

**Lafayette Creek – 2006 Monitoring
CORPS Permit No. SAJ-2001-1118 (IP-DEB)**

As part of the requirements of the permit referenced above, the Northwest Florida Water Management District (NFWMD) is submitting to the Army Corps of Engineers (Corps) the first annual report for the Lafayette Creek Restoration project. Restoration activities were initiated in 2006. A vegetation and exotics species survey for the wetlands and associated upland buffer was conducted during the growing season. The failing culverts and a dilapidated bridge were removed in August of 2006. The bridge and culvert replacement is expected to be completed in 2007. Exotic species were treated in August and September for the control of cogon and Bahia grass. Offsite pine and turkey oaks were thinned from July to September. The initial fuel reduction fires were initiated in late September and completed on December 13, 2006. Direct seeding of wire grass and sandhill species occurred on January 10, 2007 for approximately 51 acres adjacent to the stream in Section 31. In February of 2007 longleaf pine will be planted in the uplands. In addition wire grass plugs will be planted in March. The restoration activities are well underway for the Lafayette Creek restoration and the initial planting will be completed in 2007. Evidence of abundant wildlife was observed in both the wetland and adjacent uplands during the site visits.

In The following restoration activities have been initiated or completed in accordance with the restoration plan and permit requirements:

- 1) A total of 490 acres containing approximately 312 acres of freshwater stream and hydric or mesic pine flatwoods as well as 178 acres of upland buffer have been acquired and preserved by the Northwest Florida Water Management District.
- 2) During the growing season of 2006, a species list was generated for the wetlands and associated upland buffer (Table 1 and 2).
- 3) A nuisance and exotic species survey was conducted during the growing season. Fairly dense Bahia grass cover was observed in the northwest portion of the restoration. Few sandhill species were observed in this area. Along the northeastern portion of the restoration small patches of cogon grass and Bahia grass were observed. In addition, in this area a diverse remnant sandhill was observed.
- 4) The sandhill species should act as an excellent seed source for the restoration in this area. The first herbicide treatment of the cogon grass and Bahia grass was conducted on August 24th 2006. Site inspections indicated that initial treatment successfully killed the majority of the target species. A follow up treatment was applied on October 3rd, 2006. December inspections indicated that very little, if any, cogon or Bahia grass cover occurs. The site is well below the 1% exotic and 5% nuisance native cover. A spring survey will be conducted to determine if further treatment will be necessary.
- 5) The thinning of loblolly pine, turkey oak and live oak in the sandhill upland was initiated on July 24th and completed on September 4th.
- 6) The dilapidated bridge and culverts were removed in August of 2006. The bridge and culvert replacement is expected to be completed in 2007.
- 7) Fire was re-introduced to the site in accordance with the approved burn plan. The initial fuel reduction burns were conducted on September 22, and October 30, 2006 for the south side of the restoration. Fuel reduction burns were conducted on December 5, and

December 13, 2006 for the northern part of the restoration. All initial fuel reduction burns have been completed.

- 8) A total of 570 pounds of wire grass and sandhill species seed collected from the Econfin Water Management Area was direct seeded on January 10, 2007. The seed was planted within 51 acres at the top of Section 31. In March of 2007, a total of 133,100 wire grass plugs will be planted in the sandhill upland adjacent to Lafayette Creek.
- 9) Longleaf pine seedlings will be planted in February of 2007 in the uplands adjacent to Lafayette Creek in Sections 4, 5, 6 and 31.
- 10) A WRAP evaluation was conducted on September 22nd for the site based on work completed to date. Based on onsite wildlife observations detailed below the wildlife score was slightly raised. While many of the restoration activities have been implemented, the re-planting of the upland buffer will be completed in 2007. Once this occurs, the upland buffer score should reach the target WRAP score of 2.0.

WRAP Category	WRAP Score
Wildlife	2.25
Overstory	2.75
Groundcover	2.75
Adjacent Buffer	1.75
Hydrology	3
Water Quality	3

Wildlife use within the restoration is high. Deer, raccoon, and armadillo tracks were observed adjacent to the stream while turkey and possum tracks were observed in the adjacent uplands. Turkey Vultures, Mourning Doves, Red-shouldered Hawk, Titmouse and Blue Jays were observed during the site visits. Attached are a series of photographs taken showing the restoration activities conducted to date on the site.

Table 1. Species List for Lafayette Creek Stream and Ravine

Scientific Name	Common Name	Tree	Shrub	Vine	Herb
<i>Asimina parviflora</i>	Paw paw		X		
<i>Baccharis glomeruliflora</i>	Groundsel tree		X		
<i>Callicarpa americana</i>	Beauty berry		X		
<i>Carex tenax</i>	Caric sedge				X
<i>Clethra alnifolia</i>	Sweet pepper bush		X		
<i>Cliftonia monophylla</i>	Black ti ti		X		
<i>Dicanthelium</i> spp.	Panic grass				X
<i>Ilex coriacea</i>	Large gallberry		X		
<i>Ilex vomitoria</i>	Yaupon		X		
<i>Kalmia latifolia</i> *	Mountain laurel		X		
<i>Magnolia grandiflora</i>	Southern magnolia	X			
<i>Magnolia virginiana</i>	Silver bay	X			
<i>Myrica inodorata</i>	Odorless wax myrtle		X		
<i>Oxydendron arboreum</i>	Sourwood	X			
<i>Persea borbonia</i>	Red bay	X			
<i>Persea paulistris</i>	Silk bay	X			
<i>Phytocalla americana</i>	Pokeweed				X
<i>Pinus clausa</i>	Sand Pine	X			
<i>Pinus elliottii</i>	Slash pine	X			
<i>Pinus palustris</i>	Longleaf pine	X			
<i>Pteridium aquilinum</i>	Brachen fern				X
<i>Quercus hemisphaerica</i>	Diamond oak	X			
<i>Quercus geminata</i>	Sand live oak	X			
<i>Quercus laurifolia</i>	Laurel oak	X			
<i>Quercus nigra</i>	Water oak	X			
<i>Rubus cuneifolius</i>	Sand blackberry		X		
<i>Salix caroliniana</i>	Willow		X		
<i>Serenoa repens</i>	Saw palmetto		X		
<i>Smilax bonna-nox</i>	Greenbriar			X	
<i>Typha latifolia</i>	Cattail				X
<i>Woodwardia virginica</i>	Virginia chain fern				X
<i>Woodwardia areolata</i>	Netted chain fern				X
<i>Vaccinium arboreum</i>	Sparkleberry	X	X		
<i>Vitis rotundifolia</i>	Muscadine grape			X	

* State Threatened Species

Table 2. Species List for Lafayette Creek Uplands

Scientific Name	Common Name	Tree	Shrub	Vine	Herb
<i>Agalinis purpurea</i>	Purple false foxgloves				X
<i>Amsonia ciliata</i>	Bluestar				X
<i>Andropogon virginicus</i>	Broom sedge				X
<i>Aristida stricta</i> var. <i>beyrichiana</i>	Wiregrass				X
<i>Asclepias humistrata</i>	Milkweed				X
<i>Astragalus villosus</i>	Hairy milk vetch				X
<i>Baccharis glomeruliflora</i>	Groundsel tree		X		
<i>Balduina angustifolia</i>	Coastal plain honeycomb head				X
<i>Baptisia lanceolata</i>	Pineland wild indigo				X
<i>Cnidocolus stimulosus</i>	Tread softly				X
<i>Dalea pinnata</i>	Summer-farewell				X
<i>Dicanthelium</i> spp.	Panic grass				X
<i>Diospyros virginiana</i>	Persimmon	X			
<i>Eupatorium compositifolium</i>	Dog fennel		X		X
<i>Helianthemum carolinianum</i>	Rock-rose				X
<i>Hypericum gentinoides</i>	Pineweed				X
<i>Ilex vomitoria</i>	Yaupon		X		
** <i>Imperata cylindrica</i>	Cogon grass				X
<i>Licania michauxii</i>	Gopher apple				X
<i>Lithospermum caroliniense</i>	Pucoon				X
<i>Lupinus diffuses</i>	Sky-blue lupine				X
<i>Lupinus perennis</i>	Sundial lupine				X
<i>Magnolia grandiflora</i>	Southern magnolia	X			
** <i>Paspalum notatum</i>	Bahia grass				X
<i>Persea borbonia</i>	Red Bay	X			
<i>Pinus clausa</i>	Sand pine	X			
<i>Pinus elliotii</i>	Slash pine	X			
<i>Pinus palustris</i>	Longleaf pine	X			
<i>Pityopsis aspera</i>	Pineland silkgrass				X
<i>Pteridium aquilinum</i>	Bracken fern				X
<i>Opuntia humifusa</i>	Prickly-pear cactus				X
<i>Quercus incana</i>	Blue jack oak	X			
<i>Quercus laevis</i>	Turkey oak	X			

Quercus laurifolia	Swamp laurel oak	X			
Quercus margaretta	Sand post oak	X			
Quercus nigra	Water oak	X			
Salix caroliniana	Willow		X		
Serenoa repens	Saw palmetto		X		
Schrankia microphylla	Sensitive briar			X	X
Smilax smallii	Greenbriar			X	
Tephrosia virginiana	Devil's Shoestring				X
Tradescantia hirsutiflora	Hairy spiderwort				X
Vaccinium arboreum	Sparkleberry	X	X		
Vitus rotundifolia	Muscadine grape			X	
Yucca filamentosa	Adam's needle				

** Exotic species



Upland sandhill buffer prior to restoration activities



Upland sandhill buffer following pine and oak thinning



Reintroduction of fire to the sandhill upland buffer



Re-introduction of fire to the sandhill upland buffer



Post burn photos of sandhill upland buffer



Post burn photos of sandhill upland buffer



Lafayette Creek and adjacent wetlands



Failed bridge over Wolf Creek