LIVE OAK PENINSULA MITIGATION FIRST ANNUAL MONITORING REPORT

Woolley and Lee Properties
Choctawhatchee Bay, Walton County

Impact: US 331 (US 98 to Choctawhatchee Bay) Impacts: 2 segments with 5.29 and 6.05 acres of forested and freshwater marsh wetlands and losses of 3.80 and 3.77 UMAM units. US 98 (CR 30A-US 331): 60.7 acre impact (mitigation also at Devil's Swamp ROMA). Impacts associated with **SAJ-2007-1175 IP-AWP**, issued 3/3/08 and SAJ-1999-04932 IP-DH, issued 5/22/00

Mitigation: **Woolley and Lee Properties**
Monitoring Date: **October 26, 2010**

SCOPE

Widening US 331 from US 98 to the Choctawhatchee bay will result in the loss of 5.29 and 6.05 acres of forested and freshwater marsh wetlands and losses of 3.80 and 3.77 UMAM units. US 98 (CR 30A-US 331) resulted in a 60.7 acre impact (mitigation also provided at Devil's Swamp ROMA).

MITIGATION PROJECT

To compensate for the loss of wetland function associated with the road widening herbaceous and forested wetland restoration and preservation will occur on Live Oak Peninsula in south Walton County. The plan was reviewed and approved by the Interagency Review Team (IRT).

Background:

Located within Choctawhatchee Bay, Live Oak Peninsula contains approximately 1,000 acres of salt marsh (FLUCCS 642). Species include black needlerush (*Juncus roemerianus*), saltmarsh cordgrass (*Spartina alterniflora*), bulrush (*Scirpus* spp.) and big cordgrass (*Spartina cynosuroides*), with scattered pines and other transitional species occurring on hammocks within the marsh. A network of mosquito control ditches, dug by the South Walton Co. Mosquito Control District during the 1960s, is also within the salt marsh. Some Chinese tallow (*Sapium sebiferum*) had been noted on relic ditch spoil piles. To the east, the salt marsh grades into hydric pine flatwoods (FLUCCS 625) that are under intense development pressures. Functions associated with the Live Oak Peninsula wetlands include shoreline stabilization, buffering upland areas from storm surges, providing nursery and foraging habitat for a variety of aquatic organisms, bird habitat, and the natural filtering of runoff from adjacent uplands.

The NWFWMD currently owns 474.7 acres at Live Oak Peninsula. The McGill property (321.7 acres) was purchased in 1999, followed by a donation in 2001 of an additional 132 acres from the State of Florida Board of Trustees (BOT). The Lee property (20 acres) was acquired in 2009. Efforts have also been made to acquire and bring under NWFWMD management 220 acres of Section 16 School Lands. For past FDOT mitigation needs on US 98, the NWFWMD purchased ~320 acres of salt marsh at Live Oak Peninsula in 1999, followed by acquisition in 2001 of an additional ~132 acres from the State of Florida Board of Trustees (BOT). To further protection of wetland habitat and water resources within Choctawhatchee Bay, the NWFWMD has targeted additional acquisitions, especially hydric pine flatwoods threatened by development, at Live Oak Peninsula. All targeted acquisitions at Live Oak Peninsula are within the South Walton Area Mitigation Project (SWAMP) priority lands.

MITIGATION ACTIVITIES

The two parcels that are the subject of this plan are the Lee and Woolley parcels. The Lee property is about 20 acres, with 18 acres of palustrine forested/emergent and 2 acres estuarine emergent wetlands. Native habitats, including freshwater marsh, salt marsh, and forested wetlands will be enhanced through perpetual ecological management including control of nuisance and exotic plant and animal species and re-introduction of fire. The 40-acre Woolley Property will be acquired, perpetually preserved, and managed. Implementation of this mitigation project will directly address the ecological needs of the Choctawhatchee Bay by protection of wetland habitat and water resources. The Woolley Property consists of estuarine emergent wetlands.

WORK SCHEDULE

- Acquisition of both parcels. **Completed in 2009**
- Management underway. **Ongoing**
- Site boundaries posted **No signage observed in 2010**
- Annual monitoring (photo-documentation and inspection of mitigation site by a qualified biologist or wetland scientist to estimate survival of planted vegetation and percent cover of any exotic / invasive plant species), if required, for five years after shoreline restoration or duration of permit. **2009 and 2010 Monitoring complete**
- Re-introduction of fire through cool season burn. **Ongoing, as needed**
- Herbicide treatment of exotics. **Ongoing, as needed**

SUCCESS CRITERIA

The project's success criteria are:

Enhancement Success Criteria – Lee parcel	
EC-1	Desired species showing evidence of increasing coverage: **Yes**
EC-2	No more than 1% coverage of invasive exotic and 5% nuisance native and non invasive exotic species unless otherwise specified in a management plan: **Yes**
EC-3	Increase in appropriate species diversity: **Appropriate species diversity appears to be maintained, no increase was necessary.**
EC-4	Kind and total coverage of species appropriate for management goals and target natural community: **Yes**
EC-5	Kind and total coverage of herbaceous species appropriate for management goals and target natural community: **Yes**
EC-6	Kind and total coverage of tree species appropriate for management goals and target natural community: **Yes**
EC-8	Maintain the ecological conditions so that the mitigation UMAM scores are met for each of the specified community types: **Yes**

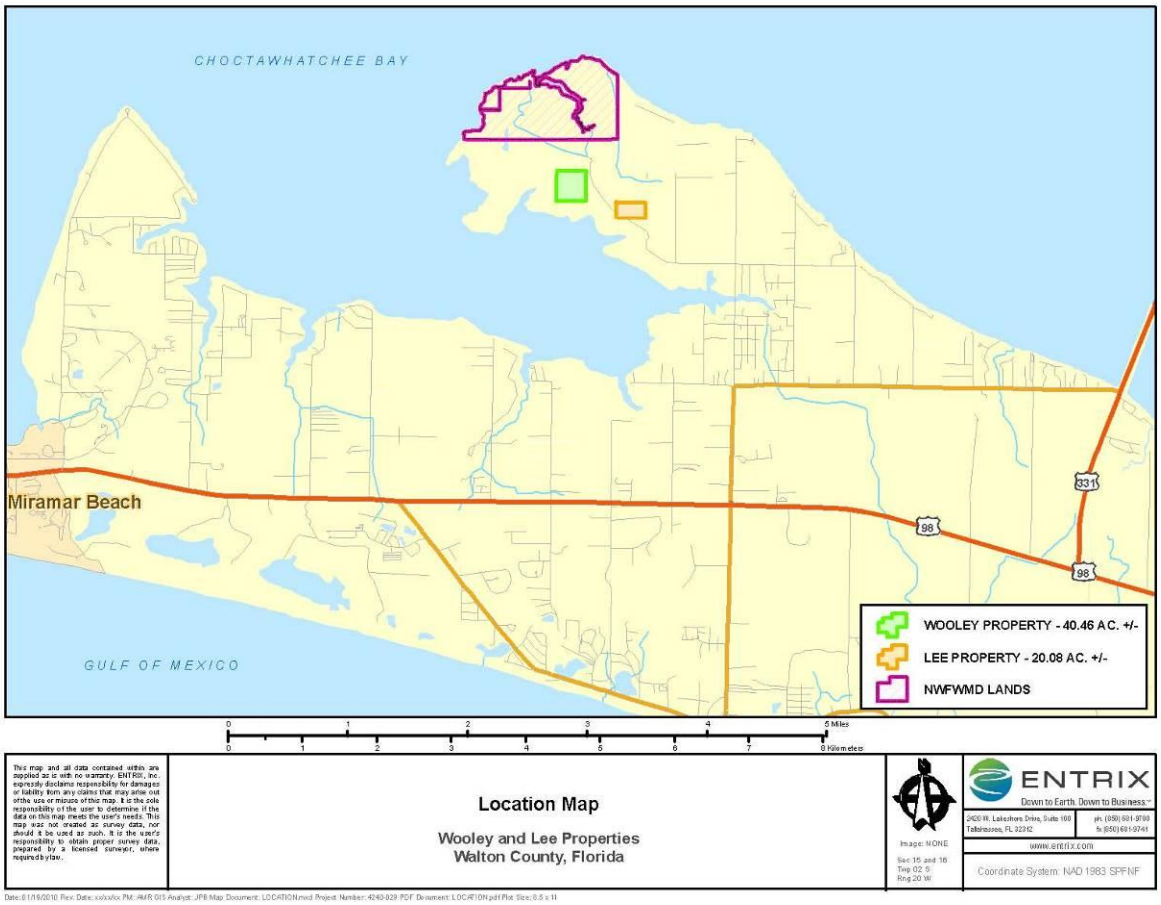
Restoration Success Criteria – Lee Parcel	
RC-1	Desired species showing evidence of increasing coverage: **Yes**
RC-2	No more than 1% coverage of invasive exotic and 5% nuisance native and non invasive exotic species unless otherwise specified in a management plan: **Yes**
RC-3	Increase in appropriate herbaceous, shrub and / or tree species: **Yes**
RC-4	Kind and total coverage of species appropriate for management goals and target natural community: **Yes**
RC-5	Kind and total coverage of herbaceous species appropriate for management goals and target natural community: **Yes**

Restoration Success Criteria – Lee Parcel	
RC-6	Kind and total coverage of tree species appropriate for management goals and target natural community: **Yes**
RC-7	Maintain the ecological conditions so that the mitigation UMAM scores are met for each of the specified community types: **Yes**

Preservation Success Criteria – Woolley Parcel	
PC-1	No observable decline in natural community health: **Yes**
PC-2	Stable or increase in species diversity per wetland type: **Yes, stable**
PC-3	No more than 1% coverage of invasive exotic and 5% nuisance native and non invasive exotic species unless otherwise specified in a management plan: **Yes, *Panicum repens* on access road should be treated to prevent spread if possible**
PC-4	Maintain a dominant cover of native, suitable plant species in the wetland and upland buffer areas appropriate for the type of target community: **Yes**
PC-5	Maintain the ecological conditions so that the mitigation UMAM scores are met for each of the specified community types: **Yes**

CONCLUSIONS

The monitoring completed on October 26, 2010 indicates compliance with all success criteria. There was a small amount of *Panicum repens* noted in the Woolley access road, but otherwise no exotics were observed. The appended field forms provide listing of the observed species and general site observations related to the success criteria.



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Location Map

Wooley and Lee Properties
Walton County, Florida

Image: NONE
Sec 15 and 16
Twp 02 S
Rng 20 W

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Down to Earth. Down to Business.™
2420 W. Lakeshore Drive, Suite 100
Tallahassee, FL 32312
ph: (850) 681-9709
fx: (850) 681-9741
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Coordinate System: NAD 1983 SPFNF

Date: 01/19/2010 Rev. Date: xx/xx/xx PM: AWR GIS Analyst: JPB Map Document: LOCATION.mxd Project Number: 4240-028 PDF Document: LOCATION.pdf Plot Size: 8.5 x 11

Figure 1. Lee parcel; salt marsh grading into hydric pine flatwoods facing north from road.

Figure 2. Lee parcel; salt marsh, facing south from road.

Figure 3. Lee parcel, old road/ditch through salt marsh, facing south from road.

Figure 4. Woolley Parcel, salt marsh facing west from road.

Site Inspection Field Form	
Project: Wooley and Lee Parcels-Live Oak	Date: October 26, 2010
Name(s) of Data Collectors: Caitlin Elam and Alex Barth	Weather: Mostly sunny; low-mid 80s
Environmental Description: Photo #'s	
Polygon: Entire parcel GPS Location: N 30.4134 W 86.24838. Time: 5:30pm	
On at least a yearly basis, the site will be inspected as follows: A: Perimeter for signs of trespassing, fencing and signage integrity and infestation by exotic or nuisance vegetation; No locked gates, no trespassing sign present off property at junction of dirt road through parcel and main paved road. Trash dumping and flotsam in marsh along dirt road off property. Signs of trespassing along road off property (truck with gunshot holes).	
B: Internal Roads (Both public and maintenance) for signs of dumping or trespassing, erosion, bridges and road integrity, and exotic or nuisance species infestations; Trespassing evident off property along dirt access road. Difficult crossing on access road requires large truck tires to cross. Minor amount of *Panicum repens* on dirt access road to property (approximately 5% coverage overall). No infestation noted on site.	
C: All construction areas for stabilization and re-vegetation, structure, operation, and integrity; N/A	
D: Representative polygons for each UMAM community for fuel load, exotic or nuisance species, planted material survival, groundcover, and shrub condition. Fine fuel would be high in the salt marsh during a dry period, medium and fine fuel is moderate to high in the hydric pine flatwoods in the Lee parcel due to an abundance of native appropriate shrubs. In the hydric pine flatwoods *Pinus elliottii* shows evidence of natural regeneration. Other native species in the salt marsh and flatwoods show no signs of stress and many species are reproductive. In the hydric pine flatwoods the shrubs are 3-8 feet tall and may require fire in the near future for maintenance but do not appear to be overly dominant in this natural community. No invasive exotic species were seen at either site.	

Vegetation Assessment Field Form Qualitative Assessment: Wooley and Lee Parcels-Live Oak	
Project: Date: October 26, 2010	
Name(s) of Data Collectors: Caitlin Elam and Alex Barth	Weather: 70-80's, mostly sunny
Environmental Description: Photo #'s	
Polygon: GPS Location: Time:	
Nuisance Species: *Panicum repens* off site Fuel Load: Moderate to high (natural for these communities)	

- Wildlife Observations: Numerous saltmarsh avifauna, fiddler crabs, kingfisher.
- Water depth: Saturated in salt marsh. Inundated up to approximately 6 inches or deeper in some disturbed areas (i.e. old road and ditches). Hydric pine flatwoods were not inundated.
- 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? NA
- Potential Problems and solutions: Suggest better control of unauthorized access at gate. Do not improve road as it will provide unauthorized access. Clean up storm flotsam on adjacent property.

Scientific Name	Common Name	% Cover	2009 Species List	2010 Species List	Dominant Species	Natural Recruitment	Flowering/ Fruiting
Andropogon glomeratus	Broomsedge	<5	X	X			X
Baccharis angustifolia	Salt bush	<5	X				X
Baccharis halimifolia	Groundsel tree	<5		X			X
Cladium jamaicense	Saw-grass		X	X			X
Cynanchum angustifolium	Gulf coast sallow wort	<5	X	X			X
Distichilis spicata	Salt grass	15	X	X	X		X
Eupatorium serotinum	Late-flowering thoroughwort	<5		X			X
Euthamia graminifolia	Flat-topped goldenrod	<5	X	X			X
Fimbristylis spadicea	Marsh fimbry	<5	X	X			
Ilex glabra	Gall-berry	<5	X	X			X
Ilex vomitoria	Yaupon	<5	X	X			
Ipomoea sagittata	Saltmarsh morning glory	<5	X	X			
Juncus roermarianus	Black needle rush	75	X	X	X		X
Limonium carolinianum	Sea lavender		X	X			
Muhlenbergia capillaris	Muhly grass	<5		X			X
Myrica cerifera	Wax myrtle	<5	X	X			
Osmunda regalis	Royal fern		X	X			
Pinus elliottii	Slash pine	10	X	X	X	X	
Salicornia bigelovii	Annual glasswort	<5	X	X			
Sarcocornia ambigua	Perennial glasswort	<5		X			X
Scirpus robustus	Salt marsh bullrush		X	X			
Serenoa repens	Saw-palmetto	<5	X	X			
Seteria geniculata	Foxtail grass	<5	X	X			X
Smilax bona-nox	Green briar		X	X			
Smilax laurifolia	Green briar		X	X			
Soladago sempervirens	Seaside goldenrod	<5	X	X			X
Spartina alterniflora	Smooth cordgrass		X	X			
Spartina patens	Salt meadow cordgrass	<5	X	X			

Spartina spartinae	Gulf coast cordgrass		X	X			
Toxicodendron radicans	Poison ivy	<5	X	X			
Vitus rotundifolia	Muscadine grape		X	X			

*Note: The majority of the salt marsh in this parcel is dominated by black needlerush.