

Lafayette Creek – Fourth Annual Monitoring Report 2009
CORPS Permit No. SAJ-2001-1118 (IP-DEB) Issued 2/4/05
Walton County

Impact: US 331 Freeport Re-alignment; 8.63 Acre impact
Monitoring date: October 30, 2009

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).

PROPOSED MITIGATION

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 realignment, 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: **2005-2008**
- 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.**
- 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 additional treatments are planned for Spring and Summer 2010. One small, less than 0.25 acre, patch of Cogon grass remains. It was treated again in 2009 and will be treated 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. **Proposed for 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 and increasing since 2006.**
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:

In the wetland system, the fuel load is low to moderate; exhibits a relatively open shrub stratum with no exotic/nuisance/invasives noted. Overall, community appears healthy and is appropriately diverse and stratified. In the adjacent uplands, fuel load is minimal, approximately 5-10% bahia grass coverage on average, shrub stratum virtually absent, and presence of some oaks (primarily sand post oak, turkey, bluejack, and water oak). There is approximately 80% groundcover by desirable grasses and herbs.

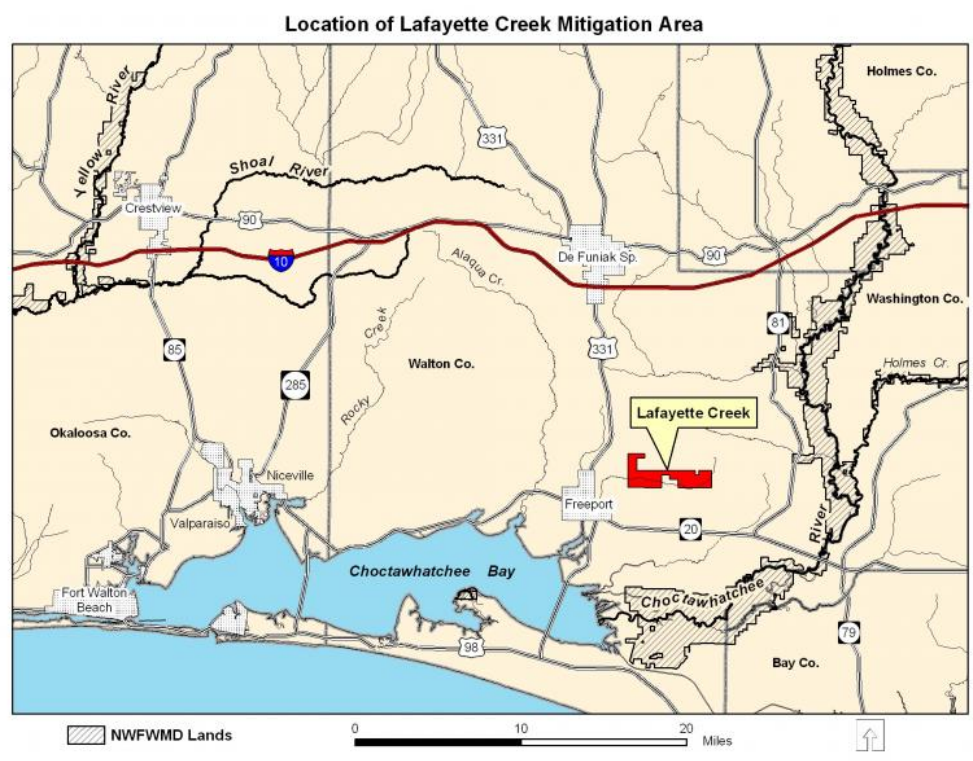


Figure 1. Location map for Lafayette Creek Mitigation Site

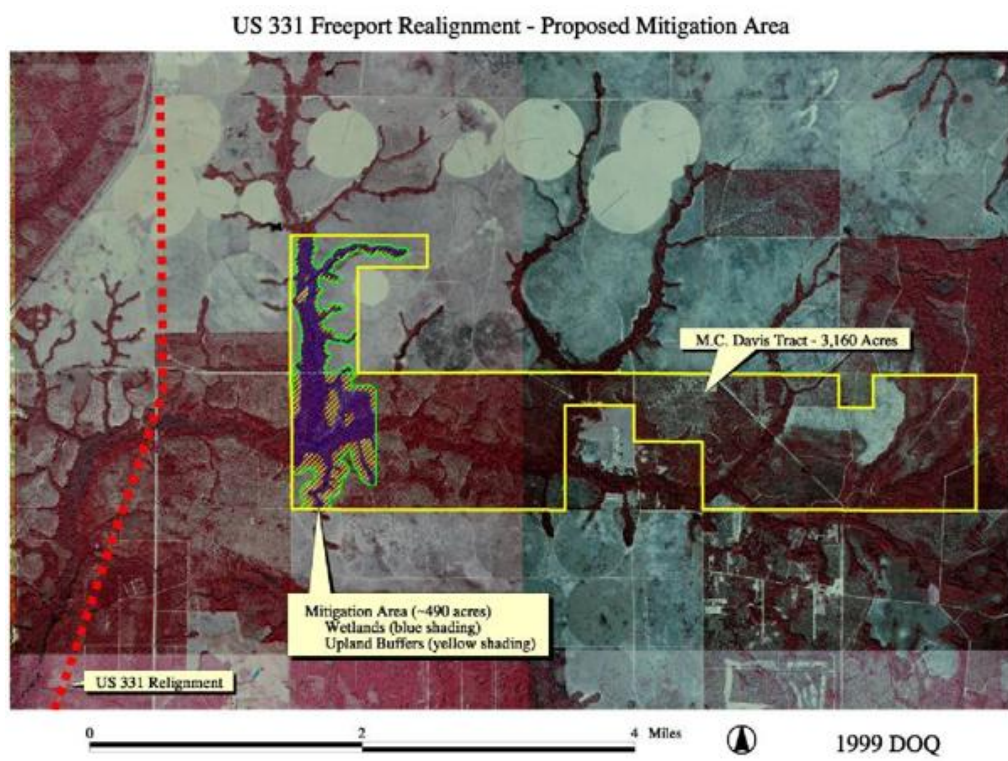


Figure 2. Mitigation area map



Figures 3 (1) & 4 (6). Sandhill adjacent to upper ravine (Former Bahia grass pasture)



Figures 5 (7) & 6 (8). Upland sandhill, thinned, burned, seeded with wire grass and planted with longleaf pine seedlings (Adjacent to upper ravine).



Figure 7 (3). Lafayette Creek stream



Figure 8 (4). Lafayette Creek floodplain

(#) is the photo number as referenced in the Field Forms.

Table 1. Species List for Lafayette Creek Ravine 10/30/09

<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 monophylla</i>	Black ti ti	x	5-10
<i>Cnidocolus 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 carolinense</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		
<i>Quercus laurifolia</i>	Laurel oak		
<i>Quercus margaretta</i>	Sand post oak		
<i>Quercus nigra</i>	Water oak	x	5
<i>Rhododendron</i> sp.	Azalea	x	5
<i>Rubus cuneifolius</i>	Sand blackberry		
<i>Sagittaria latifolia</i>	Broadleaf arrowhead	x	<5

Scientific Name	Common Name	Ravine	% Cover
<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 10/30/09

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 alnifolia</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</i> spp.	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>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>Scientific Name</i>	Common Name	Uplands (North)	Uplands (South)	% Cover (Upl-north/ Upl-south)
<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 elliotii</i>	Slash pine			
<i>Pinus palustris</i> , grass stage	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>Peridium 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 30, 2009
Name(s) of Data Collectors: Brandon Tidwell	Weather: ptly cloudy; windy; hi 70s/low 80s
Environmental Description: Photos 2, 3, and 4	
Polygon: Lafayette Creek and associated floodplain and seep slope GPS Location: see map for location – GPS would not acquire satellites - Time: 1100	
<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; 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 shrub stratum -no exotic/nuisance/invasives noted -overall, community appears healthy and is appropriately diverse and stratified</p>	

Vegetation Assessment Field Form Qualitative Assessment: Lafayette Creek

Project: Date:

Name(s) of Data Collectors: Brandon Tidwell | Weather:

Environmental Description: Photo #'s

Polygon: GPS Location: Time:

Nuisance Species: Fuel Load:

Wildlife Observations: Numerous passerines/songbirds noted
 Water depth: +/- 10 inches; varies along creek
 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				
<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 monophylla</i>	Black ti ti	x			5-10				
<i>Cnidocolus stimulosus</i>	Tread softly								
<i>Cyrilla racemiflora</i>	Red titi	x			10		x		
<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		x		
<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 carolinense</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		x		
<i>Myrica inodorata</i>	Odorless wax myrtle	x			<5				
<i>Nyssa biflora</i>	Black gum	x			15		x		
<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								

Site Inspection Field Form	
Project: Lafayette Creek	Date: October 30, 2009
Name(s) of Data Collectors: Brandon Tidwell	Weather: ptly cloudy; windy; hi 70s/low 80s
Environmental Description: Photo # 5	
Polygon: Upland buffer north of powerline GPS Location: see map for location – GPS would not acquire satellites - Time: 1100	
<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. Some bahia grass noted within and landward of up buffer.</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; 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 -approximately 5-10% bahia grass coverage on average -minimal wiregrass noted -shrub stratum virtually absent -some oaks – primarily sand post oak, turkey, bluejack, and water oak -approximately 80% groundcover by desirable grasses and herbs -very few longleaf pine seedlings noted 	

Vegetation Assessment Field Form Qualitative Assessment: Lafayette Creek	
Project: Date:	
Name(s) of Data Collectors: Brandon Tidwell	Weather:
Environmental Description: Photo #'s	
Polygon: GPS Location: Time:	
Nuisance Species: Fuel Load:	
Wildlife Observations: Deer and small mammal tracks. Numerous passerines/songbirds noted. Water depth: N/A 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? Bahia grass approximately 5-10% cover on average, very few longleaf pine seedlings noted, overall doing well and trending towards success criteria. Potential Problems and solutions: Suggest replanting of longleaf and continued management of bahia grass.	

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									
<i>Andropogon virginicus</i>	Broom sedge		x			5				
<i>Aristida stricta</i> var. <i>beyrichiana</i>	Wiregrass		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		x			<5				
<i>Callicarpa americana</i>	Beauty berry									
<i>Carex tenax</i>	Caric sedge									
<i>Clethra alinifolia</i>	Sweet pepper bush									
<i>Cliftonia monophylla</i>	Black ti ti									
<i>Cnidocolus stimulosus</i>	Tread softly		x			<5				
<i>Dalea pinnata</i>	Summer-farewell		x			<5				
<i>Dicanthelium</i> spp.	Panic grass		x			<5				
<i>Diospyros virginiana</i>	Persimmon		x			<5				
<i>Eupatorium compositifolium</i>	Dog fennel		x			<5				
<i>Gnaphalium pensylvanicum</i>	Cudweed									
<i>Helianthemum carolinianum</i>	Rock-rose									
<i>Hypericum gentinoides</i>	Pineweed		x			<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			<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>Scientific Name</i>	Common Name	Ravine	Uplands (North)	Uplands (South)	Walk paths	% Cover	Condition	Dominant Species	Natural Recruitment	Flowering/ Fruiting
<i>Pinus elliottii</i>	Slash pine									
<i>Pinus palustris</i>	Longleaf pine		x			<5	Grass stage			
<i>Pityopsis aspera</i>	Pineland silkgrass		x			<5				
<i>Polygonella sp.</i>	Jointweed		x			<5				
<i>Pteridium aquilinum</i>	Brachen fern		x			<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			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			<5				
<i>Salix caroliniana</i>	Willow									
<i>Schrankia microphylla</i>	Sensitive briar		x			<5				
<i>Serenoa repens</i>	Saw palmetto		x			<5				
<i>Smilax bonna-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 – see pics			x			80		x		

*Florida-threatened species

Site Inspection Field Form	
Project: Lafayette Creek	Date: October 30, 2009
Name(s) of Data Collectors: Brandon Tidwell	Weather: ptly cloudy; windy; hi 70s/low 80s
Environmental Description: Photo #'s 1,6,7,8,9	
Polygon: Upland buffer south of powerline GPS Location: see map for location – GPS would not acquire satellites - Time: 1030	
<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. No infestation noted.</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> <ul style="list-style-type: none"> -fuel load minimal -no exotic/invasive/nuisance noted -wiregrass plugs doing well; excellent survivorship and growth -shrubs defoliated mostly -minimal coverage of oaks -approximately 80% groundcover by desirable grasses and herbs -very few longleaf pine seedlings noted; very poor survivorship -many dead <i>Smilax</i> spp. vines 	

Vegetation Assessment Field Form Qualitative Assessment: Lafayette Creek	
Project: Date:	
Name(s) of Data Collectors: Brandon Tidwell	Weather:
Environmental Description: Photo #'s	
Polygon: GPS Location: Time:	
Nuisance Species: Fuel Load:	
Wildlife Observations: Deer and small mammal tracks. Numerous passerines/songbirds noted. Water depth: N/A 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? Wire grass plugs doing very well, very few longleaf pine seedlings noted, oaks well-thinned, Bahia grass <5% cover, overall doing well and trending towards success criteria. Potential Problems and solutions: Suggest replanting of longleaf	

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									
<i>Andropogon virginicus</i>	Broom sedge			x		5				
<i>Aristida stricta</i> var. <i>beyrichiana</i>	Wiregrass			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									
<i>Carex tenax</i>	Caric sedge									
<i>Chrysoma sp. (see photos)</i>	?			x		80		x		
<i>Clethra alinifolia</i>	Sweet pepper bush									
<i>Cliftonia monophylla</i>	Black ti ti									
<i>Cnidocolus stimulosus</i>	Tread softly			x		<5				
<i>Dalea pinnata</i>	Summer-farewell			x		<5				
<i>Dicanthelium</i> spp.	Panic grass			x		<5				
<i>Diospyros virginiana</i>	Persimmon			x		<5				
<i>Eupatorium compositifolium</i>	Dog fennel			x		<5				
<i>Gnaphalium pensylvanicum</i>	Cudweed			x		<5				
<i>Helianthemum carolinianum</i>	Rock-rose									
<i>Hypericum gentinoides</i>	Pineweed			x		<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 carolinense</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		<5				
<i>Oxydendron arboreum</i>	Sourwood									
<i>Paspalum notatum</i>	Bahia grass									
<i>Persea borbonia</i>	Red bay									

<i>Scientific Name</i>	Common Name	Ravine	Uplands (North)	Uplands (South)	Walk paths	% Cover	Condition	Dominant Species	Natural Recruitment	Flowering/ Fruiting
<i>Persea paulistris</i>	Silk bay									
<i>Phytocalla americana</i>	Pokeweed									
<i>Pinus clausa</i>	Sand Pine									
<i>Pinus elliotii</i>	Slash pine									
<i>Pinus palustris</i>	Longleaf pine			x		<5	Grass stage			
<i>Pityopsis aspera</i>	Pineland silkgrass			x		<5				
<i>Polygonella sp.</i>	Jointweed			x		5				
<i>Pteridium aquilinum</i>	Brachen fern			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			x		5				
<i>Quercus laurifolia</i>	Laurel oak									
<i>Quercus margareta</i>	Sand post oak									
<i>Quercus nigra</i>	Water oak									
<i>Rubus cuneifolius</i>	Sand blackberry			x		<5				
<i>Salix caroliniana</i>	Willow									
<i>Schrankia microphylla</i>	Sensitive briar			x		5				
<i>Serenoa repens</i>	Saw palmetto			x		<5				
<i>Smilax bonna-nox</i>	Greenbriar									
<i>Smilax smallii</i>	Greenbriar									
<i>Smilax auriculata</i>	Ear-leaf greenbrier			x		<5				
<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									

*Florida-threatened species