

BELLAMY MITIGATION SITE SECOND ANNUAL MONITORING REPORT

Bellamy Property Jackson County

SAJ-2007-6119 (IP-DEB), issued 6/4/2009

Impact: Calhoun County Airport Expansion Offsite Mitigation, SAJ-2007-6119 (IP-DEB)

Mitigation: Bellamy Property

Monitoring Date: November 5, 2009

SCOPE

The purpose of this project is to provide a partial offset for wetland impacts caused by expansion of the Calhoun County Airport. Per Corps permit, approximately 7.18 acres of palustrine forested wetlands are directly impacted by the Airport expansion, with additional direct and secondary impacts to other waters of the United States. Compensatory mitigation for the Airport expansion is being implemented at three locations (onsite, Atkins Park, and the Bellamy Site). Mitigation at the Bellamy Property consists of preservation and enhancement of 50 acres of forested floodplain along the Chipola River (48 acres palustrine forested wetlands; 2 acres forested upland buffers). The NFWMD is responsible only for mitigation at the Bellamy Site and bears no responsibility whatsoever for the implementation, success, or monitoring of the onsite mitigation or Atkins Park mitigation projects.

PROPOSED MITIGATION

As part of its mission to protect water resources in the Florida Panhandle, the NFWMD owns and manages for ecological integrity 7,377.27 acres of floodplain wetlands and associated upland buffers along the upper Chipola River north of Florida Caverns State Park. Acquisition (fee-simple) of the 338.70-acre Bellamy Property from the International Paper Company (IP) will increase the protected acreage to 7,715.97 acres and is part of a larger goal of bringing some 14,000 acres within the Chipola basin under NFWMD-ownership and ecological stewardship. Located in a karst area of Jackson County and adjacent to the Chipola River, the Bellamy tract consists of high-quality bottomland forest, tupelo/cypress floodplain sloughs, a 2nd order magnitude spring, small sinkholes on the floodplain, and limited transitional mesic forested upland buffers. It is bounded by the Chipola River and existing NFWMD lands to the west and the Arborgen Bellamy Seed Orchard to the east. A 50-acre portion of this property will be dedicated as offsetting mitigation for impacts associated with the Calhoun County Airport.

This mitigation area is primarily high-quality bottomland wetland forest (48 acres), a high-quality, 2nd order magnitude spring, several small sinkholes within the floodplain, and limited upland buffers (1 acre of transitional, mesic slope forest and 1 acre of degraded sandhill community with offsite sand pine, spruce pine and cedar). There are minor occurrences of exotic and/or invasive species in the wetland and upland buffers (e.g., *Lygodium japonicum*, *Ligustrum*

sinense, *Sapindus saponaria*, *Lonicera japonica*). Relict cypress stumps suggest logging along the Chipola River in the distant past. The mitigation project entails preservation, enhancement, and implementation of ecological management of bottomland hardwood wetland forest within the Chipola River watershed, a major tributary to the Apalachicola River.

MITIGATION ACTIVITIES

The site will be preserved in perpetuity in a natural state as part of the NFWMD Chipola River Water Management Area (WMA). Exotic/invasive species have been observed along the upland periphery (*Lygodium japonicum*, *Ligustrum sinense*, *Sapindus saponaria*, and *Lonicera japonica*) will be treated with appropriate wetland approved herbicides after acquisition. Management of exotic/invasive plant species and nuisance faunal species (e.g., feral pig and beaver) will be perpetual. Quarterly reports will be generated for feral pig and beaver control and included in the annual report. Land ownership signage will be clearly posted along the property boundaries. Prescribed fire will be implemented, in adjacent upland buffers on a 3-5 year burn regime.

Mitigation commenced with acquisition of the Bellamy Property in March, 2009, and all performance standards are currently met. Management of very minor occurrences of exotic and invasive species found on the upland periphery (<1% exotics and <5% invasives).

After implementation of mitigation, this site will be actively maintained by NFWMD lands management personnel as part of an extensive conservation land management program within the Chipola River WMA. This site is expected to be largely self-sustaining.

WORK SCHEDULE

- Acquisition: **Completed in March 2009**
- Exotic control with herbicides: **Completed in 2009**
- Continuing exotic control: **Ongoing**
- Beaver and feral pig control: **Ongoing**
- Prescribed fire of upland buffers: **planned for 2012-2014 timeframe**

SUCCESS CRITERIA

The project's success criteria are:

Performance Standard	Condition Met?
≥ 90% cover by appropriate wetlands species (i.e., FAC+ or wetter) suitable for target plant community.	Yes
Invasive species cover ≤ 5% and exotic species cover ≤ 1% (pursuant to the most current list established by the Florida Exotic Pest Plant Council).	Yes
Desired species showing evidence of stable or increasing coverage.	Yes
Increase or stable appropriate species diversity.	Yes
Kind and total coverage of species appropriate for management goals and target natural community.	Yes
Kind and total coverage of herbaceous species appropriate for management goals and target natural community.	Yes
Kind and total coverage of tree species appropriate for management goals and target natural community.	Yes
Maintain the ecological conditions so that the mitigation UMAM scores are met for each of the specified community types.	Yes

During the most recent site inspection (11/05/09), all performance standards were found to be met.

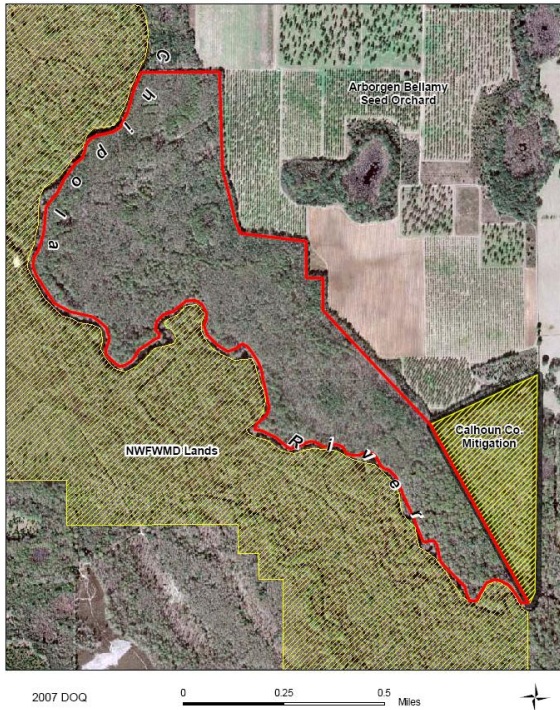
Conclusions:

The site consists of high-quality bottomland wetland forest (48 acres) with limited upland buffers on the periphery (1 acre of transitional, mesic slope forest and 1 acre of degraded sandhill community with offsite sand pine, spruce pine and cedar). A high-quality, 2nd order magnitude spring and several small sinkholes within the floodplain also occur. Despite minor occurrences of exotic and invasive species along the periphery (e.g., *Lygodium japonicum*, *Ligustrum sinense*, *Sapindus saponaria*, *Lonicera japonica*), the percent cover of these species is below the 1% exotic and 5% invasive species cover threshold.

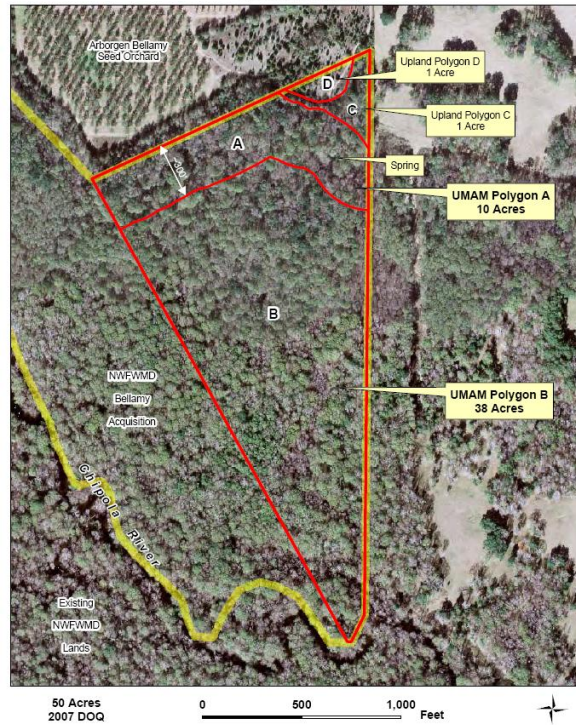
Location of Bellamy Property



Bellamy Property (288.7 +/- Acres)



UMAM Polygons

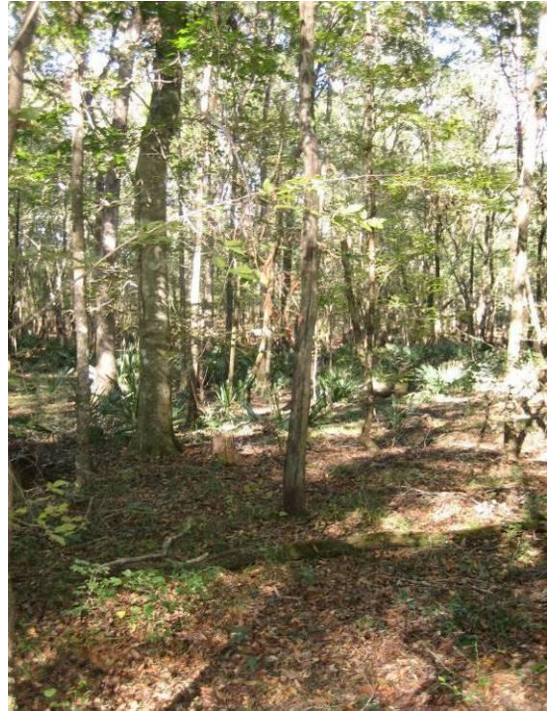




Bellamy 2nd Order Magnitude Spring, Polygon A



Bellamy Bottomland, Polygon A



Bellamy Bottomland, Polygon B



Bellamy Upland Forest, Polygon C



Bellamy Upland buffer, Polygon D

Plant Species Observed

<i>Scientific Name</i>	Common Name	Polygon A	Polygon B	Polygon C	Polygon D
<i>Acer floridanum</i>	Florida maple	X	X		
<i>Acer rubrum</i>	Red maple	X	X		X
<i>Acer saccharinum</i>	Silver maple	X	X		
<i>Aesculus pavia</i>	Red buckeye				
<i>Agalinis sp.</i>	False fox glove			X	X
<i>Arisaema dracontium</i>	Green dragon				
<i>Arisema triphyllum</i>	Jack-in-the- pulpit				
<i>Arundinaria gigantea</i>	Giant cane	X	X	X	
<i>Asplenium platyneuron</i>	Ebony spleenwort		X		
<i>Bignonia capreolata</i>	Cross vine				
<i>Callicarpa americana</i>	Beauty berry	X	X	X	
<i>Campsis radicans</i>	Trumpet vine				
<i>Carex gigantea</i>	Sedge		X		
<i>Carpinus caroliniana</i>	Ironwood	X	X	X	
<i>Carya aquatica</i>	Water hickory		X		
<i>Carya cordiformis</i>	Bitternut hickory	X		X	
<i>Celtis laevigata</i>	Sugarberry	X		X	
<i>Cephalanthus occidentalis</i>	Button bush				
<i>Cercis canadensis</i>	Red bud	X		X	
<i>Chaerophyllum procumbens</i>	Spreading chervil				
<i>Chrysogonum virginianum</i>	Green N gold				
<i>Cornus florida</i>	Flowering dogwood			X	
<i>Cornus foemina</i>	Swamp dogwood				
<i>Crataegus aestivalis</i>	May haw				
<i>Crataegus marshallii</i>	Parsley haw				
<i>Crinum sp.</i>	Swamp lily	X			
<i>Dichanthelium sp.</i>	Witch grass	X	X		X
<i>Diospyros virginiana</i>	Persimmon	X	X	X	
<i>Fagus grandifolia</i>	American beech	X			
<i>Galium tinctorium</i>	Stiff marsh bedstraw		X		
<i>Gelsemium rankinii</i>	Swamp jessamine		X		
<i>Gelsemium sempervirens</i>	Florida jessamine	X			X
<i>Halesia diptera</i>	Two-winged silver bells				
<i>Hydrocotyle verticillata</i>	Swamp pennywort				
<i>Hymenocallis sp.</i>	Spider-lily		X		
<i>Hypericum sp.</i>	St. Johns wort	X	X	X	X
<i>Ilex opaca</i>	American holly			X	
<i>Ilex vomitoria</i>	Yaupon holly			X	X
<i>Iris sp.</i>	Iris		X		
<i>Juncus gymnocarpus*</i>	Coville's rush		X		
<i>Juniperus virginiana</i>	Red cedar	X		X	X
<i>Ligustrum sinense***</i>	Chinese privet		X		X
<i>Liquidambar styraciflua</i>	Sweet gum	X	X	X	X
<i>Lonicera japonica***</i>	Japanese honey suckle				
<i>Ludwigia sp.</i>	Rattlebox				
<i>Lygodium japonicum***</i>	Japanese climbing fern	X			
<i>Magnolia grandiflora</i>	Southern magnolia	X			
<i>Menispermum canadense</i>	Moonseed	X	X		
<i>Nyssa sylvatica</i>	Black gum				
<i>Onoclea sensibilis</i>	Sensitive fern				
<i>Pinus clausa</i>	Sand pine	X			
<i>Pinus glabra</i>	Spruce pine	X	X		
<i>Pinus taeda</i>	Loblolly pine	X			X

<i>Scientific Name</i>	Common Name	Polygon A	Polygon B	Polygon C	Polygon D
<i>Pityopsis sp.</i>	Shiners				X
<i>Platanus occidentalis</i>	Sycamore				
<i>Polygala sp.</i>	Smart weed				
<i>Prunus angustifolia</i>	Chicka saw plum				
<i>Prunus caroliniana</i>	Cherry laurel	X	X		
<i>Prunus serotina</i>	Black cherry	X	X		
<i>Quercus hemisphaerica</i>	Diamond oak	X	X		
<i>Quercus laurifolia</i>	Laurel oak	X	X	X	
<i>Quercus lyrata</i>	Overcup oak	X	X	X	X
<i>Quercus michauxii</i>	Basket oak				
<i>Quercus nigra</i>	Water oak	X	X		
<i>Quercus virginiana</i>	Live oak	X	X	X	X
<i>Rhapidophyllum hystrix</i>	Needle palm				
<i>Rhus copallinum</i>	Winged sumac			X	X
<i>Rubus cuneifolius</i>	Sand blackberry			X	X
<i>Rubus trivialis</i>	Dewberry	X	X	X	
<i>Sabal minor</i>	Bluestem palm	X	X		
<i>Samolus ebracteatus</i>	Water pimpernel				
<i>Sapindus saponaria***</i>	Soap berry				
<i>Sebastiania fruticosa</i>	Sebastian bush				
<i>Smilax bonn-nox</i>	Green briar	X	X	X	X
<i>Smilax ecirrhata</i>	Upright carrion flower	X	X	X	X
<i>Smilax laurifolia</i>	Cat briar				
<i>Symplocos tinctoria</i>	Horse sugar	X	X		
<i>Taxodium distichum</i>	Bald cypress		X		
<i>Toxicodendron radicans</i>	Poison ivy	X	X		
<i>Trichostema setaceum</i>	Narrow –leaved blue curls	X	X		
<i>Trillium decipiens</i>	Chattahoochee river wakerobin		X	X	
<i>Ulmus alata</i>	Winged elm				
<i>Ulmus americana</i>	American elm	X	X		
<i>Ulmus rubra</i>	Slippery elm				
<i>Vaccinium corymbosum</i>	High bush blueberry	X	X		
<i>Viburnum dentatum</i>	Arrow wood				
<i>Viburnum obovatum</i>	Walter’s viburnum				
<i>Viola affinis</i>	Florida violet				
<i>Viola walteri</i>	Walter’s violet				
<i>Vitis rotundifolia</i>	Wild muscadine	X	X		
<i>Yeatesia viridiflora</i>	Green-flowered yeatesia				

* State Endangered , **State Threatened, *** Nuisance exotic

Wildlife observed:

Red-tailed hawk
huge Owl

Site Inspection Field Form	
Project: Bellamy	Date: 11/05/09
Name(s) of Data Collectors: Joe Busalacchi	Weather: Clear, 60°F, windy
Environmental Description: Photo #'s	
Polygon: GPS Location: Time:1400-1600 EST	
Qualitative Assessment: Performance Standard	Condition Met?
≥ 90% cover by appropriate wetlands species (i.e., FAC+ or wetter) suitable for target plant community.	X
Invasive species cover ≤ 5% and exotic species cover ≤ 1% (pursuant to the most current list established by the Florida Exotic Pest Plant Council).	X
Desired species showing evidence of stable or increasing coverage.	X
Increase or stable appropriate species diversity.	X
Kind and total coverage of species appropriate for management goals and target natural community.	X
Kind and total coverage of herbaceous species appropriate for management goals and target natural community.	X
Kind and total coverage of tree species appropriate for management goals and target natural community.	X
Maintain the ecological conditions so that the mitigation UMAM scores are met for each of the specified community types.	X
<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>Perimeter fencing intact. Little to no invasive coverage; though some Japanese climbing fern.</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>OK</p>	

C: All construction areas for stabilization and re-vegetation, structure, operation, and integrity;

OK

D: Representative polygons for each UMAM community for fuel load, exotic or nuisance species, planted material survival, groundcover, and shrub condition.

Site looks really good. Some concern for low to no water in swamp. Trees do not seem to be suffering (from low water); could just be seasonal.

Vegetation Assessment Field Form Qualitative Assessment: Bellamy	
Project: Date: 11/05/09	
Name(s) of Data Collectors: Joe Busalacchi	Weather: Clear, 60°F, windy
Environmental Description: Photo #'s	
Polygon: GPS Location: Time:	
Nuisance Species: Fuel Load:	
Wildlife Observations: Water depth: Is the community observed along the walk path representative of the community being measured? To what degree is the restoration in this area trending towards success? Potential Problems and solutions:	

Scientific Name	Common Name	Polygon A	Polygon B	Polygon C	Polygon D
<i>Acer floridanum</i>	Florida maple	X	X		
<i>Acer rubrum</i>	Red maple	X	X		X
<i>Acer saccharinum</i>	Silver maple	X	X		
<i>Aesculus pavia</i>	Red buckeye				
<i>Agalinis sp.</i>	False fox glove			X	X
<i>Arisaema dracontium</i>	Green dragon				
<i>Arisema triphyllum</i>	Jack-in-the- pulpit				
<i>Arundinaria gigantea</i>	Giant cane	X	X	X	
<i>Asplenium platyneuron</i>	Ebony spleenwort		X		
<i>Bignonia capreolata</i>	Cross vine				
<i>Callicarpa americana</i>	Beauty berry	X	X	X	
<i>Campsis radicans</i>	Trumpet vine				
<i>Carex gigantea</i>	Sedge		X		
<i>Carpinus caroliniana</i>	Ironwood	X	X	X	
<i>Carya aquatica</i>	Water hickory		X		
<i>Carya cordiformis</i>	Bitternut hickory	X		X	
<i>Celtis laevigata</i>	Sugarberry	X		X	
<i>Cephalanthus occidentalis</i>	Button bush				
<i>Cercis canadensis</i>	Red bud	X		X	
<i>Chaerophyllum procumbens</i>	Spreading chervil				
<i>Chrysogonum virginianum</i>	Green N gold				
<i>Cornus florida</i>	Flowering dogwood			X	
<i>Cornus foemina</i>	Swamp dogwood				
<i>Crataegus aestivalis</i>	May haw				
<i>Crataegus marshallii</i>	Parsley haw				
<i>Crinum sp.</i>	Swamplily	X			
<i>Dichanthelium sp.</i>	Witch grass	X	X		X
<i>Diospyros virginiana</i>	Persimon	X	X	X	
<i>Fagus grandifolia</i>	American beech	X			
<i>Galium tinctorium</i>	Stiff marsh bedstraw		X		
<i>Gelsemium rankinii</i>	Swamp jessamine		X		
<i>Gelsemium sempervirens</i>	Florida jessamine	X			X
<i>Halesia diptera</i>	Two-winged silver bells				
<i>Hydrocotyle verticillata</i>	Swamp pennywort				
<i>Hymenocallis sp.</i>	Spider-lily		X		
<i>Hypericum sp.</i>	St. Johns wort	X	X	X	X
<i>Ilex opaca</i>	American holly			X	
<i>Ilex vomitoria</i>	Yaupon holly			X	X

Scientific Name	Common Name	Polygon A	Polygon B	Polygon C	Polygon D
<i>Iris sp.</i>	Iris		X		
<i>Juncus gymnocarpus</i> *	Coville's rush		X		
<i>Juniperus virginiana</i>	Red cedar	X		X	X
<i>Ligustrum sinense</i> ***	Chinese privet		X		X
<i>Liquidambar styraciflua</i>	Sweet gum	X	X	X	X
<i>Lonicera japonica</i> ***	Japanese honey suckle				
<i>Ludwigia sp.</i>	Rattlebox				
<i>Lygodium japonicum</i> ***	Japanese climbing fern	X			
<i>Magnolia grandiflora</i>	Southern magnolia	X			
<i>Menispermum canadense</i>	Moonseed	X	X		
<i>Nyssa sylvatica</i>	Black gum				
<i>Onoclea sensibilis</i>	Sensitive fern				
<i>Pinus clausa</i>	Sand pine	X			
<i>Pinus glabra</i>	Spruce pine	X	X		
<i>Pinus taeda</i>	Loblolly pine	X			X
<i>Pityopsis sp.</i>	Shinners				X
<i>Platanus occidentalis</i>	Sycamore				
<i>Polygala sp.</i>	Smart weed				
<i>Prunus angustifolia</i>	Chicka saw plum				
<i>Prunus caroliniana</i>	Cherry laurel	X	X		
<i>Prunus serotina</i>	Black cherry	X	X		
<i>Quercus hemisphaerica</i>	Diamond oak	X	X		
<i>Quercus laurifolia</i>	Laurel oak	X	X	X	
<i>Quercus lyrata</i>	Overcup oak	X	X	X	X
<i>Quercus michauxii</i>	Basket oak				
<i>Quercus nigra</i>	Water oak	X	X		
<i>Quercus virginiana</i>	Live oak	X	X	X	X
<i>Rhapidophyllum hystrix</i>	Needle palm				
<i>Rhus copallinum</i>	Winged sumac			X	X
<i>Rubus cuneifolius</i>	Sand blackberry			X	X
<i>Rubus trivialis</i>	Dewberry	X	X	X	
<i>Sabal minor</i>	Bluestem palm	X	X		
<i>Samolus ebracteatus</i>	Water pimpernel				
<i>Sapindus saponaria</i> ***	Soap berry				
<i>Sebastiania fruticosa</i>	Sebastian bush				
<i>Smilax bonn-nox</i>	Green briar	X	X	X	X
<i>Smilax ecirrhata</i>	Upright carrion flower	X	X	X	X
<i>Smilax laurifolia</i>	Cat briar				
<i>Symplocos tinctoria</i>	Horse sugar	X	X		
<i>Taxodium distichum</i>	Bald cypress		X		
<i>Toxicodendron radicans</i>	Poison ivy	X	X		
<i>Trichostema setaceum</i>	Narrow -leaved blue curls	X	X		
<i>Trillium decipiens</i>	Chattahoochee river wakerobin		X	X	
<i>Ulmus alata</i>	Winged elm				
<i>Ulmus americana</i>	American elm	X	X		
<i>Ulmus rubra</i>	Slippery elm				
<i>Vaccinium corymbosum</i>	High bush blueberry	X	X		
<i>Viburnum dentatum</i>	Arrow wood				
<i>Viburnum obovatum</i>	Walter's viburnum				
<i>Viola affinis</i>	Florida violet				
<i>Viola walteri</i>	Walter's violet				
<i>Vitis rotundifolia</i>	Wild muscadine	X	X		

Scientific Name	Common Name	Polygon A	Polygon B	Polygon C	Polygon D
<i>Yeatesia viridiflora</i>	Green-flowered yeatesia				

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Wildlife observed:
 Red-tailed hawk
 huge Owl