Live Oak Peninsula
(NWFWMD ILF Program Mitigation Project Site)

Contents:

Summary of Twelve Components

of Live Oak Compensatory Mitigation Plan

Northwest Florida Water Management District
In-Lieu Fee Program

Live Oak Peninsula – Woolley and Lee Parcels

(Summary of 12 Elements Required by § 332.4(c) of the 2008 EPA/USACE Final Compensatory Mitigation Rule for All In-Lieu Fee Program Project Plans; See Attached "Live Oak Peninsula Mitigation Area, UWRMP / In-Lieu Fee Project 5.3.5, Woolley and Lee Parcels Supplemental, May 18, 2012" for Additional Explanation and Detail)

22 September 2014

1—Objectives

Preservation of approximately 60 acres of estuarine and palustrine wetlands within the Choctawhatchee River and Bay watershed.

2—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. Estuarine mitigation credits are needed and generally difficult to obtain in south Walton County.

3—Site Protection Instrument:

In accordance with the 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 In-Lieu Fee Program.

The NWFWMD, a governmental entity created by the Florida Water Resources Act of 1972, given taxing authority by a Florida constitutional amendment in 1973, with jurisdictional boundaries covering 16 counties established in Florida Statutes 373.069, manages over 200,000 acres in the Florida Panhandle for water resources protection and ecosystem integrity. Florida Statutes 373.1391 mandates ecological management of NWFWMD lands, although allowing for multiple uses such as hunting and passive recreation when such uses do not conflict with ecological management goals. It is the policy of the NWFWMD Governing Board to prioritize the conservation, protection and restoration of water resources and natural ecosystems over other uses such as public access.

4—Baseline Information

(See "Live Oak Peninsula Mitigation Area, UWRMP / In-Lieu Fee Project 5.3.5, Woolley and Lee Parcels Supplemental, May 18, 2012")

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.

5—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.

6—Detailed Work Plan

The site will be managed for ecological integrity in perpetuity in accordance with the NWFWMD In-Lieu Fee Program protocols. See "Live Oak Peninsula Mitigation Area, UWRMP / In-Lieu Fee Project 5.3.5, Woolley and Lee Parcels Supplemental, May 18, 2012" for detailed planning.

7—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 In-Lieu Fee Program protocols. This site is expected to be fully self-sustaining.

8—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.

9—Monitoring

Monitoring protocols necessary to ensure effective preservation, enhancement and management will be conducted annually for five years from the start of mitigation activities or as required by USACE permit conditions. Photo-points and meandering vegetation surveys by a qualified biologist are expected to comprise the monitoring for this site. Annual reports will be generated and posted at www.NWFWMDwetlands.com.

Monitoring necessary to ensure effective preservation, enhancement and restoration will be conducted by NWFWMD staff or qualified consulting firms. Monitoring will be conducted for a minimum of five years after initiation of restoration activities or per USACE conditions. Specific monitoring proposed for at this site follows:

1. Annual 15+ minute pedestrian surveys; number of survey paths to be determined in field.
2. Permanent 360^{o} photographic stations; number of photo-points to be determined in the field.

Vegetation transects, quadrats or similar quantitative sampling methods may be conducted annually if specified by USACE.

10—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 in accordance with the "Management Policies for Water Management Areas of the Northwest Florida Water Management District" (NWFWMD 1998).

11—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.

12—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. Funds are specifically earmarked to implement and maintain mitigation.

As of July, 2014, the NWFWMD had greater than $15,000,000 available in a dedicated mitigation fund account (see "Fund A" attachment). This fund was established to receive payment from sales of mitigation credits and to ensure adequate funding for the implementation and long-term management of the bank, in accordance with 62-342.850 FAC.\

Other Information

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

Live Oak Mitigation Plan

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. Prescribed fire and exotic species management will be employed on a regular basis.

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 necessary to ensure effective preservation, enhancement, restoration and management will be conducted annually for a minimum of five years from the start of mitigation activities or as required by USACE permit conditions. Monitoring will be performed by NWFWMD staff or qualified consulting firms. Annual reports will be generated and posted at www.NWFWMDwetlands.com. Specific monitoring for this site follows:

- Annual 15+ minute pedestrian surveys; number of survey paths to be determined in field
- Permanent 360^{o} photographic stations; number of photo-points to be determined in the field
- Vegetation transects, quadrats or similar quantitative sampling methods may be conducted annually if specified by USACE

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:

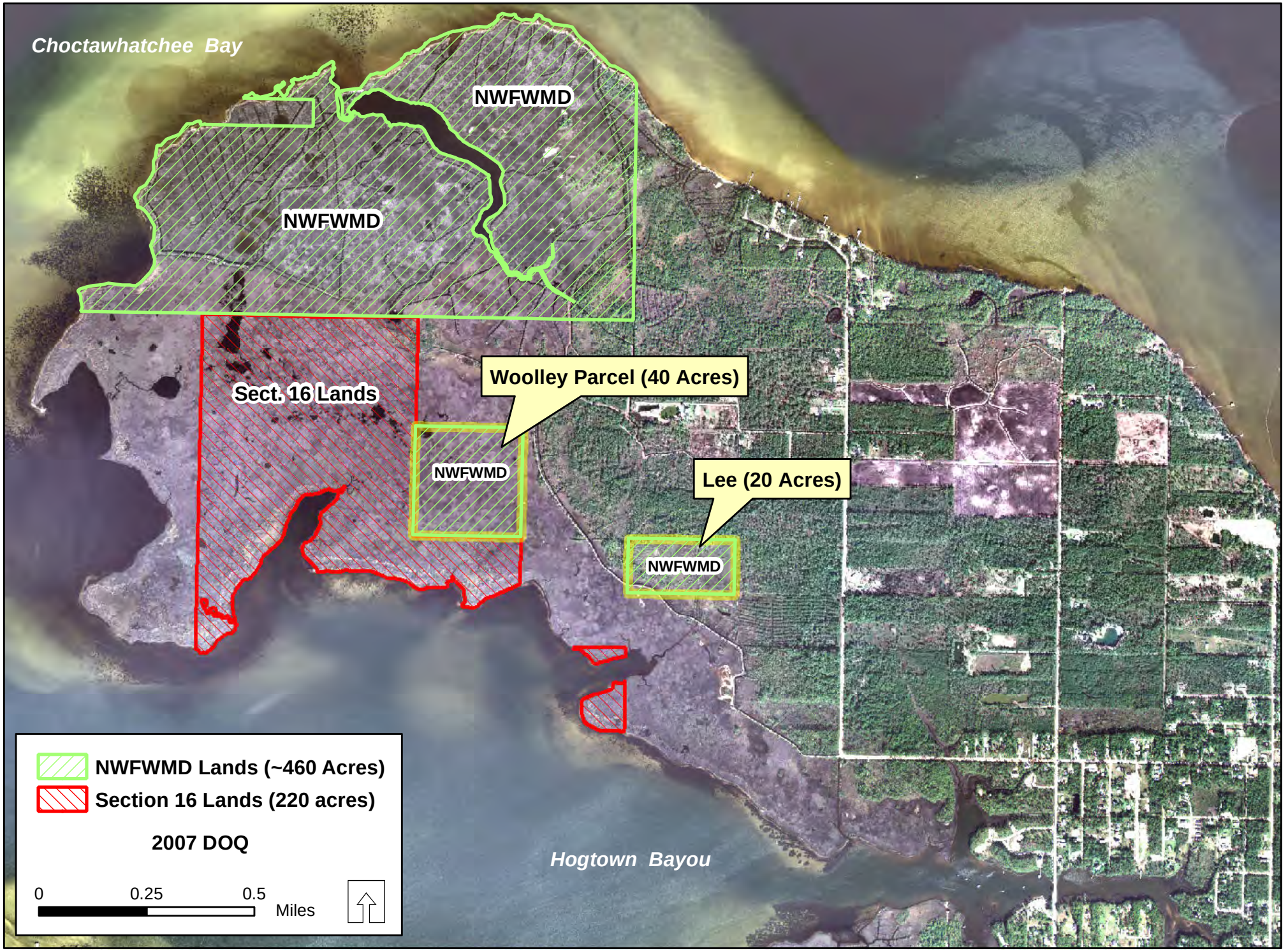
The NWFWMD is a governmental entity created by the Florida Water Resources Act of 1972 with the mission of protecting water resources protection and ecosystem integrity. Details concerning financial assurances are described in the Umbrella Plan / In-Lieu Fee Program.

Other Information:

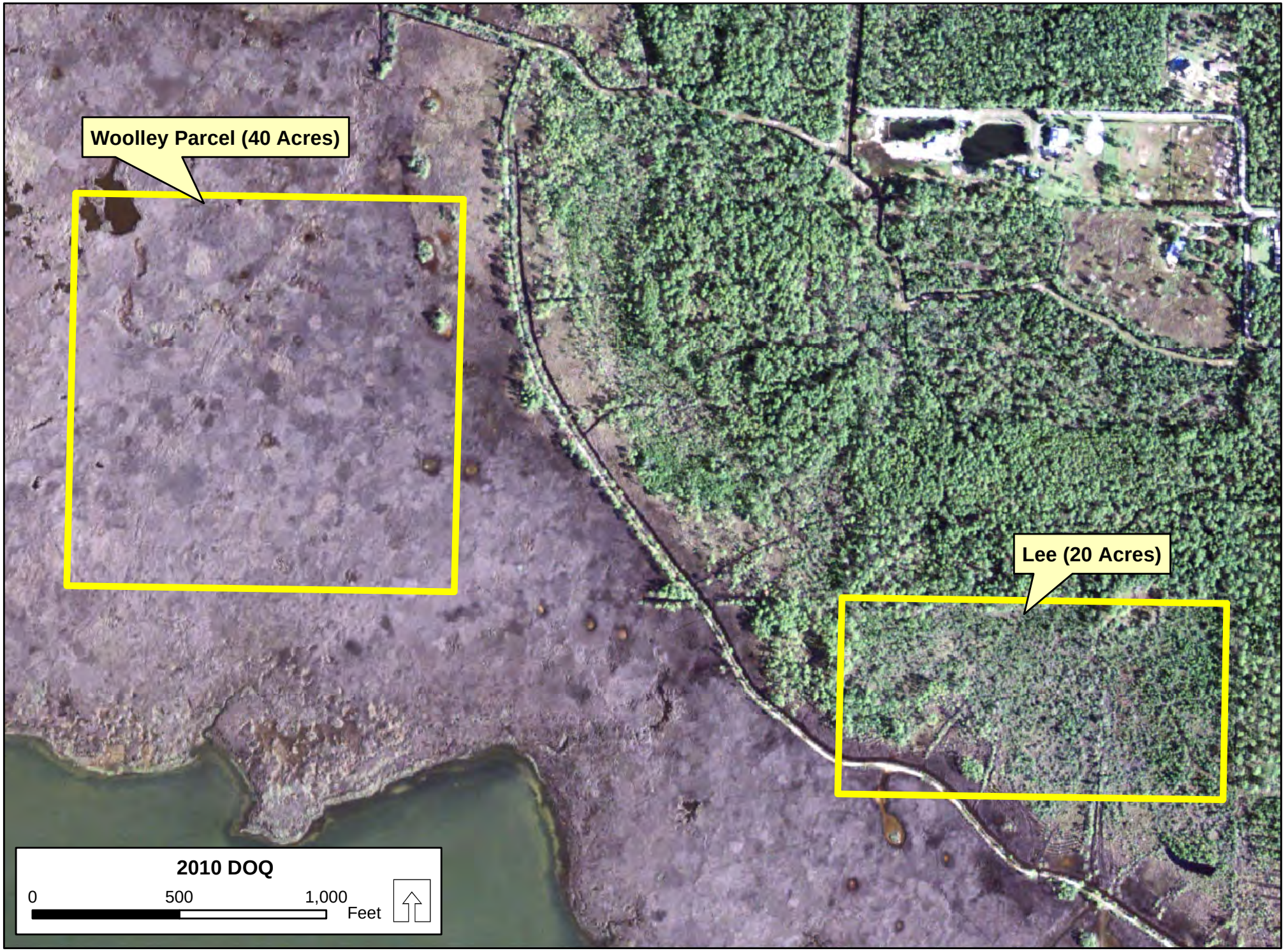
Any additional information requested by the USACE to determine the appropriateness, feasibility, and practicability of this compensatory mitigation project will be provided.

Location of Live Oak Peninsula

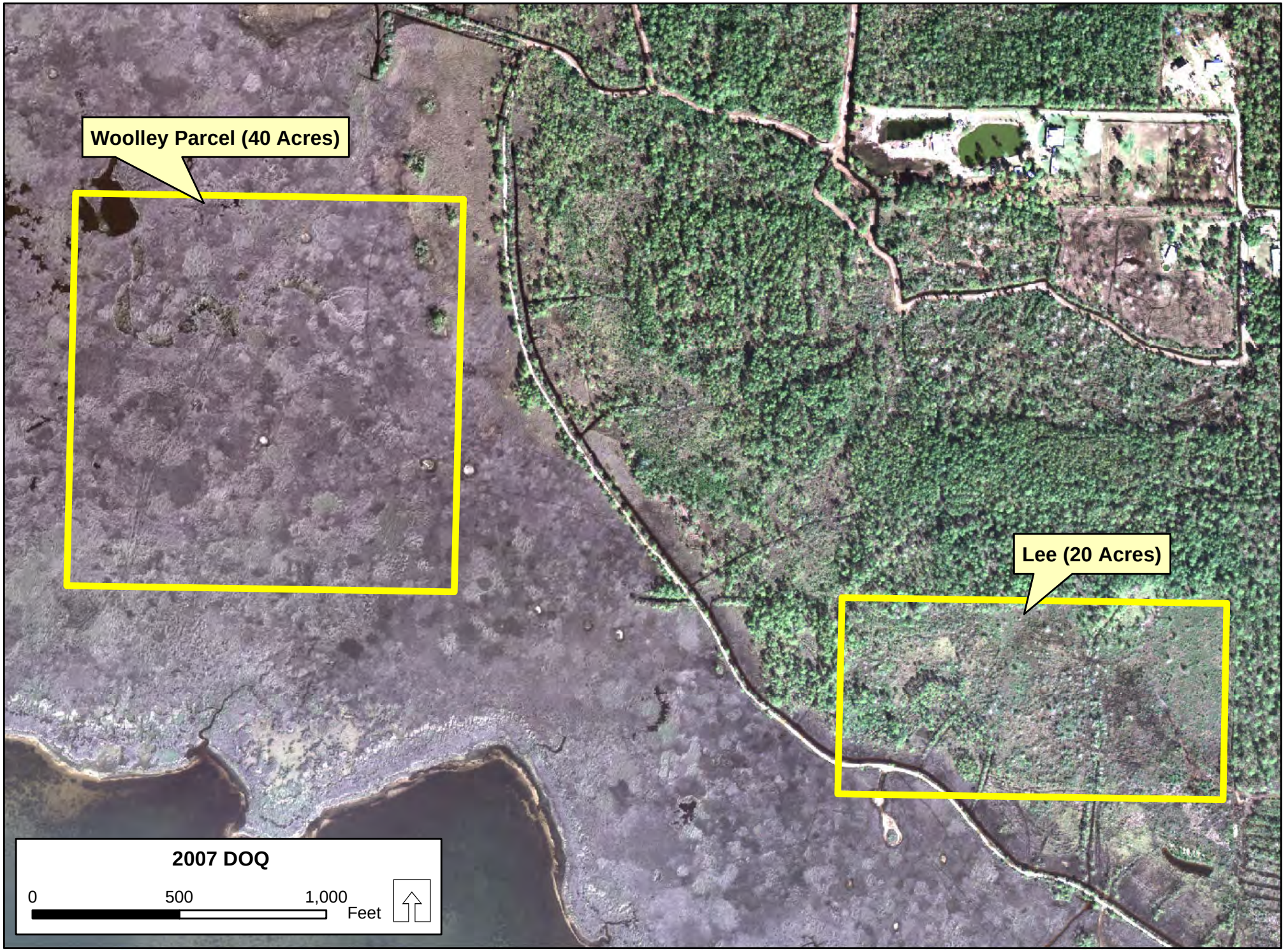
Live Oak Peninsula Mitigation Area - Existing NWFWMD and Section 16 Lands



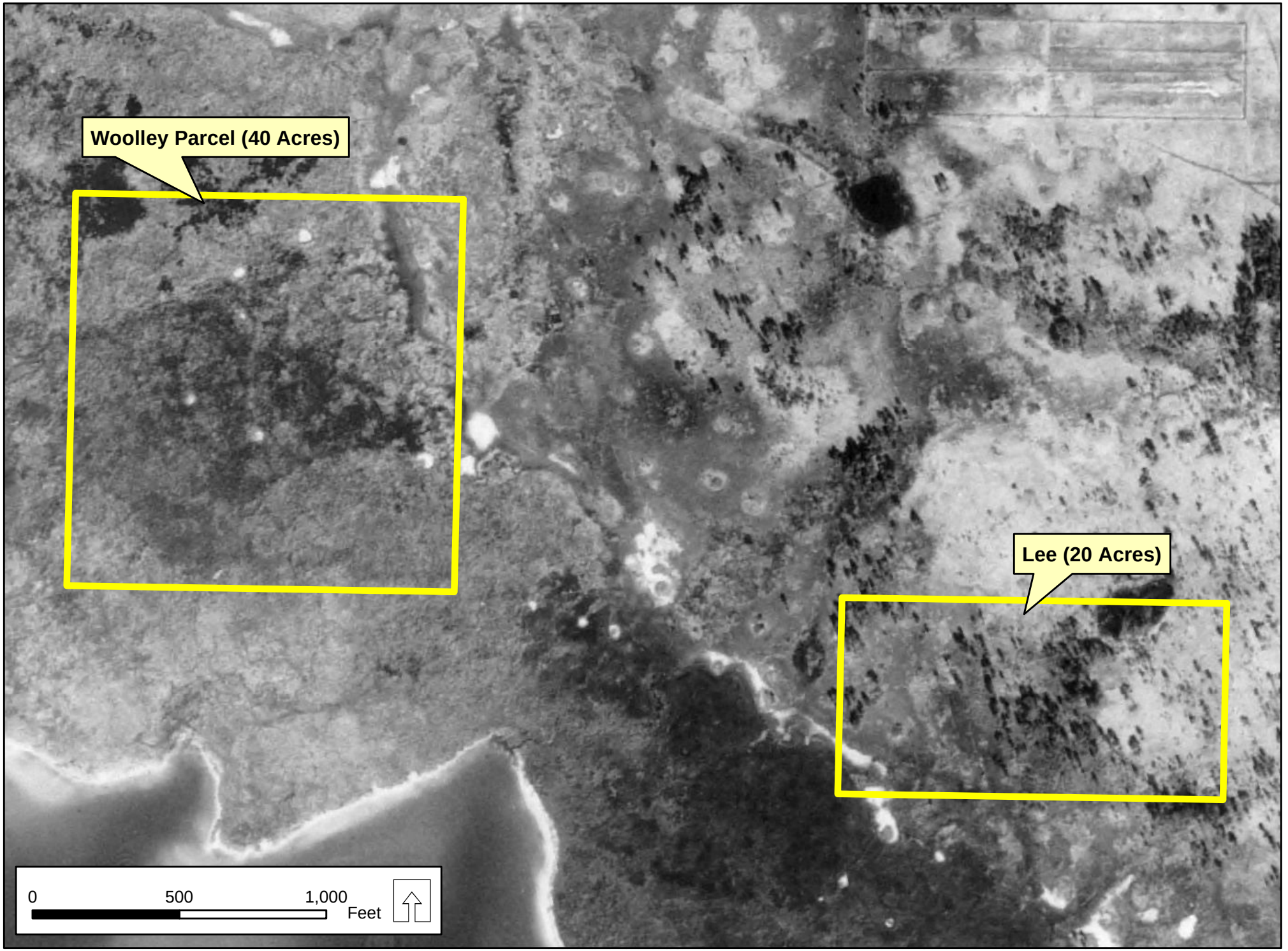
Woolley and Lee Parcels



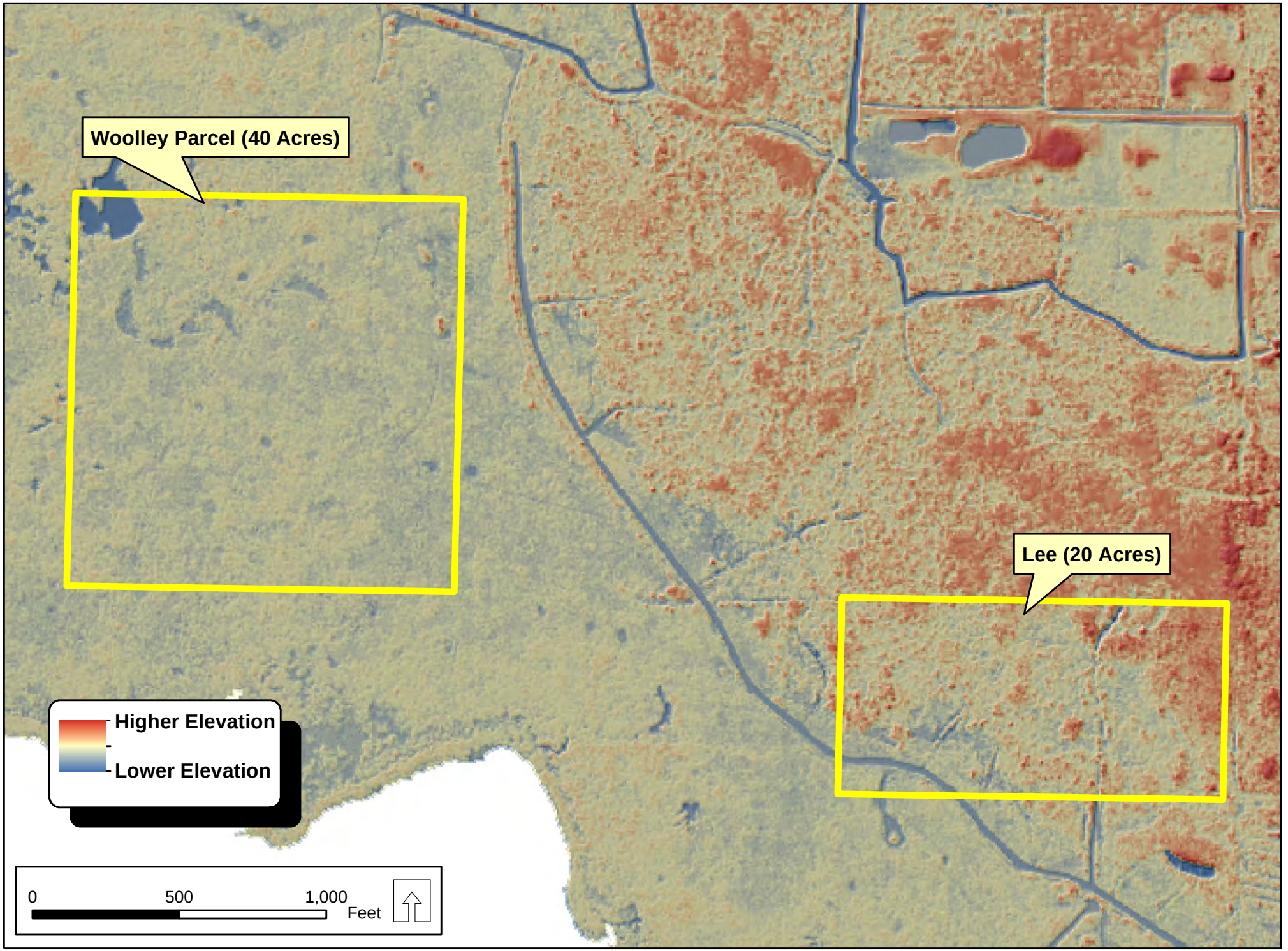
Woolley and Lee Parcels



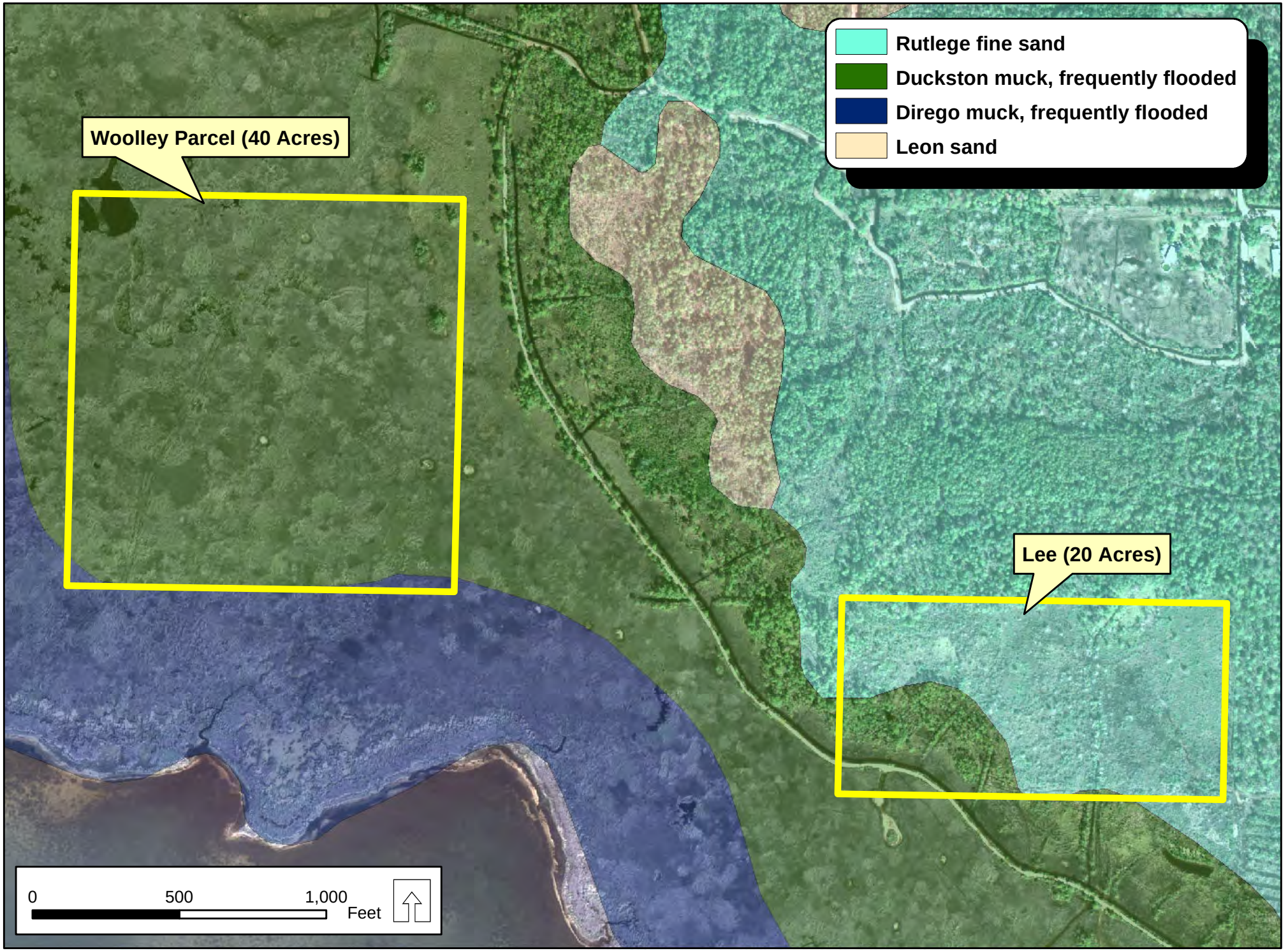
Woolley and Lee - 1941 B&W Aerial



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**

Form 62-345.900(1), F.A.C. [effective date]

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 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**

Form 62-345.900(1), F.A.C. [effective date]

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

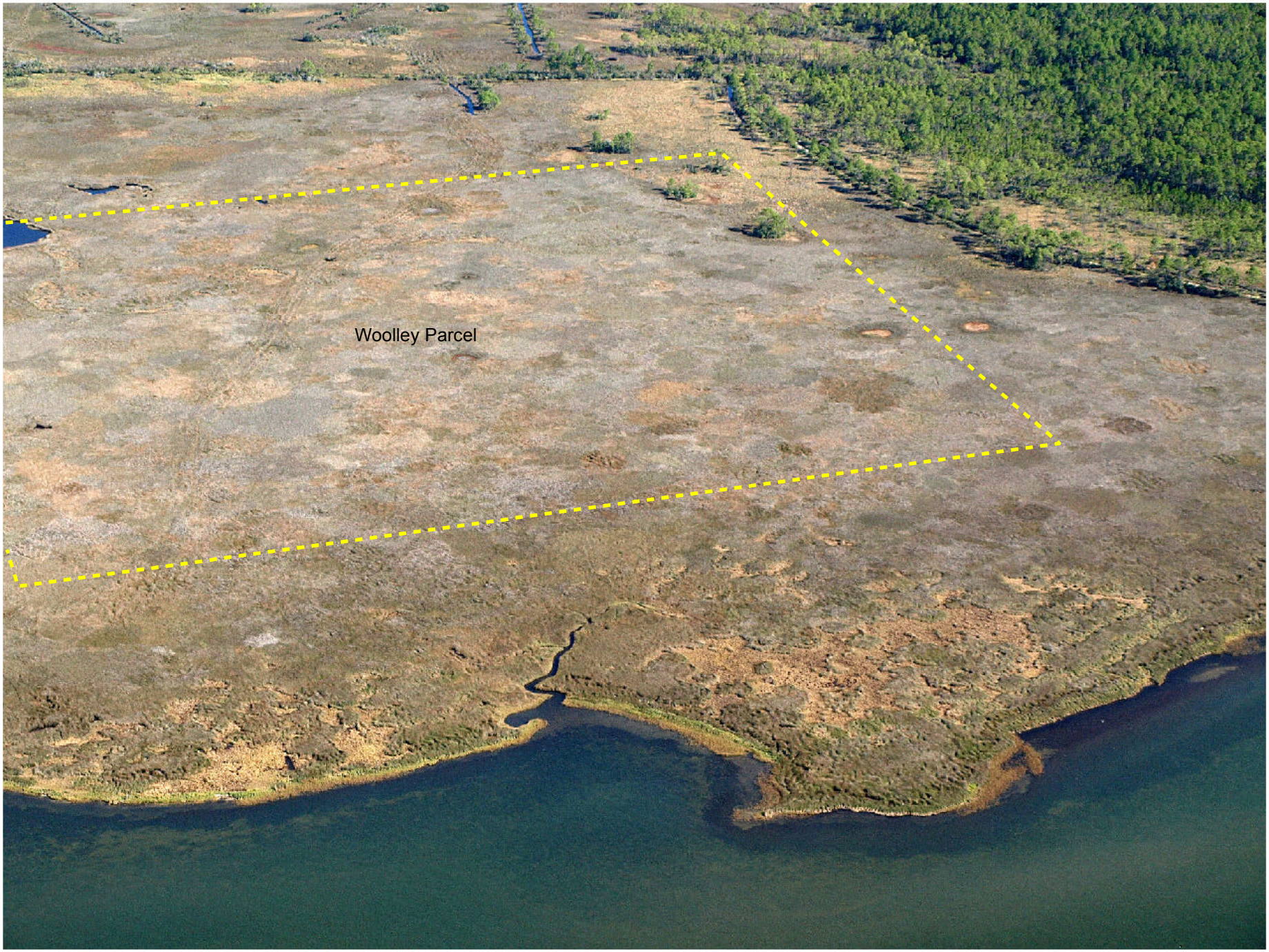
	w/out mit	w/mit	
.500(6)(a) Location and Landscape Support	7	9	**Without Mitigation** - Lack of ecological management; potential exotic vegetation infestations. **With Mitigation** Implementation of appropriate ecological management activities that may include precribed fire and management of exotic 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 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

Live Oak Service Area

The Live Oak Peninsula Mitigation Service Area (MSA) covers approximately 699 mi^2, and is defined as the 8-digit Hydrologic Unit Code (HUC) 03140102 (i.e., the Choctawhatchee Bay watershed).

Live Oak Peninsula Mitigation Service Area

Schedule of Credit Release
Live Oak Peninsula Mitigation Area

Total Potential Credits = 3.98

Task No.	Performance-based Milestone	% Credit Release	Number of Credits
	CREDITS RELEASED AS OF JUNE 12, 2013	100%	3.98
	Totals:	100%	3.98