

**Meginniss Arm Shoreline Restoration Forth Annual Monitoring Report Fall (2009)**  
**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**

**Monitoring Date: November 9, 2009**

**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).

### PROPOSED MITIGATION

To compensate for the loss of wetland function associated with the I-10 widening, the NFWFMD proposes to restore 17 acres of native shoreline through the eradication of exotic vegetation and planting of native species on the western side of Meginniss Arm at Lake Jackson (Figure 1). The proposed mitigation site is approximately 17 acres, and is primarily on state sovereign lands. 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).



Figure 1. Meginniss Arm Restoration Location Map



Figure 2. Meginniss Arm Restoration Site Mash

functional analyses by NFWMD 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 eradication efforts and shoreline restoration has been implemented in coordination with Lake Jackson Mounds Archaeological State Park and the FDEP Bureau of Invasive Plant Management.

### **Mitigation Accomplishments:**

The herbicide treatment for the eradication of exotic species was initiated in (2006-2007). Treatments targeted popcorn tree, purple sesban and wild taro. Trunks of the popcorn trees were hand cut and the stems painted with a systemic herbicide. Hand application using back pack sprayers were used to treat the purple sesban and wild taro. During 2008, the NFWMD contracted with Entrix to conduct popcorn tree, wild taro and purple sesban eradication as a follow up to the initial treatments. The limits of the mitigation area were identified using sub-meter GPS and permanently marked. A total of five treatments were conducted in May, June, July, August and September of 2008. All herbicides were labeled for aquatic systems and administered by licensed pesticide applicator(s) (Figure 3). To date the exotic species cover has been reduced to near 0% cover. In February and March of 2009, the mitigation area was inspected for nuisance species survival. Very few plants were observed throughout the site. The site is dominated by a diverse wetland herbaceous and shrub species and all appeared in excellent health. On April 4<sup>th</sup> to April 6<sup>th</sup>, the NFWMD the marsh was planted with button bush, pickerel weed, arrowhead and soft rush (Table 1). Due to lack of availability, the cypress, marsh mallow, and climbing aster will be planted in the fall. Site visits have confirmed good survival of the planted material. On November 7-9, 2009 ATS Partners Inc, installed the climbing aster, marsh mallow and cypress throughout the Meginnis Arm site. The plant material that had been previously established had good survival and was spreading. The Meginnis Arm marsh is diverse and reproducing naturally. Very low numbers of exotics were observed onsite, well less than 1 % cover, and no cover of nuisance species was observed. Only three seedling popcorn trees were observed within the restoration site and those will be eradicated this spring.

Table 1. Planting List for Meginnis Arm Restoration (Trees and Shrubs)

<i>Scientific Name</i>	<i>Common Name</i>	<i>Planting Density</i>	<i>Comments</i>
<i>Aster caroliniana</i>	Climbing aster	20' X 20' (108 per acre)	1 gallon pots
<i>Cephalanthus occidentalis</i>	Button bush	20' X 20' (108 per acre)	1 gallon pots
<i>Hibiscus moscheutos</i>	Marsh mallow	20' X 20' (108 per acre)	1 gallon pots
<i>Taxodium ascendens</i>	Cypress	12' X 12' (303 per acre)	1 gallon pots or bare root

Table 2. Planting List for Meginnis Arm Restoration (Herbaceous)

Scientific Name	Common Name	Planting Density	Comments
<i>Juncus effuses</i>	Soft rush	4' x 4' (2,772 per acre)	Bare root plants
<i>Pontederia cordata</i>	Pickereel weed	4' x 4' (2,772 per acre)	Bare root plants
<i>Sagittaria latifolia</i>	Arrowhead	4' x 4' (2,772 per acre)	Bare root plants

## SUCCESS CRITERIA

---

- 80% survival of planted wetland vegetation: **Vegetation planting of arrowhead, button bush, pickerel weed and soft rush occurred on April 4<sup>th</sup>-6<sup>th</sup> of 2009. Survival of planted material estimated at 90% as of July 1, 2009. Observations during the November 7-9 site visit indicates good survival of the planted material and that the planted material was well established. The final planting was completed on November 9<sup>th</sup> and those plants will be evaluated for survival prior to the end of January 2010.**
- Exotic species  $\leq$  1% of vegetation cover: **Exotic species cover remains well below 1% cover.**
- 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: **Completed in 2008, though additional spot treatments will continue as needed.**
- Planting of native wetland shoreline species: **Completed in 2009.**
- 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, second, third and 4th annual monitoring complete**
- Annual reports after exotic / invasives eradication and shoreline restoration, if required, for five years or duration of permit. **First through 4<sup>th</sup> monitoring complete**
- Additional exotic / invasives eradication and planting of shoreline vegetation if success criteria are not met.





Figure 1. Megginnis Arm with planted vegetation

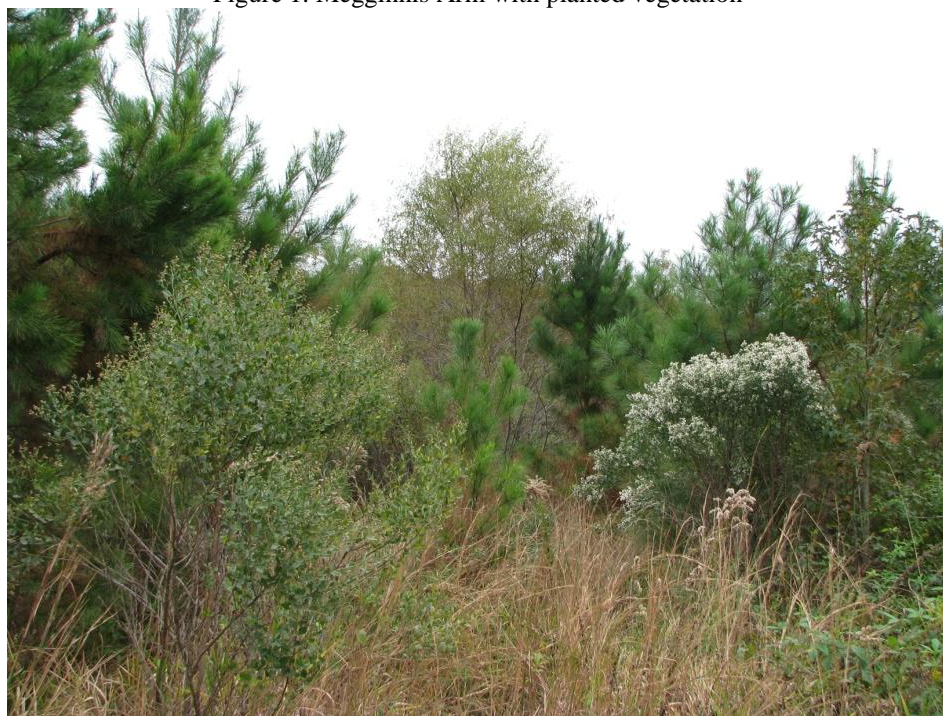


Figure 2. Megginnis Arm vegetation





Figure 3. Planted arrowhead, pickerel weed, mallow, aster, cypress and soft rush



Figure 4. Planted marsh site