

Lafayette Creek – Third Annual Monitoring Report 2008
CORPS Permit No. SAJ-2001-1118 (IP-DEB) Issued 2/4/05
Walton County

Impact: 331 Freeport Re-alignment.—8.63 Acre impact
Monitoring date: October 22, 2008

SCOPE

A wetland restoration 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 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 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. A total of 178 acres of upland buffer had offsite sandpine removed and was burned and replanted with long leaf pine and wire grass. The areas adjacent to the ravine have had exotic Bahia grass and cogon grass treated to allow the natural regeneration of native sandhill vegetation. A fifty foot upland buffer adjacent to the ravine was planted with wire grass tublings on 3' centers and long leaf pine will be planted at a rate of 436 trees per acre.

Restoration Accomplishments

The failing culverts and a dilapidated bridge were removed in August of 2006. The bridge and culvert replacement was completed in 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 February of 2007 in the uplands adjacent to Lafayette Creek in Sections 4, 5, 6 and 31. 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 on January 10, 2007. In addition wire grass tublings on 3 foot centers for were planted in March 2007 and January 2008.

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

Exotics species monitoring for the wetlands and associated upland buffer has been conducted yearly from 2005 – 2008. In 2008 exotic monitoring occurred in January and October. 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 with herbicides designed to eradicate the exotics while not impacting the natives.

Figure 1. Location map for Lafayette Creek Mitigation Site

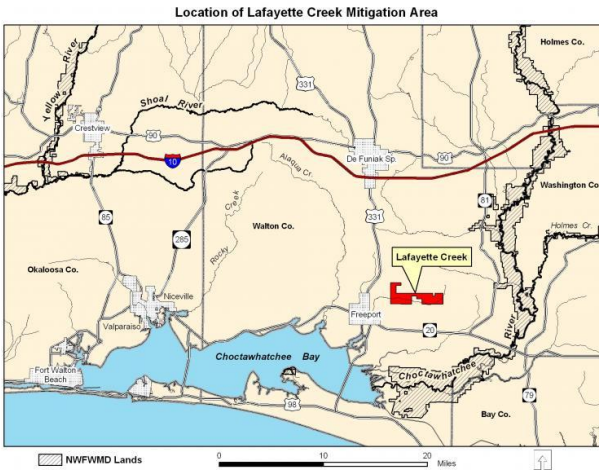
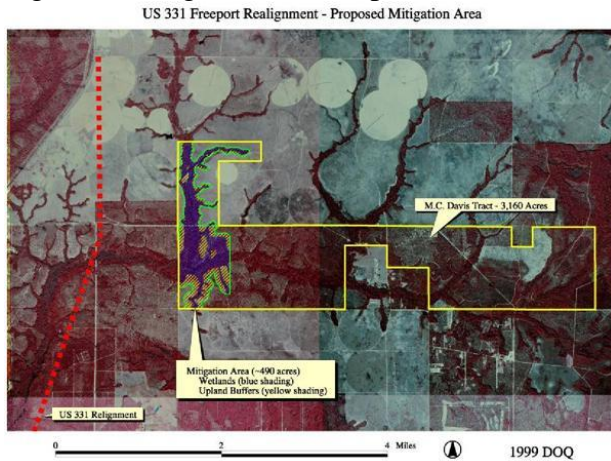


Figure 2. Mitigation area map



WORK SCHEDULE

The ravine wetland vegetation remains diverse healthy and free of exotics with no signs of decline. 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 2009. One small, less than .25 acre patch of Cogon grass remains. It will be treated again in 2009. 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 work planned for 2009 include further treatment of the Bahia and Cogon grass adjacent to the upper ravine, 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

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. **In 2008 there was on small patch of cogon grass in the uplands adjacent to the upper ravine and is well below the 1% coverage requirement. The cover of the non-invasive exotics (Bahia grass) has only been observed adjacent to the upper ravine and is less than the 5% 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.**

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

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 alinifolia</i>	Sweet pepper bush		X		
<i>Cliftonia monophylla</i>	Black ti ti		X		
<i>Dicanthelium spp.</i>	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 pauristris</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 var. 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>Cnidoscolus stimulosus</i>	Tread softly				X
<i>Dalea pinnata</i>	Summer-farewell				X
<i>Dicanthelium spp.</i>	Panic grass				X
<i>Diospyros virginiana</i>	Persimmon	X			
<i>Eupatorium compositifolium</i>	Dog fennel		X		X
<i>Gnaphalium pensylvanicum</i>	Cudweed				X
<i>Helianthemum carolinianum</i>	Rock-rose				X
<i>Hypericum gentinoides</i>	Pineweed				X
<i>Ilex vomitoria</i>	Yaupon		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 elliottii</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			
<i>Quercus laurifolia</i>	Swamp laurel oak	X			
<i>Quercus margaretta</i>	Sand post oak	X			
<i>Quercus nigra</i>	Water oak	X			
<i>Salix caroliniana</i>	Willow		X		
<i>Serenoa repens</i>	Saw palmetto		X		
<i>Schrankia microphylla</i>	Sensitive briar			X	X
<i>Smilax smallii</i>	Greenbriar			X	
<i>Tephrosia virginiana</i>	Devil's Shoestring				X
<i>Tradescantia hirsutiflora</i>	Hairy spiderwort				X
<i>Vaccinium arboreum</i>	Sparkleberry	X	X		
<i>Vitis rotundifolia</i>	Muscadine grape			X	
<i>Yucca filamentosa</i>	Adam's needle				



Figure 3. Upland sandhill, thinned, burned, seeded with wire grass and planted with longleaf pine seedlings (Adjacent to upper ravine).



Figure 4. Sandhill adjacent to upper ravine (Former Bahia grass pasture)



Figure 5. Ravine with flowing stream