# LIVE OAK PENINSULA MITIGATION AREA

**UWRMP / In-Lieu Fee Project 5.3.5**

**(Woolley and Lee Parcels Supplemental)**

**May 18, 2012**

## Synopsis:

Acquisition of the Woolley (40 acres) and Lee (20 acres) parcels is part of an ongoing NWFWMD effort to acquire, protect and enhance estuarine and palustrine wetlands at Live Oak Peninsula, and more generally, within the Choctawhatchee River and Bay watershed. Assessment by the US Army Corps of Engineers on 5/15/2012 determined that 3.98 UMAM credits are being generated from preservation and enhancement of these two parcels.

## Background:

Live Oak Peninsula contains the largest salt marsh system (FLUCCS 642) in Choctawhatchee Bay, and is located within priority lands of the South Walton Area Mitigation Project (SWAMP). Dominant vegetation within the 1,000-acre± marsh include black needlerush (*Juncus roemerianus*), salt marsh cordgrass (*Spartina alterniflora*), bulrush (*Scirpus* spp.) and big cordgrass (*Spartina cynosuroides*), with scattered pines and other transitional species occurring on hammocks. A network of mosquito control ditches, dug by the South Walton County Mosquito Control District during the 1960s, dissects the much of the northern half of the marsh. Chinese tallow (*Sapium sebiferum*) occurs on spoil piles adjacent to the ditches. The eastern portion of the marsh transitions to degraded hydric pine flatwoods (FLUCCS 625), upland buffers, and residential development. 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 513.7± 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) and Woolley property (40 acres) were acquired in 2009. Efforts have also been made to acquire and bring under NWFWMD management 220 acres of Section 16 School Lands, and other privately-held tracts. To further protect wetland habitat and water resources within Choctawhatchee Bay, and to enable more effective ecological management of NWFWMD lands, the NWFWMD continues to pursue additional acquisition and restoration options at Live Oak Peninsula.

**Objectives:**

Preservation, enhancement and management of estuarine and palustrine wetlands within the Choctawhatchee River and Bay watershed.

**Site Selection Criteria:**

This site was selected as part of an ongoing effort to acquire, preserve, protect, manage, enhance, and restore wetlands and water resources at Live Oak Peninsula, and more generally within the South Walton Area Mitigation Project (SWAMP) priority lands and Choctawhatchee River and Bay watershed. Mitigation credits garnered from this effort will be incorporated into the NWFWMD Umbrella Plan / In-Lieu Fee Program.

**Site Protection Instrument:**

In accordance with § 332.7(a) and § 230.97(a) (i.e., site protection clauses) of the USACE/EPA compensatory mitigation Final Rule, title to this site (fee-simple) will be held in perpetuity by the NWFWMD and managed as conservation/mitigation lands under the Umbrella Plan / In-Lieu Fee Program.

**Baseline Information:**

Maps

- Location of Live Oak Peninsula
- NWFWMD Lands at Live Oak Peninsula
- 2010 DOQ Close Up of Woolley and Lee Parcels
- 2007 DOQ Close Up of Woolley and Lee Parcels
- 1941 B&W Aerial Close Up of Woolley and Lee Parcels
- LiDAR – Woolley and Lee Parcels
- Soils (NRCS) – Woolley and Lee Parcels
- Woolley 2007 DOQ
- Lee 2007 DOQ

Live Oak Peninsula wetlands are predominately high-quality, estuarine emergent wetlands (approximately FLUCCS 642 – Salt Marsh). There is also a palustrine wetland transition area (approximately FLUCCS 625 – Hydric Pine Flatwoods) between the extensive salt marsh and residential development on Live Oak Peninsula that is somewhat degraded from fire suppression and a lack of exotic vegetation management.

**Determination of Credits:**

Mitigation credits were assessed by the Uniform Mitigation Assessment Method (UMAM). The site was inspected by the USACE on 5/15/2012, which determined that this project will generate 3.98 UMAM credits.

**Detailed Work Plan:**

Site will be managed in accordance with the NWFWMD Umbrella Plan / In-Lieu Fee Program protocols.

**Maintenance Plan:**

This site will be actively managed for ecological integrity by NWFWMD lands management personnel. Maintenance and management will be performed in accordance with NWFWMD Umbrella Plan / In-Lieu Fee Program protocols. This site is expected to be largely to fully self-sustaining.

**Performance Standards:**

- No observable declines in natural vegetation community health.
- Stable or increasing species diversity for each wetland type.
- No more than 1% coverage of invasive/exotic vegetation and 5% nuisance native and non-invasive exotic vegetation species.
- Maintenance of dominant cover of native, suitable plant species for each wetland type.
- Maintenance of the ecological conditions so that the mitigation UMAM scores are met for each of the specified community types.

**Monitoring:**

Monitoring protocols to ensure successful mitigation will be derived from the Umbrella Plan / In-Lieu Fee Program. Annual monitoring will be conducted for a minimum of five years from the start of mitigation activities or as required by USACE permit conditions. Photos and meandering vegetation surveys by a qualified biologist are expected to comprise the monitoring for this site. All monitoring reports will be posted at www.NWFWMDwetlands.com.

**Long-term Management:**

Long-term management, including exotics control, will be implemented in accordance with the Umbrella Plan / In-Lieu Fee Program. The NWFWMD is responsible for ensuring the

perpetual management of mitigation lands. Florida Statutes sections 373.1391(1)(a) and 373.59(3) mandate the ecological management and restoration, to the extent practicable, of lands owned by the NWFWMD. Mitigation lands owned by the NWFWMD will be managed in perpetuity for ecological integrity.

**Adaptive Management Plan:**

All ecological restoration projects are site specific and multiple endpoints are possible owing to the stochastic nature of ecological processes. Additionally, human activities offsite and beyond the control of the NWFWMD may also influence the course of restoration. If changes in the implementation of this mitigation plan become necessary, the NWFWMD will first obtain approvals from the USACE. The NWFWMD will demonstrate good-faith efforts to comply with restoration requirements and will not invoke an alleged need for adaptive management as a pretext for non-compelling reasons.

**Financial Assurances:**

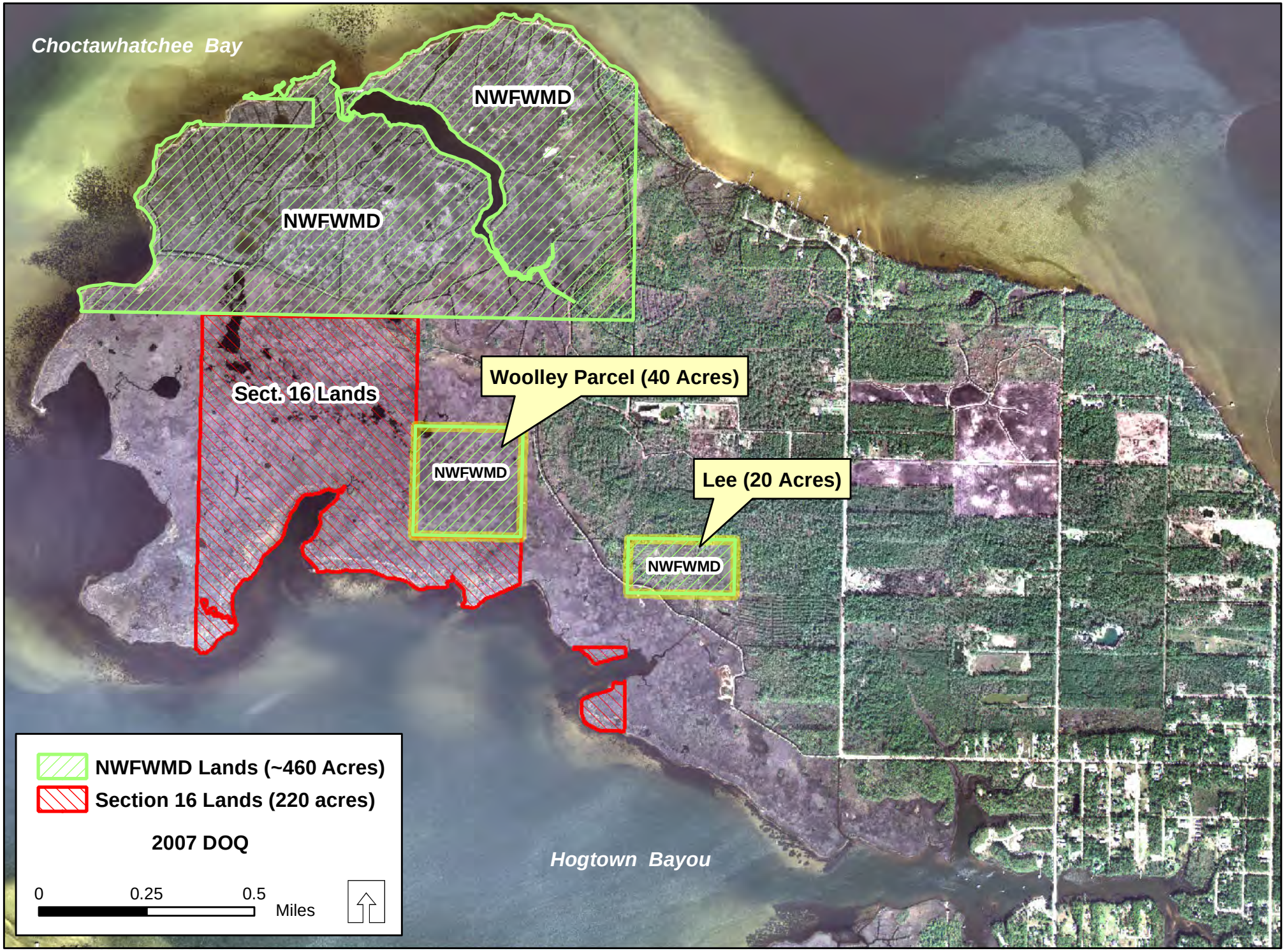
The NWFWMD is a governmental entity created by the Florida Water Resources Act of 1972 with the mission of protecting water resources protection and ecosystem integrity. Details concerning financial assurances are described in the Umbrella Plan / In-Lieu Fee Program.

**Other Information:**

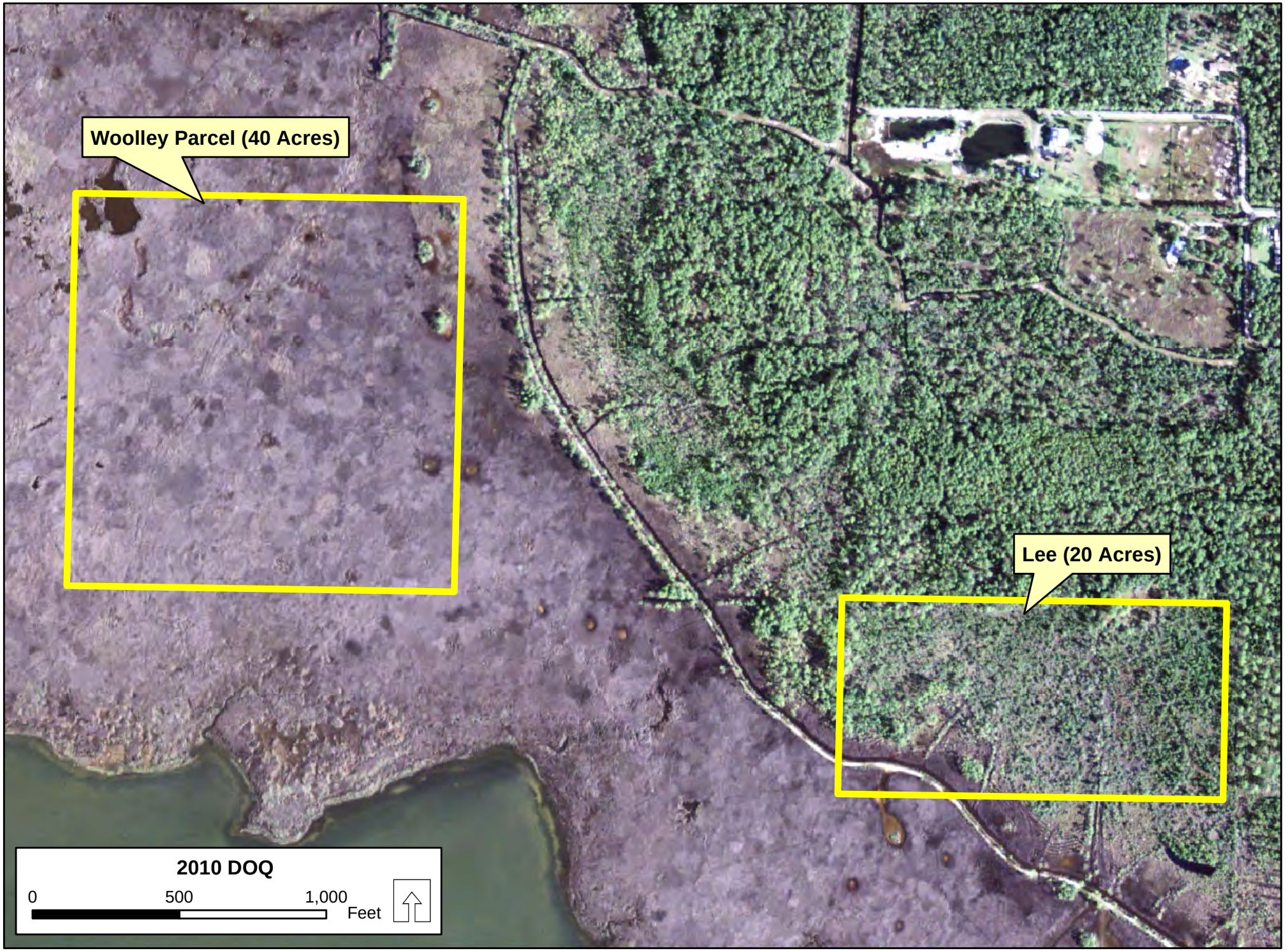
Any additional information requested by the USACE to determine the appropriateness, feasibility, and practicability of this compensatory mitigation project will be provided.

# Location of Live Oak Peninsula

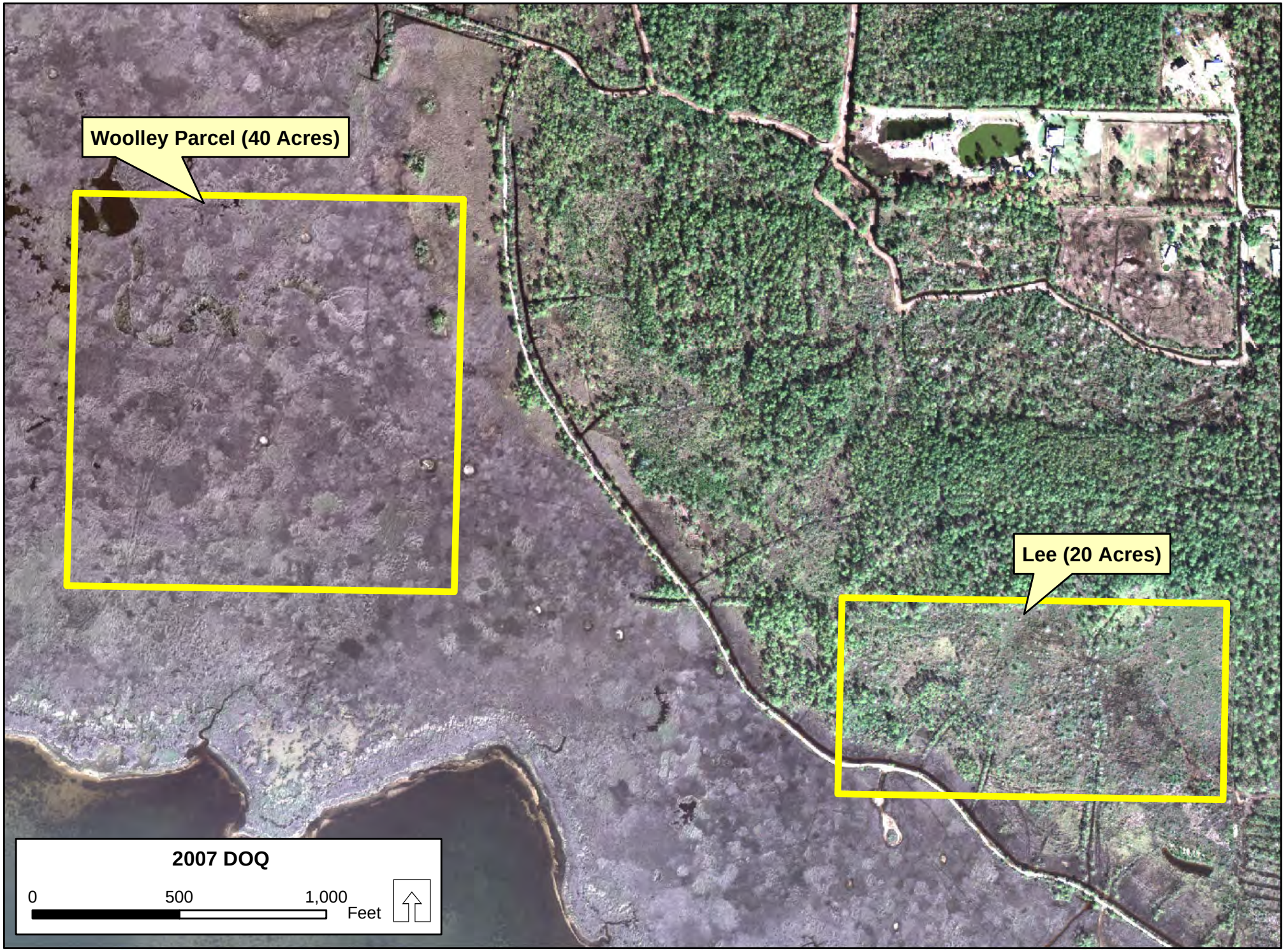
# Live Oak Peninsula Mitigation Area - Existing NWFWMD and Section 16 Lands



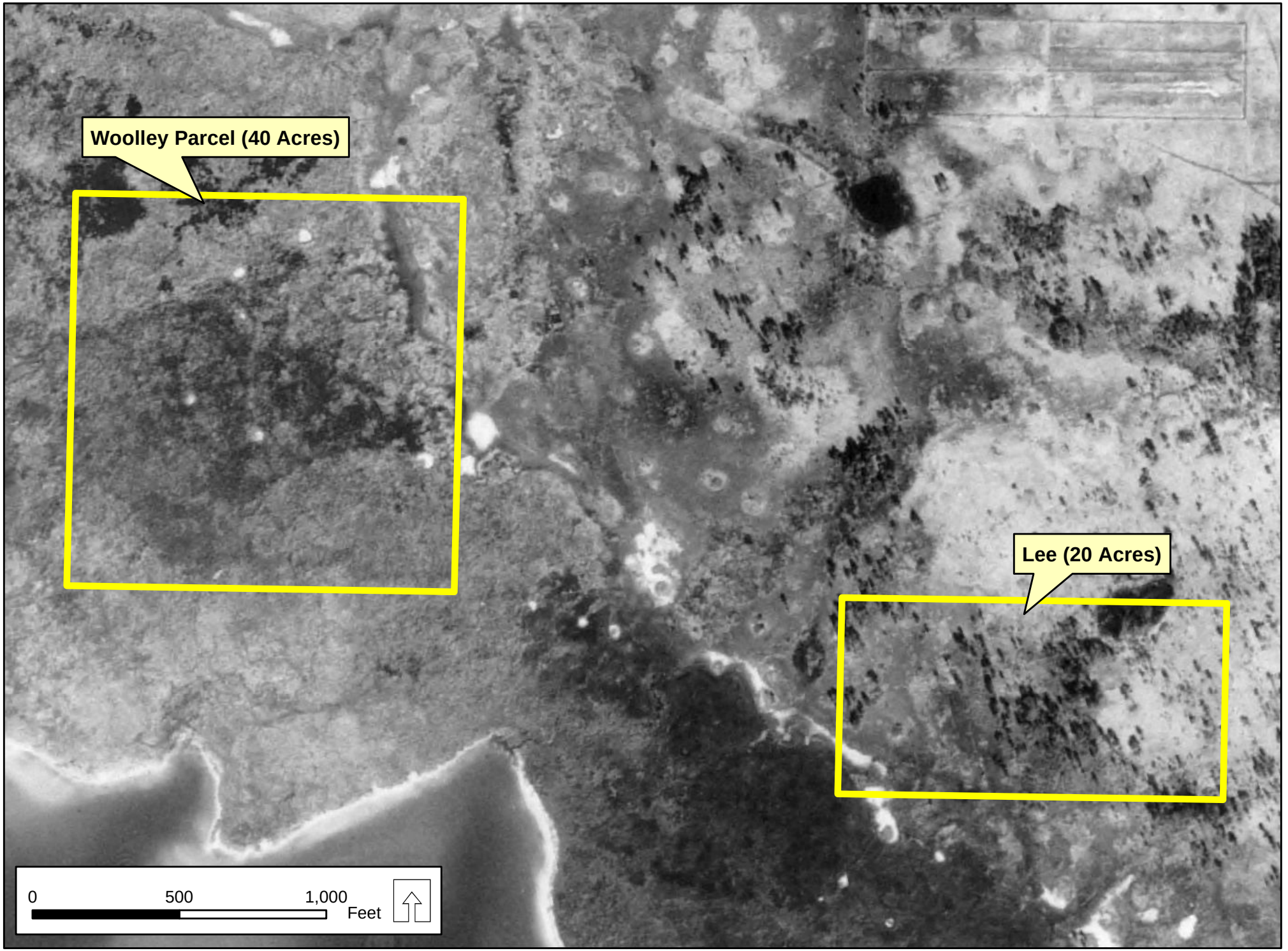
# Woolley and Lee Parcels



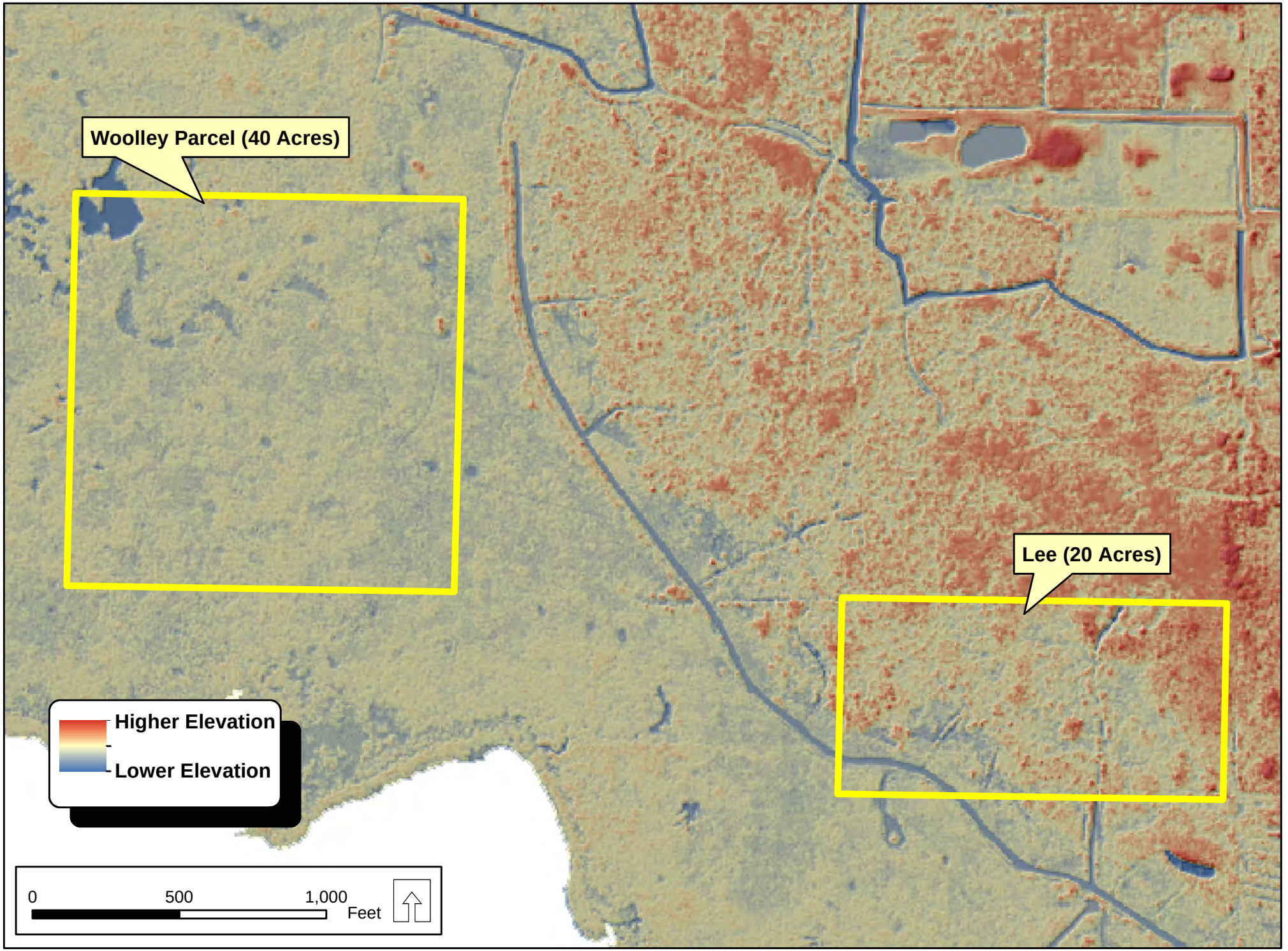
# Woolley and Lee Parcels



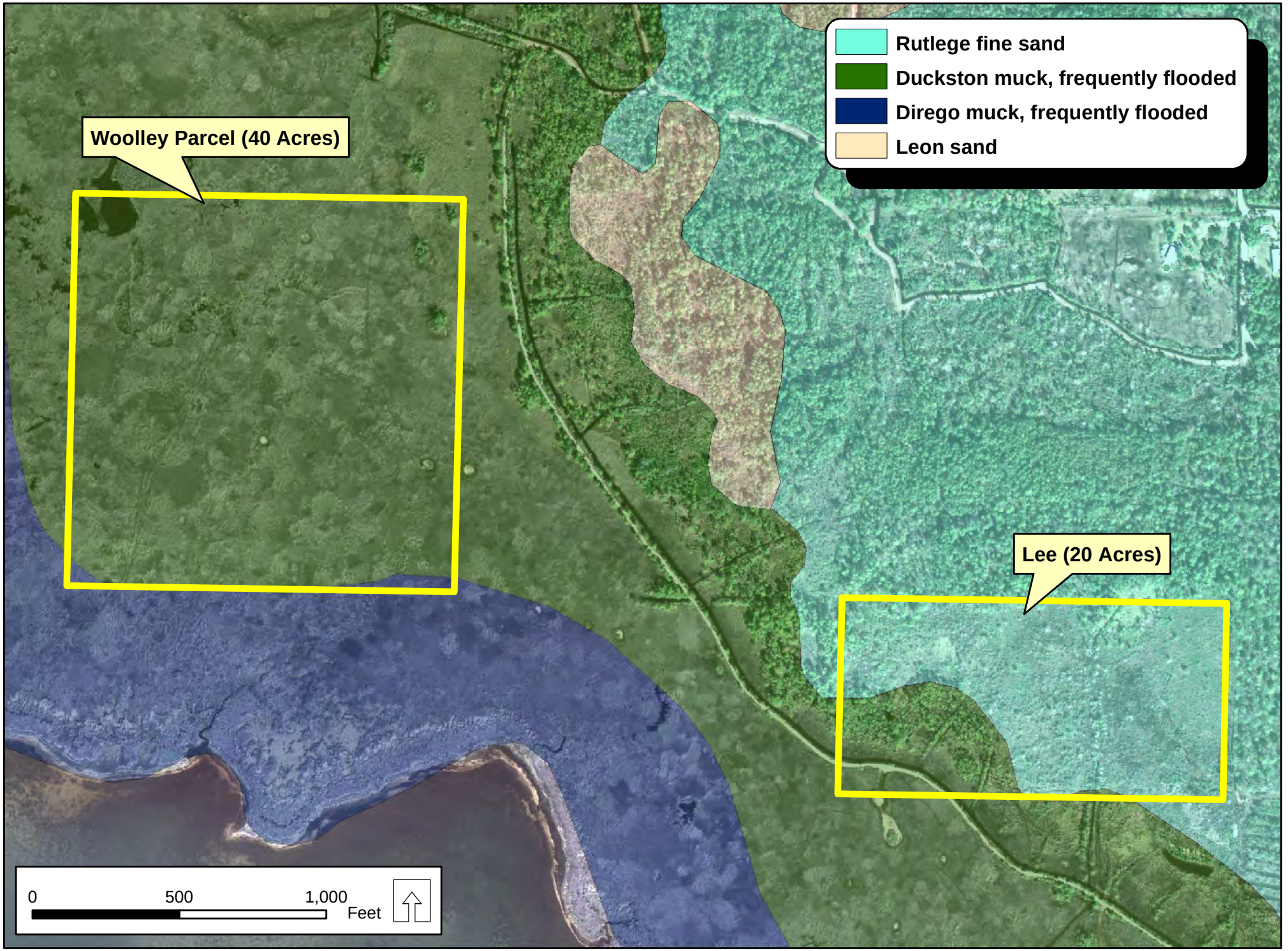
# Woolley and Lee - 1941 B&W Aerial



# Woolley and Lee - LiDAR



# Woolley and Lee - NRCS Soils



# Woolley Parcel

# Lee Parcel

## Woolley and Lee Parcels at Live Oak Peninsula Mitigation Area
## (UMAM Assessment - 5/15/2012)

### Woolley Parcel

| Polygon | UMAM Acres | L1 | L2 | W1 | W1 | C1 | C2 | Cur or W/Out | With | Raw | Time Lag | P Factor | Risk | Adjusted Delta | UMAM Credits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Woolley | 40.00 | 9 | 10 | 10 | 10 | 10 | 10 | 0.967 | 1.000 | 0.033 | 1 | 1 | 1 | 0.033 | 1.320 |

### Lee Parcel

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lee | 20.00 | 7 | 9 | 9 | 9 | 7 | 9 | 0.767 | 0.900 | 0.133 | 1 | 1 | 1 | 0.133 | 2.660 |
| | 20.00 | | | | | | | | | | | | | | 2.660 |

**Woolley and Lee Totals Combined:**

**3.980 (Total UMAM Credit)**

UMAM Assessment by USACE on May 15, 2012 (TUE).

## PART I – Qualitative Description
## (See Section 62-345.400, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| **Live Oak - Woolley** | **Not Applicable** | **Woolley** |

| FLUCCS code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| **642 (Salt Marsh)** | **---** | **Mitigation** | **40 Acres** |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| **Choctawhatchee** | **III** | **---** |

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

**Part of extensive estuarine and palustrine wetlands at Live Oak Peninsula. The largest salt marsh system within Choctawhatchee Bay (~1,000 acres), an area designated critical habitat for Gulf Sturgeon by the FWS and NMFS, occurs at Live Oak Peninsula.**

Assessment area description

**Salt Marsh.**

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| **Hogtown Bayou. Choctawhatchee Bay** | **Not unique.** |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| **Water storage; water quality; floral and faunal habitat.** | **None** |

| Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) | Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) |
|---|---|
| **---** | **---** |

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.)

**---**

Additional relevant factors

**---**

| Assessment conducted by | Assessment date(s) |
|---|---|
| **USACE** | **5/15/2012** |

## PART II – Quantification of Assessment Area (impact or mitigation)
## (See Sections 62-345.500 and .600, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| **Live Oak - Woolley** | **Not Applicable** | **Woolley** |
| Impact or Mitigation | Assessment conducted by: | Assessment date: |
| **Mitigation** | **USACE** | **5/15/2012** |

| Scoring Guidance | **Optimal (10)** | **Moderate(7)** | **Minimal (4)** | **Not Present (0)** |
|---|---|---|---|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed | Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions | Minimal level of support of wetland/surface water functions | Condition is insufficient to provide wetland/surface water functions |

| | w/out mit | w/mit | |
|---|---|---|---|
| .500(6)(a) Location and Landscape Support | 9 | 10 | **Without Mitigation** - Lack of preservation and ecological management may cause future declines in location and landscape support functions. **With Mitigation** - Preservation and implementation of appropriate ecological management activities including precribed fire, as necessary, and management of exotic vegetation. |
| .500(6)(b)Water Environment (N/A for Uplands) | 10 | 10 | **Without Mitigation** - No Change. **With Mitigation** - No Change. |
| .500(6)(c)Community structure<br>Vegetation and/or Benthic Community | 10 | 10 | **Without Mitigation** - No Change. **With Mitigation** - No Change. |

| Score = sum of above scores/30 (if uplands, divide by 20) | w/out mit | w/mit |
|---|---|---|
| | 0.967 | 1.000 |

| Raw Delta = [w/mit - w/out mit] |
|---|
| **0.033** |

| | |
|---|---|
| **Preservation Adjustment Factor (PF) =** | **1** |
| **Time Lag Factor =** | **1** |
| **Risk Factor =** | **1** |
| **Adjusted Delta [(Raw Delta * PF) / (T * R)] =** | **0.033** |

| UMAM Functional Assessment | |
|---|---|
| **Polygon Acreage =** | **40.000** |
| **Functional Gain w/Mitigation (Adjusted Delta * Acres) =** | **1.320** |

## PART I – Qualitative Description
## (See Section 62-345.400, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| **Live Oak - Lee** | **Not Applicable** | **Lee** |

| FLUCCS code | Further classification (optional) | Impact or Mitigation Site? | Assessment Area Size |
|---|---|---|---|
| **625 (Hydric Pine Flatwoods) and Minor Salt Marsh Inclusions** | **---** | **Mitigation** | **20 Acres** |

| Basin/Watershed Name/Number | Affected Waterbody (Class) | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) |
|---|---|---|
| **Choctawhatchee** | **III** | **---** |

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

**Part of extensive estuarine and palustrine wetlands at Live Oak Peninsula.**

Assessment area description

**Hydric pine flatwoods degraded by fire suppression, high pine density.**

| Significant nearby features | Uniqueness (considering the relative rarity in relation to the regional landscape.) |
|---|---|
| **Hogtown Bayou. Choctawhatchee Bay** | **Not unique.** |

| Functions | Mitigation for previous permit/other historic use |
|---|---|
| **Water storage; water quality; floral and faunal habitat.** | **None** |

| Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found ) | Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) |
|---|---|
| | |

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.)

Additional relevant factors

**---**

| Assessment conducted by | Assessment date(s) |
|---|---|
| **USACE** | **5/15/2012** |

## PART II – Quantification of Assessment Area (impact or mitigation)
## (See Sections 62-345.500 and .600, F.A.C.)

| Site/Project Name | Application Number | Assessment Area Name or Number |
|---|---|---|
| **Live Oak - Lee** | **Not Applicable** | **Lee** |
| Impact or Mitigation | Assessment conducted by: | Assessment date: |
| **Mitigation** | **USACE** | **5/15/2012** |

| Scoring Guidance | **Optimal (10)** | **Moderate(7)** | **Minimal (4)** | **Not Present (0)** |
|---|---|---|---|---|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed | Condition is optimal and fully supports wetland/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions | Minimal level of support of wetland/surface water functions | Condition is insufficient to provide wetland/surface water functions |

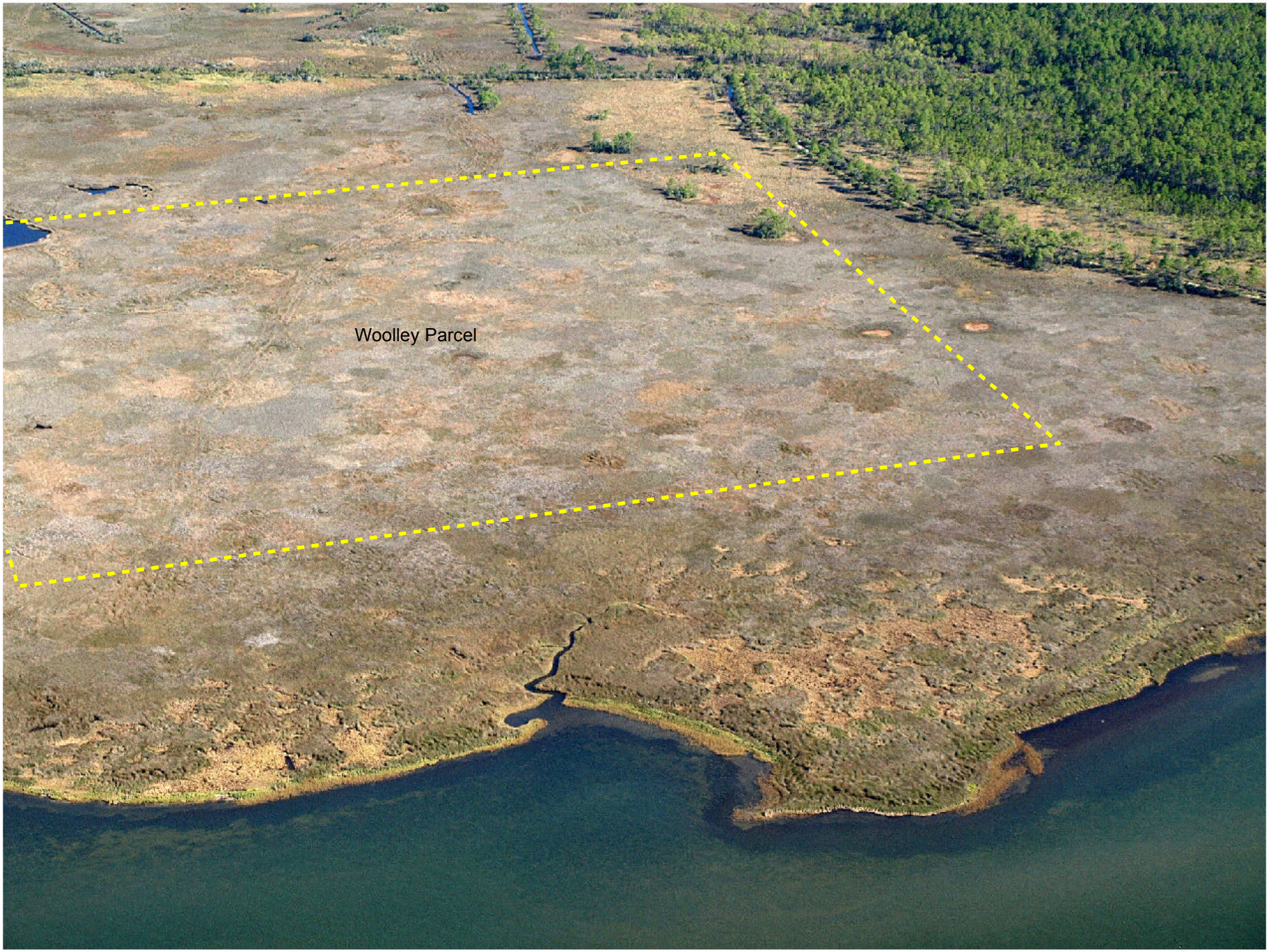
| | w/out mit | w/mit | |
|---|---|---|---|
| .500(6)(a) Location and Landscape Support | 7 | 9 | **Without Mitigation** - Lack of ecological management; potential exotic vegetation infestations. **With Mitigation** Implementation of appropriate ecological management activities that may include precribed fire and management of exotic vegetation. |
| .500(6)(b)Water Environment (N/A for Uplands) | 9 | 9 | **Without Mitigation** - No Change. **With Mitigation** - No Change. |
| .500(6)(c)Community structure<br>Vegetation and/or Benthic Community | 7 | 9 | **Without Mitigation** - Hydric pine flatwoods continue transition to dense pine stand; exotic vegetation infestation; continued fire suppression. **With Mitigation** - Ecological management implemented that may include prescribed fire and management of exotic vegetation. |

| Score = sum of above scores/30 (if uplands, divide by 20) | w/out mit | w/mit |
|---|---|---|
| | 0.767 | 0.900 |

| Raw Delta = [w/mit - w/out mit] |
|---|
| **0.133** |

| | |
|---|---|
| **Preservation Adjustment Factor (PF) =** | **1** |
| **Time Lag Factor =** | **1.00** |
| **Risk Factor =** | **1** |
| **Adjusted Delta [(Raw Delta * PF) / (T * R)] =** | **0.133** |

| UMAM Functional Assessment | |
|---|---|
| **Polygon Acreage =** | **20.00** |
| **Functional Gain w/Mitigation (Adjusted Delta * Acres) =** | **2.660** |




Woolley Parcel (Live Oak Peninsula), Oblique Aerial, Looking Approximately North, 10/15/2010


Lee Parcel at Live Oak Peninsula, Oblique Aerial, Looking Approximately West, 10/15/2010