i>	Odorless wax myrtle									
<i>Opuntia humifusa</i>	Prickly-pear cactus		X	X		<5				
<i>Osmunda cinnamomea</i>	Cinnamon fern		X			<5				
<i>Oxydendron arboreum</i>	Sourwood			X						
<i>Paronychia chartacea.</i>	Paper nailwort		X	X		<5				
<i>Paspalum notatum</i>	Bahia grass		X			<5				
<i>Paspalum setaceum</i>	Thin paspalum		X	X		<5				
<i>Persea borbonia</i>	Red bay		X			<5				
<i>Persea paulistris</i>	Silk bay		X			<5				
<i>Photinia pyrifolia</i>	Red chokeberry		X			<5				
<i>Phytocalla americana</i>	Pokeweed									
<i>Pinus clausa</i>	Sand Pine		X			5				
<i>Pinus elliotii</i>	Slash pine		X			<5				
<i>Pinus palustris</i>	Longleaf pine		X			<5	GRASS STAGE			
<i>Pityopsis aspera</i>	Pineland silkgrass		X	X		<5				
<i>Polygonella gracillis</i>	Tall jointweed		X	X		<5				
<i>Polygonella sp.</i>	Jointweed		X	X		<5				
<i>Polyprenum procumbens</i>	Rustweed		X	X		<5				
<i>Pteridium aquilinum</i>	Brachen fern		X	X		<5				
<i>Quercus geminata</i>	Sand live oak			X		5				
<i>Quercus hemisphaerica</i>	Diamond oak		X	X		<5				
<i>Quercus incana</i>	Blue jack oak		X			5				
<i>Quercus laevis</i>	Turkey oak		X			5				
<i>Quercus laurifolia</i>	Laurel oak			X						
<i>Quercus margareta</i>	Sand post oak		X			5				
<i>Quercus nigra</i>	Water oak		X			5				
<i>Rhexia sp.</i>	Meadowbeauty		X			<5				
<i>Rhus copallinum</i>	Winged sumac		X	X		<5				
<i>Rhynchospora ciliaris</i>	Fringed beaksedge		X			<5				
<i>Rhynchospora pusilla</i>	Fairy beaksedge		X			<5				

<i>Scientific Name</i>	Common Name	Ravine	Uplands (North)	Uplands (South)	Walk paths	% Cover	Condition	Dominant Species	Natural Recruitment	Flowering/ Fruiting
<i>Rubus cuneifolius</i>	Sand blackberry		X			<5				
<i>Salix caroliniana</i>	Willow			X						
<i>Sarracenia leucophylla</i> *	White-top pitcher plant		X			<5				
<i>Sassafras albidum</i>	Sassafras		X	X		5				
<i>Schizachyrium sp.</i>	bluestem		X	X		<5				
<i>Schrankia microphylla</i>	Sensitive briar		X			<5				
<i>Serenoa repens</i>	Saw palmetto		X	X		<5				
<i>Smilax bona-nox</i>	Greenbriar			X						
<i>Smilax glauca</i>	Cat greenbriar		X	X		<5				
<i>Smilax laurifolia</i>	Laurel greenbriar		X			<5				
<i>Smilax smallii</i>	Greenbriar									
<i>Sorghastrum secundum</i>	Lopsided indiagrass		X	X		5				
<i>Tephrosia floridana</i>	Florida hoarypea		X	X		<5				
<i>Tephrosia virginiana</i>	Devil's Shoestring									
<i>Tradescantia hirsutiflora</i>	Hairy spiderwort			X						
<i>Tragia urticifolia</i>	Nettleleaf noseburn		X	X		<5				
<i>Typha latifolia</i>	Cattail									
<i>Vaccinium arboreum</i>	Sparkleberry		X	X		<5				
<i>Vaccinium corymbosum</i>	Highbush blueberry		X			<5				
<i>Vaccinium myrsinites</i>	Shiny blueberry		X			<5				
<i>Vitis rotundifolia</i>	Muscadine grape		X	X		<5				
<i>Woodwardia areolata</i>	Netted chain fern									
<i>Woodwardia virginica</i>	Virginia chain fern									
<i>Xyris caroliniana</i>	Yellow-eyed grass		X			<5				
<i>Xyris jupicai</i>	Yellow-eyed grass		X			<5				
<i>Yucca filamentosa</i>	Adam's needle		X	X						

*Florida-endangered species
Plants in red were newly observed in 2010.