

**Meginniss Arm Shoreline Restoration First Annual Monitoring Report
I-10, LEON CO.**

SAJ – 2005 – 1406 IP – SEC Issued: 4/7/06

Impact: I-10 in Leon Co.—1.90 Acre

Mitigation: Lake Jackson

SCOPE

Per the 2005/2006 FDOT Environmental Impact Inventory (submitted 5/2/05), widening of I-10 in Leon Co. from approximately ½ mile west of CR 361 (Mission Road) to the westbound rest area near the Ochlockonee River to will impact 1.90 acres of low-quality wetlands (FLUCCS 640 – Vegetated Non-Forested Wetlands). Under Florida Statutes 373.4137, the NFWFMD is responsible for designing and implementing wetlands mitigation required by state and federal permitting for FDOT impacts. Mitigation planning is based on estimates of impacts provided by FDOT or its consultants. Information on wetland impacts provided to the NFWFMD is generally limited to acreage of impact, FLUCCS code and a descriptor of wetland quality (i.e., low, medium, high), with functional assessments (Florida UMAM and/or WRAP) occasionally provided. The NFWFMD does not assess FDOT wetland impacts, and any measures taken to avoid and minimize impacts are the responsibility of FDOT. To ensure sufficient mitigation, for the purpose of developing this mitigation plan it is assumed that the wetlands being impacted are of the highest quality and will be completely destroyed.

PROPOSED MITIGATION

To compensate for the loss of wetland function associated with the I-10 widening, the NFWFMD proposes restoration of native shoreline vegetation and eradication of extensive infestations of exotic and invasive plant species on the western side of Meginniss Arm at Lake Jackson (Figure 1). The proposed mitigation site is approximately 17 acres, and is bordered upslope by the planned Leon Co. regional stormwater treatment pond (Okecheepkee Prairie Regional Stormwater Management Facility), downslope by Lake Jackson, to the north by the Lake Jackson Mounds Archaeological State Park, and to the south by the county-owned and seldom-used Fuller Landing Road boat ramp (Figure 2). The mitigation site is primarily on state lands, with upslope portions possibly occurring on county-owned property. Historically, much of this site was managed as improved pasture for cattle grazing, and continues to be dominated by exotic and invasive vegetation. Restoration would consist of eradication and management of Chinese tallow (*Sapium sebiferum*), wild taro (*Colocasia esculenta*), purple sesban (*Sesbania puncea*) and other exotic and/or invasive species using approved herbicides and application methods, followed by the planting of appropriate wetland species (generally marsh species with inclusions of cypress where appropriate). The NFWFMD and Leon Co. have cooperatively designed the Okecheepkee treatment pond, which is to be built above the 87' contour outside of the proposed mitigation area. Leon Co. is supportive of native shoreline communities within Meginniss Arm.



Figure 1. Meginniss Arm Restoration Location Map

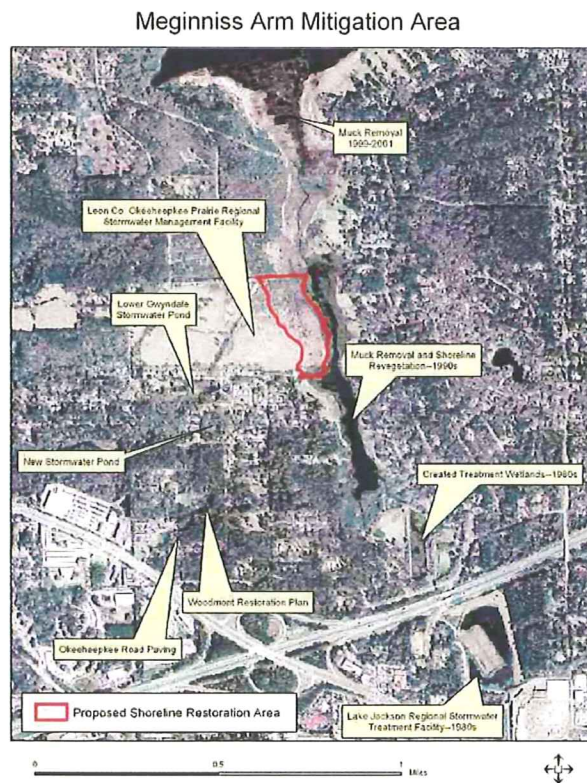


Figure 2. Meginniss Arm Restoration Site Map

WRAP analyses by NFWFMD staff indicate that restoration of 17 acres of shoreline wetland communities will more than offset functional losses associated with the 1-10 widening. Coordination of exotic/invasives eradication efforts and shoreline restoration has been implemented in co-ordination with Lake Jackson Mounds Archaeological State Park and the FDEP Bureau of Invasive Plant Management.

LARGER SETTING OF RESTORATION

For the past 25 years there have been concerted efforts to improve the environmental quality of Meginniss Arm. This proposed mitigation will augment a larger effort to retrofit stormwater management for a substantially built out area of Tallahassee. In the early 1980s, a large regional stormwater pond with a rapid sand filter and artificial marshes was constructed upstream of Meginniss Arm to treat runoff from this highly urbanized basin that includes US 27, I-10, a large mall, numerous shopping centers and dense residential and office developments. In the early 1990s, more than 100,000 cubic yards of nutrient-laden muck were removed from Meginniss Arm through hydraulic dredging, with a much larger muck removal project for Meginniss Arm / Lake Jackson undertaken from 1999-2001 (approximately 2,000,000 yds.³ of muck removed from 600 acres during a drydown phase of the lake). Other large stormwater retrofit projects have since been implemented throughout the Meginnis Arm basin including those at the Tallahassee mall and at Boone Boulevard. These efforts have resulted in a substantially complete retrofit and treatment for the entire basin, with the notable exception of the Okeechepkee subbasin, which includes the site of the proposed shoreline restoration.

In recent years concerted movement has been underway to complete the retrofit of the Okeechepkee subbasin of Meginniss Arm. Leon Co. and the NFWFMD have cooperatively acquired land and designed a regional stormwater treatment pond (known variously as Okeechepkee Prairie Regional Stormwater Management Facility, Fuller Road Facility, and the Regional Stormwater Treatment Facility) adjacent to the proposed mitigation site. Permitting for this project is in process. Further proposed improvements for the Okeechepkee subbasin through the Florida Forever Capital Improvement Program include paving the steeply-graded Okeechepkee Road, replacing the problematic Woodmont pond with another detention facility, and expanding the capacity and treatment of the Lower Gwyndale stormwater pond. Leon Co. and FDEP have also implemented periodic management of exotic/invasive species in this area over the past decades. Restoration of 17 acres of native shoreline vegetation in Meginniss Arm will significantly augment these other environmental efforts and provide for the final stage in the environmental improvements proposed for the Okeechepkee portion of the Meginnis Arm basin.

Treatments:

To date herbicide treatment of the popcorn tree has been initiated. Popcorn trees were treated during the spring of 2007 with appropriate herbicides. Trunks of the trees were hand cut and the stems painted with a systemic herbicide. This treatment has been repeated. However, there remains some popcorn tree coverage scattered throughout the restoration area. Additional herbicide treatments are necessary to reduce cover to less than one percent. During 2008, several additional treatments will occur within the restoration area prior to planting to ensure the

removal of the exotic species. Planting of the site will take place during 2009.

SUCCESS CRITERIA

- 80% survival of planted wetland vegetation: **Vegetation planting will occur in 2009 following the completion of the exotic species**
- Exotic species $\leq 1\%$ of vegetation cover: **Initial treatments complete: however additional treatments are needed in 2009 to meet less than 1% cover of popcorn tree**
- Invasive species $\leq 5\%$ of vegetation cover. **No potential invasive native species have been observed.**



WORK SCHEDULE

- Within two years of permit issuance, eradication of exotic / invasive species and planting of native wetland shoreline species: **Ongoing**
- 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**
- Annual reports after exotic / invasives eradication and shoreline restoration, if required, for five years or duration of permit. **First Annual Monitoring complete**
- Additional exotic / invasives eradication and planting of shoreline vegetation if success criteria are not met. **Additional invasive eradication is ongoing, planting of shoreline species will occur in winter 2009 following further exotic species eradication.**



Figure 4. Marsh mallow at Meginniss Arm

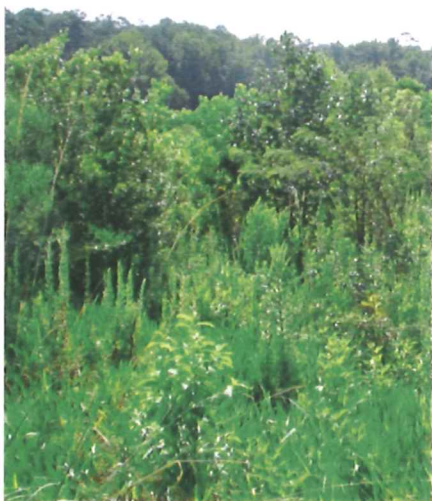


Figure 5. Meginniss Arm Shoreline with Popcorn Tree (Pre-treatment)



Figure 6. Herbicide treated popcorn tree



Figure 7. Herbicide treated popcorn tree



Figure 8. Herbicide treated popcorn tree