LIVE OAK PENINSULA MITIGATION FIRST ANNUAL MONITORING REPORT

Woolley and Lee Properties
Choctawhatchee Bay, Walton County

SAJ-2007-1175 IP-AWP, issued 3/3/08

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.

Mitigation: **Woolley and Lee Properties**
Monitoring Date: **October 30, 2009**

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.

PROPOSED MITIGATION

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*) has been noted on relic ditch spoil piles. To the east, the salt marsh grades into hydric pine flatwoods (FLUCCS 625) which is 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 **Planned for 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. **First annual 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
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
EC-3	Increase in appropriate species diversity
EC-4	Kind and total coverage of species appropriate for management goals and target natural community
EC-5	Kind and total coverage of herbaceous species appropriate for management goals and target natural community
EC-6	Kind and total coverage of tree species appropriate for management goals and target natural community

EC-8	Maintain the ecological conditions so that the mitigation UMAM scores are met for each of the specified community types.

Restoration Success Criteria – Lee Parcel

RC-1	Desired species showing evidence of increasing coverage
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
RC-3	Increase in appropriate herbaceous, shrub and / or tree species
RC-4	Kind and total coverage of species appropriate for management goals and target natural community
RC-5	Kind and total coverage of herbaceous species appropriate for management goals and target natural community
RC-6	Kind and total coverage of tree species appropriate for management goals and target natural community
RC-7	Maintain the ecological conditions so that the mitigation UMAM scores are met for each of the specified community types.

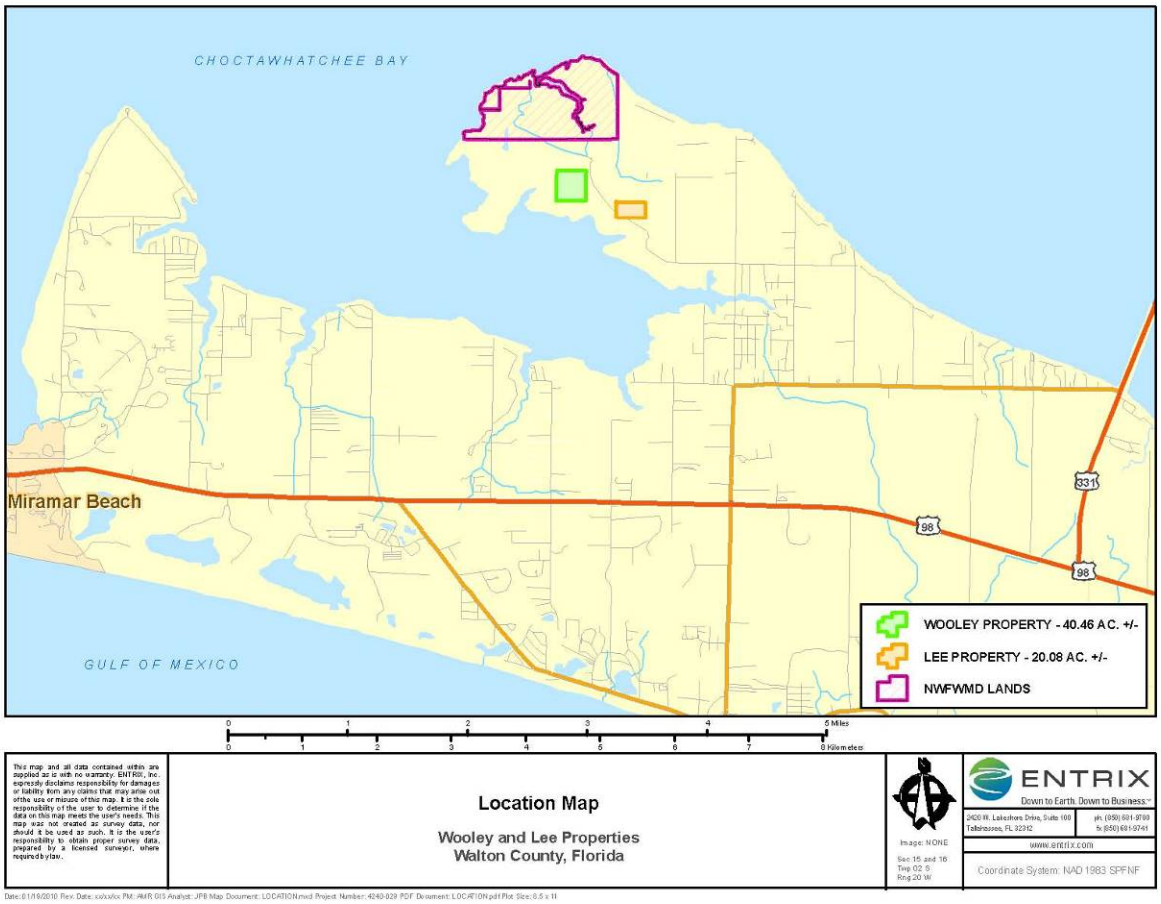
Preservation Success Criteria – Woolley Parcel

PC-1	No observable decline in natural community health
PC-2	Stable or increase in species diversity per wetland type
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
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
PC-5	Maintain the ecological conditions so that the mitigation UMAM scores are met for each of the specified community types.

The monitoring completed on October 30, 2009 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.

As a general note, site signage will be to be added since there has been some degree of unauthorized site access (cut lock) and hunting (shot gun shells) on the property.

Location Map



Lee Parcel Photos

Polygon A (Photo 12)

Polygon B (Photo 11)

Polygon C (Photo 10)

Woolley Parcel (Photo 13)

Woolley Parcel (Photo 14)

Site Inspection Field Form	
Project: Woolley-Live Oak	Date: October 30, 2009
Name(s) of Data Collectors: Brandon Tidwell	Weather: Mostly sunny; low-mid 80s; windy
Environmental Description: Photo #'s 14	
Polygon: Entire parcel GPS Location: Photo 13 – looking west towards Woolley parcel from access road at N 30.41341,W 86.24838. Photo 14 – looking southeast down access road at *Panicum repens* on road (photo taken just southeast of Photo 13). Time: 1430	
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; Locks cut on main access gate, no fence/signage noted, trash dumping off of access road. Significant amount of spent shotgun shells south of parcel along access road indicating waterfowl hunting in area.	
B: Internal Roads (Both public and maintenance) for signs of dumping or trespassing, erosion, bridges and road integrity, and exotic or nuisance species infestations; Access road largely impassable, dumping/trespassing noted offsite along access road, two locks cut on main access gate. Minor amount of *Panicum repens* on access road – approximately 5% coverage overall. No other infestation noted.	
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.

-fuel load low
-no exotic/invasives noted
-vegetation in good condition. No vegetation stress noted.

Vegetation Assessment Field Form Qualitative Assessment: Woolley-Live Oak	
Project: Date: October 30, 2009	
Name(s) of Data Collectors: Brandon Tidwell	Weather:
Environmental Description: Photo #'s	
Polygon: GPS Location: Time:	
Nuisance Species: Fuel Load:	
Wildlife Observations: Numerous saltmarsh avifauna. Small mammal tracks. Water depth: Saturated throughout. Inundated up to approximately 6 inches or deeper in some areas. 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.	

Scientific Name	Common Name	% Cover	Cumulative Species List	Dominant Species	Natural Recruitment	Flowering/ Fruiting
Andropogon glomeratus	Broomsedge	<5	X			
Baccharis angustifolia	Salt bush	<5	X			
Cladium jamaicense	Saw-grass		X			
Cynanchum angustifolium	Gulf coast sallow wort	<5	X			
Distichilis spicata	Salt grass	15	X	x		
Euthamia graminifolia	Flat-topped goldenrod	<5	X			
Fimbristylis spadicea	Marsh fimbry	<5	X			
Ilex glabra	Gall-berry	<5	X			
Ilex vomitoria	Yaupon	<5	X			
Ipomoea sagittata	Saltmarsh morning glory	<5	X			
Juncus roermarianus	Black needle rush	75	X	x		
Limonium carolinianum	Sea lavender		X			
Myrica cerifera	Wax myrtle	<5	X			
Osmunda regalis	Royal fern		X			
Pinus elliottii	Slash pine	<5	X			
Salicornia bigelovii	Annual glasswort	<5	X			
Scirpus robustus	Salt marsh bullrush		X			
Serenoa repens	Saw-palmetto	<5	X			
Seteria geniculata	Foxtail grass	<5	X			
Smilax bonna-nox	Green briar		X			
Smilax laurifolia	Green briar		X			
Soladago sempervirens	Seaside goldenrod	<5	X			
Spartina alterniflora	Smooth cordgrass		X			
Spartina patens	Salt meadow cordgrass	<5	X			
Spartina spartinae	Gulf coast cordgrass		X			
Toxicodendron radicans	Poison ivy	<5	X			
Vitus rotundifolia	Muscadine grape		X			

*Note: most species with <5% coverage occurred along access road or on small pine island in northeast area of parcel. The majority of this parcel is dominated by black needlerush.

Site Inspection Field Form	
Project: Lee-Live Oak	Date: October 30, 2009
Name(s) of Data Collectors: Brandon Tidwell	Weather: Mostly sunny; low-mid 80s; windy
Environmental Description: Photo #'s 9 & 10 (polygon C), 11 (polygon B), 12 (polygon A)	
Polygon: A, B, and C GPS Location: Photos 9-11 at N 30.40940 W 86.24450. Photo 12 at N 30.40982 W 86.24552. Time: 1330	
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B: Internal Roads (Both public and maintenance) for signs of dumping or trespassing, erosion, bridges and road integrity, and exotic or nuisance species infestations; Access road largely impassable. Extensive rutting. Flow-overs in some areas from ditch on north side of road to *Juncus* marsh on south side of road. Old, exposed concrete culvert is last point of vehicular access to the north/northwest. No exotic/nuisance species noted.	
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. All three polygons (A, B, and C) are characterized by a relatively low fuel load, good overall vegetative condition, appropriate community structure and diversity, no exotic/invasives noted (notably no Chinese tallow tree observed).	

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Andropogon glomeratus	Broomsedge	<5	X			
Baccharis angustifolia	Salt bush	5-10	X	x		
Cladium jamaicense	Saw-grass	<5	X			
Cynanchum angustifolium	Gulf coast sallow wort		X			
Distichilis spicata	Salt grass	<5	X			
Euthamia graminifolia	Flat-topped goldenrod	<5	X			
Fimbristylis spadicea	Marsh fimbry	<5	X			
Hydrocotyle umbellata	Pennywort	<5	X			
Ilex glabra	Gall-berry	5	X			
Ilex vomitoria	Yaupon	20	X	x		
Ipomoea sagittata	Saltmarsh morning glory		X			
Iva frutescens	Marsh Elder	<5	X			
Juncus roermarianus	Black needle rush	10	X	x		
Limonium carolinianum	Sea lavender	<5	X			
Myrica cerifera	Wax myrtle	10	X	x		
Osmunda regalis	Royal fern	<5	X			
Panicum repens	Torpedo grass*	<5	X			
Physalis angustifolia	Narrow leaf ground cherry		X			
Pinus elliottii	Slash pine	20	X	x		
Salicornia bigelovii	Annual glasswort	<5	X			
Scirpus americanus	Olney's three-square	<5	X			
Scirpus robustus	Salt marsh bullrush		X			
Serenoa repens	Saw-palmetto	5	X			
Seteria geniculata	Foxtail grass		X			
Smilax bonna-nox	Green briar		X			
Smilax laurifolia	Green briar	5	X			
Smilax rotundifolia	Green briar		X			
Soladago sempervirens	Seaside goldenrod	<5	X			
Spartina alterniflora	Smooth cordgrass	<5	X			
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