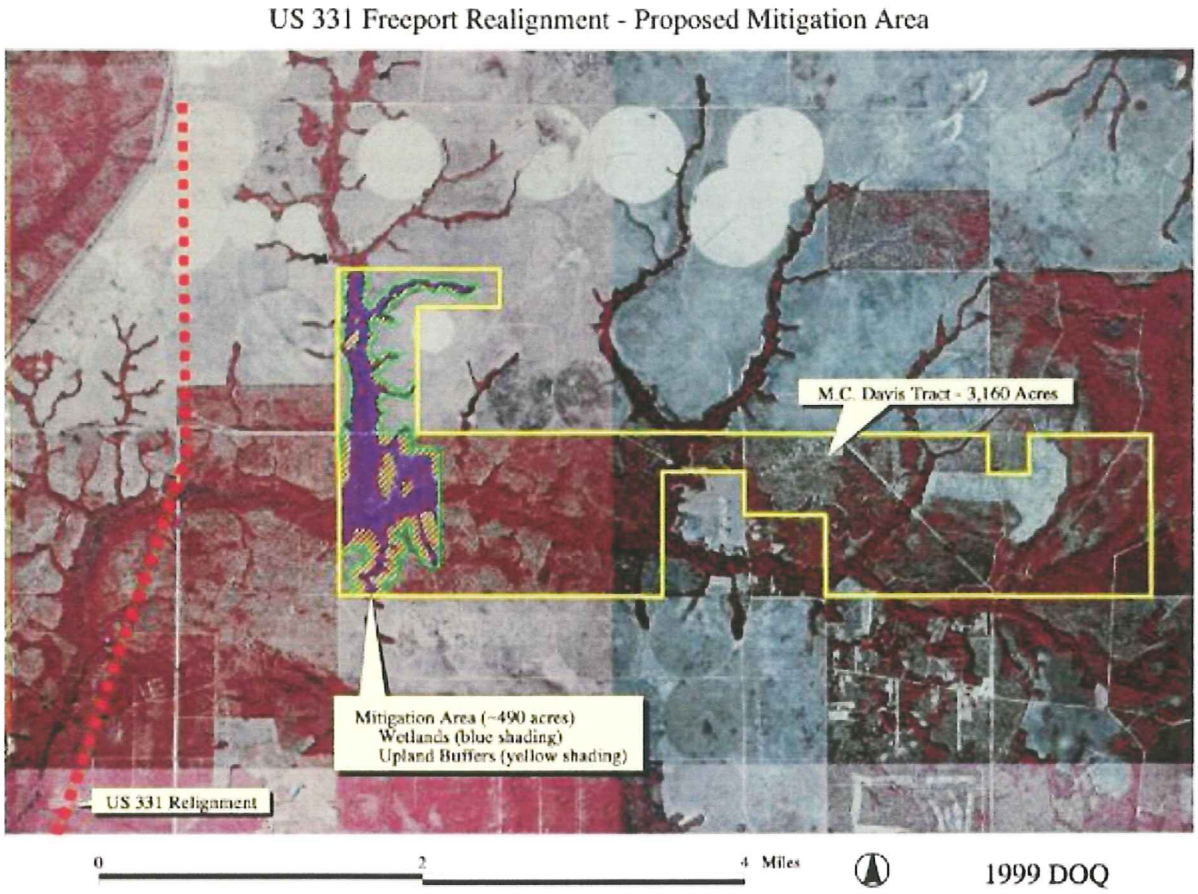
Lafayette Creek – Second Annual Monitoring Report 2007
CORPS Permit No. SAJ-2001-1118 (IP-DEB)

As part of the requirements of the permit referenced above, the Northwest Florida Water Management District (NWFWMD) is submitting to the Army Corps of Engineers (Corps) the second annual report for the Lafayette Creek Restoration project. Restoration activities were initiated in 2006 and are ongoing. A vegetation and exotics species survey for the wetlands and associated upland buffer was conducted during 2006, 2007 and early 2008. The failing culverts and a dilapidated bridge were removed in August of 2006. The bridge and culvert replacement is was completed in 2007. Exotic species were treated in August and September 2006 for the control of cogon and Bahia grass. Offsite sand pine and turkey oaks were thinned from July to September 2006. The initial fuel reduction fires were initiated in late September and completed on December 13, 2006. A total of 51 acres adjacent to the unnamed stream in Section 31 were direct planted with wire grass seed on January 10, 2007. In addition wire grass tublings on 3 foot centers for were planted in March 2007 and January 2008. In addition in February of 2007 longleaf pine tublings were planted throughout the uplands. The restoration activities are well underway for the Lafayette Creek restoration. Wildlife was abundant and observed in both the wetland and adjacent uplands during the site visits. Representative photos have been included (Figures 3-7).

Figure 1. Location map for Lafayette Creek Mitigation Site

Figure 2. Mitigation area map



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

1) In 2006, 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 were acquired by the Northwest Florida Water Management District (Figure 1 and 2).

2) During the growing season of 2006 and 2007, a species list was generated for the wetlands and associated upland buffer (Table 1 and 2).

3) The dilapidated bridge and culverts were removed in August of 2006. The bridge and culvert replacement was completed in March 2007.

4) Thinning of sand pine, turkey oak and live oak in the sandhill upland was initiated on July 24th and completed on September 4, 2006.

5) 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.

6) Longleaf pine seedlings will be planted in February of 2007 in the uplands adjacent to Lafayette Creek in Sections 4, 5, 6 and 31. However, site inspections in late 2007, revealed that the majority of these trees did not survive the drought of 2007. This area will be replanted in 2009.

7) A total of 570 pounds of wire grass seed collected from the Econfina 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 were planted in the sandhill upland adjacent to Lafayette Creek. However, due to the drought in 2007, few of the tublings survived over the long dry summer. The area was replanted with wire grass plugs on 3' centers in January of 2008.

8) 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.

9) Nuisance and exotic species survey was conducted in early 2006, mid 2007 and early 2008. Even though early evaluations were promising, it is apparent that the Bahia grass re-sprouted from rhizomes and the seed bank. In February 2008, approximately 0-30% Bahia grass cover was observed within the northwest portion of the upland buffer and 5-50% Bahia grass cover was observed in the northeast portion of the restored buffer. During 2008 extensive treatments of the Bahia grass will occur to reduce Bahia grass cover to acceptable levels.

10) Even though Bahia grass cover remains, recruitment of sandhill species was observed on both the northeast and northwest upland restoration buffers. However, greater numbers or plants and species were observed along the northwest portion of the restoration. As the site develops, the sandhill species will continue to act as an excellent seed source for the restoration in this area.

11) 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.

2006 WRAP Score

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

Water Quality	3

2007 WRAP Score

WRAP Category	WRAP Score
Wildlife	2.0*
Overstory	2.75
Groundcover	2.75
Adjacent Buffer	1.5**
Hydrology	3
Water Quality	3

In 2007, the WRAP evaluation was lowered for both the wildlife and buffer. The lowered wildlife score is due to the presence of feral hogs within the upland buffer. A herd of approximately 20 hogs moved onto the site in late 2007. Efforts to trap them were initiated in February 2008 and are ongoing. Quite a few hogs have been trapped to date and efforts are ongoing. The buffer score was lowered to reflect the Bahia grass cover within the adjacent buffer. Efforts to treat the Bahia grass are underway and the cover is expected to be greatly reduced by the next monitoring report. It is expected that the WRAP scores will improve as the exotic species are removed.

SUCCESS CRITERIA

Success criteria will consist of the acquisition, preservation and enhancement of not less than 490 acres of wetlands and associated upland buffer in the Lafayette Creek drainage proximate to the FDOT impacts. Long-term management plans would ensure protection and enhancement of wetland integrity and function. Appropriate monitoring, including annual photo documentation, will be conducted for at least five years after land acquisition. Exotic species will be held to less than 5% of groundcover. Long-term, upland buffers will be restored to longleaf pine / wiregrass community. Unnecessary dirt roads will be abandoned and erosion areas stabilized as appropriate.

In 2007, the majority of the success criteria have been met. Not less than 490 acres of wetland and associated upland buffer was purchased and preserved by the NWFWMD. Appropirate monitoring has occurred to evaluate the site. While many of the wire grass plugs and long leaf pine tublings planted in the upland and upland buffer to the wetland did not survive well due to the drought, the wire grass tublings were re-planted and the long leaf pine seedlings will be replanted in 2009. Treatment of the Bahia grass was initiated in 2006, and though cover increased since the initial treatment, in 2008, a thorough Bahia grass treatment program will be implemented.

Table 1. Species List for Lafayette Creek Ravine 02/11/08

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

* State Threatened Species,

Table 2. Species List for Lafayette Creek Uplands

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

Quercus laevis	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				

Figure 3. Upland sandhill, thinned, burned, seeded with wire grass and planted with longleaf pine seedlings.

Figure 4. Uplands grading into seepage wetland

Figure 5. Ravine with flowing stream

Figure 6. Upland buffer with scattered native species

Figure 7. Upland buffer with wire grass and Baha grass