

Northwest Florida Water Management District
In-Lieu Fee Program

Yellow River Ranch Mitigation Area

(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 Yellow River Ranch Mitigation Documents for Additional Explanation and Detail)

24 September 2014

1—Objectives

Restoration (~115 acres) and preservation (~160 acres) of approximately 275 wetland acres on the Yellow River floodplain.

- Preservation of ~160 acres of bottomland (FLUCCS 615)
- Restoration of ~27 acres of bottomland (FLUCCS 615)
- Restoration of ~9 acres of cypress (FLUCCS 621)
- Restoration of ~60 acres of hydric flatwoods and savanna (FLUCCS 625 & 626)
- Restoration of ~19 acres of non-forested wetlands (FLUCCS 640)

2—Site Selection Criteria

Acquisition of this mitigation site fills a gap in NFWFMD lands ownership along the Yellow River, and is part of a larger NFWFMD effort to restore and protect aquatic resources within the Pensacola Bay System watershed. After mitigation is implemented and success criteria met, this site is expected to be ecologically self-sustaining.

3—Site Protection Instrument

The NFWFMD, 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 NFWFMD 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 NFWFMD Governing Board to prioritize the conservation, protection and restoration of water resources and natural ecosystems over other uses such as public access.

In accordance with the site protection clauses of the USACE/EPA compensatory mitigation Final Rule, title to the Yellow River Ranch mitigation area (acquired fee-simple) will be held in perpetuity by the NFWFMD and managed as conservation/mitigation lands.

4—Baseline Information

(See “Yellow River Ranch Mitigation Area, Revised Mitigation Plan, 9/24/2014”)

Maps

- Location within Pensacola Bay System Watershed (Figure 3)
- Directions (Figure 4)
- 2007 DOQ (Figure 5)
- 1946 B&W Aerial (Figure 6)
- 1966 B&W Aerial (Figure 7)
- 1978 B&W Aerial (Figure 8)
- 1988 B&W Aerial (Figure 9)
- LiDAR (Figure 10)
- USGS Quad (Figure 11)
- 100-Year Flood Zone (Figure 12)
- Soils (Figure 13)
- Hydrologic Restoration (Figure 14)
- UMAM Mitigation Polygons (Figure 15)

At time of acquisition, this mitigation area consisted of high-quality bottomland wetland forest (~160 acres, FLUCCS 615), and improved pasture (~115 acres, FLUCCS 211) that had been converted from mostly forested wetlands. A large dike system blocked normal hydrologic connections with the Yellow River floodplain, and internal ditches drained the improved pasture. There was extensive cattle grazing, and exotic pasture grasses dominated much of the site.

5—Determination of Credits

Mitigation credits are estimated by the Uniform Mitigation Assessment Method (UMAM). USACE assessments of the site indicate that 33.88 UMAM wetland credits will be generated by restoration of 60.95 acres of improved pasture. Preservation and restoration activities on the remainder of the Yellow River Ranch site was previously used (in accordance with the Umbrella Plan) to offset FDOT impacts to 16.75 acres of wetlands.

6—Detailed Work Plan

Conversion from high-quality forested wetlands to improved pasture was accomplished by the removal of forest vegetation (canopy, shrub layer and groundcover), severe hydrologic alteration from ditching and dike construction, and the establishment and maintenance of exotic pasture grasses. Decades of cattle grazing operations followed and ceased only with NFWMD acquisition. Functional wetland lift will be derived from 1) elimination of drainage ditches, 2) breaching of the dike, 3) eradication of non-native pasture grasses including Bahia grass and other nuisance exotic species, 4) revegetation with appropriate wetland species, 5) implementation of a growing-season fire regime within restored flatwood areas, and 6) long-term management including control of nuisance and exotic species.

The pasture will be restored to a mix of FLUCCS 615 – Bottomland, FLUCCS 621 – Cypress, FLUCCS 625/626 – Hydric Pine Flatwoods and Savanna, and FLUCCS 640 – Non-Forested Wetlands.

For portions of the pasture to be restored as bottomland hardwood forest, vegetation to be planted may include a mixture of Atlantic white cedar, possum haw, black gum, laurel oak, cypress, or American elm. Vegetation planted will depend on site conditions and availability of plants.

Areas targeted for hydric pine flatwoods restoration may be planted with species including slash pine, cypress, myrtle leaf holly, appropriate hydric flatwoods groundcover seed, and possibly wiregrass tubelings. Site conditions and availability of plants will be considered when determining actual plantings.

Upon completion of restoration activities, long-term ecological management will be implemented seamlessly across the Yellow River Ranch.

Sequence of Restoration Activities—

- Cessation of cattle operations (accomplished with acquisition in 2005).
- Hydrologic restoration (implemented 2009).
 - Elimination of ditches
 - Breaching of dike
- Eradication of exotic pasture grasses including Bahia grass and other nuisance exotic species such as Chinese tallow via multiple applications of herbicides over multiple growing-seasons (implemented 2006 – Present).
- Planting of forested wetland and flatwood species (first implemented in 2010, additional plantings followed).
- Implementation of long-term ecological management including exotics control and eventual prescribed fire in restored flatwood areas where/when appropriate.

7—Maintenance Plan

After implementation of mitigation and meeting of all success criteria, this site will be actively maintained by NFWFMD lands management personnel as part of extensive holdings along the Yellow River. Maintenance may include ensuring that breaches in the dike remain open (e.g., beaver management), prescribed where appropriate, and exotics management. This site is expected to be largely self-sustaining.

8—Performance Standards

- Nuisance vegetation \leq 5% cover of site.
- Exotic vegetation \leq 1% cover of site.
- Tree density of 352-440 trees/acre in bottomland restoration areas and 88-110 trees/acre in hydric pine flatwood restoration areas after five years.
- Native groundcover and shrub layer species appropriate for natural community type trending toward increase in diversity and coverage.

Performance standards may be modified, with approvals by the USACE in consultation with an Interagency Review Team, if on-the-ground conditions warrant.

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.NFWMDwetlands.com (or any successor website). Monitoring for this site may include:

1. UMAM reassessment conducted 5 years and 10 years after initiation of restoration.
2. Annual pedestrian surveys; number of survey paths to be determined in field.
3. Permanent 360° photographic stations; number of photo-points to be determined in the field.

Vegetation transects, quadrats or similar quantitative sampling methods may be conducted if deemed necessary by NFWMD or required by the USACE.

10—Long-term Management

The NFWMD 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 NFWMD. Mitigation lands owned by the NFWMD will be managed in perpetuity for ecological integrity in accordance with NFWMD policies. Long-term management is expected to include exotics control and prescribed fire where appropriate.

11—Adaptive Management Plan

If changes in the implementation of this mitigation plan become necessary due to the stochastic nature of ecological processes, the NFWMD will first obtain approvals from the USACE.

12—Financial Assurances

The NFWMD 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 NFWMD had greater than \$15,000,000 available in a dedicated mitigation fund account. 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.

Detailed Mitigation Plan

YELLOW RIVER RANCH MITIGATION AREA

(NFWFMD In-Lieu Fee Program – UWRMP 5.5.1)

Revised Mitigation Plan

September 24, 2014

This revision supersedes the approved Yellow River Ranch mitigation plan included as an attachment to US Army Corps Permit SAJ-2004-2643 IP-EPS (SR 87 from Five Forks Road to Eglin AFB, issued 2/7/2006). It differs from the original plan in that vegetation restoration targets for the pasture area have been modified to better reflect existing soil and hydrologic conditions.

As initially proposed, the pasture area (FLUCCS 211 – Improved Pasture) was to be restored to FLUCCS 615 – Bottomland and FLUCCS 625 – Hydric Pine Flatwoods. Under this revision, the pasture area will be restored to a mix of FLUCCS 615 – Bottomland, FLUCCS 621 – Cypress, FLUCCS 625/626 – Hydric Pine Flatwoods and Savanna, and FLUCCS 640 – Non-Forested Wetlands (Figure 1, Table 1).

Mitigation Category	Initial FLUCCS	Target FLUCCS	Original Plan (Acres)	Revised Plan (Acres)
Restoration	211 – Improved Pasture	615 – Bottomland	50	27
Restoration	211 – Improved Pasture	621 – Cypress	0	9
Restoration	211 – Improved Pasture	625/626 – Flatwoods	65	60
Restoration	211 – Improved Pasture	640 – Non-Forested	0	19
Preservation	615 – Bottomland	615 – Bottomland	160	160
		(Totals)	275	275

¹ Acreages are approximate and may vary slightly from the original mitigation plan.

Background:

In December, 2005, the NFWFMD acquired the approximately 275-acre Yellow River Ranch property (30° 35' 30" N / 86° 54' 10" W) for use as mitigation for FDOT wetland impacts. Located on the Yellow River floodplain in Santa Rosa County within the Pensacola Bay System watershed, it is 1½ miles east of SR 87 and is bordered on three sides by extensive forested floodplain wetlands acquired in the 1990s by the NFWFMD. A cattle ranch is adjacent to the northern boundary.

Approximately 160 acres of the Yellow River Ranch consist of intact forested wetlands (FLUCCS 615 – Bottomland). Historic aerials and other data (e.g., soils, elevation) suggest that the remaining 115± acres were also mostly forested wetlands (FLUCCS 625 – Hydric Pine Flatwoods? FLUCCS 630 – Mixed Forested Wetlands?) before being converted to pasture (FLUCCS 211 – Improved Pasture).

Interpretation of historic aerials (1946, 1966, 1978, and 1988) indicates that much of the pasture area was timbered before 1946. This timbered area had recovered to a “regrowth” forest, apparently via natural regeneration, by 1966. Aerials from 1978 show the timbered area converted to improved pasture with a ditch/dike system in place. The pasture area and ditch/dike system was substantially expanded after the 1978 aerials were flown, with its current extent clearly shown in the 1988 aerial.

As mitigation for two US Army Corps permits associated with SR 87, the NFWFMD is preserving the 160± acres of intact forested wetlands and restoring wetland function to ~55 acres of the pasture.² These “permittee-responsible” permits issued to FDOT predate establishment of the NFWFMD Umbrella Plan and In-Lieu Fee Program. No wetland functional assessments, for either the impacts or mitigation site, are associated with these permits.

Approximately 61 acres of converted wetlands (i.e., the pasture) at the Yellow River Ranch are unencumbered by any existing permit mitigation requirements (Figure 2). Mitigation credits generated from restoration of this remaining area will be incorporated into the NFWFMD In-Lieu Fee Program.

In the original mitigation plan, an inaccurate GIS property line along the northern boundary was used to delineate the UMAM polygons, which totaled 65 acres. In this revision, using a corrected property line, the area of the pasture for which UMAM credits will be generated is reduced to 60.95 acres.

The Yellow River Ranch has been inspected by the USACE multiple times since NFWFMD acquisition in 2005. Based on a 9/25/07 visit and subsequent discussions, the USACE, in consultation with an Umbrella Plan Review Team, determined that restoration of ~65 acres of the pasture to FLUCCS 615 – Bottomland and FLUCCS 625 – Hydric Pine Flatwoods, would generate 34.65 UMAM credits. Under this revised plan, based on restoring 60.95 acres of pasture to a mix of FLUCCS 615 – Bottomland, FLUCCS 625/626 – Hydric Pine Flatwoods and

² USACE Permit SAJ-2000-02363 IP-CP, SR 87 from US 98 to Five Forks Road, 5.68-acre impact; USACE Permit SAJ-2004-2643 IP-EPS, SR 87 from Five Forks Road to Eglin AFB, 12.07-acre impact.

Savanna, FLUCCS 621 – Cypress, and FLUCCS 640 – Non-Forested Wetlands, it is estimated that 33.88 UMAM credits will be generated.

Objective:

Restoration and preservation of approximately 275 wetland acres on the Yellow River floodplain.

- Preservation of ~160 acres of bottomland (FLUCCS 615)
- Restoration of ~27 acres of bottomland (FLUCCS 615)
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Site Selection Criteria:

Acquisition of this mitigation site fills a gap in NFWFMD lands ownership along the Yellow River, and is part of a larger NFWFMD effort to restore and protect aquatic resources within the Pensacola Bay System watershed. After mitigation is implemented and success criteria met, this site is expected to be ecologically self-sustaining.

Site Protection Instrument:

The NFWFMD, 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 approximately 216,000 acres in the Florida Panhandle for water resources protection and ecosystem integrity. Florida Statutes 373.1391 mandates ecological management of NFWFMD 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 NFWFMD Governing Board to prioritize the conservation, protection and restoration of water resources and natural ecosystems over other uses such as public access.

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 the Yellow River Ranch mitigation area (acquired fee-simple) will be held in perpetuity by the NFWFMD and managed as conservation/mitigation lands.

Baseline Information:

Maps

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Determination of Credits:

Mitigation credits are estimated by the Uniform Mitigation Assessment Method (UMAM). Based on previous IRT assessments of the site, the NFWFMD estimates that 33.88 UMAM wetland credits will be generated by restoration of 60.95 acres of improved pasture.

Detailed Work Plan:

Conversion from high-quality forested wetlands to improved pasture was accomplished by the removal of forest vegetation (canopy, shrub layer and groundcover), severe hydrologic alteration from ditching and dike construction, and the establishment and maintenance of exotic pasture grasses. Decades of cattle grazing operations followed and ceased only with NFWFMD acquisition. Functional wetland lift will be derived from 1) elimination of drainage ditches, 2) breaching of the dike, 3) eradication of non-native pasture grasses including Bahia grass and other nuisance exotic species, 4) revegetation with appropriate wetland species, 5) implementation of a growing-season fire regime within restored flatwood areas, and 6) long-term management including control of nuisance and exotic species.

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- Hydrologic restoration (implemented 2009).
 - Elimination of ditches
 - Breaching of dike
- Eradication of exotic pasture grasses including Bahia grass and other nuisance exotic species such as Chinese tallow via multiple applications of herbicides over multiple growing-seasons (ongoing since 2006).
- Planting of forested wetland and flatwood species (ongoing since 2010).
- Implementation of long-term ecological management including exotics control and prescribed fire where appropriate.

Maintenance Plan:

After implementation of mitigation and meeting of all success criteria, this site will be actively maintained by NFWMD lands management personnel as part of extensive holdings along the Yellow River. Maintenance may include ensuring the breaches in the dike remain open (e.g., beaver management), prescribed fire where appropriate, and exotics management. This site is expected to be largely self-sustaining.

Performance Standards:

- Nuisance vegetation \leq 5% cover of site.
- Exotic vegetation \leq 1% cover of site.
- Tree density of 352-440 trees/acre in bottomland restoration areas and 88-110

trees/acre in hydric pine flatwood restoration areas after five years.

- Native groundcover and shrub layer species appropriate for natural community type trending toward increase in diversity and coverage.

Monitoring:

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1. UMAM reassessment between 5 and 10 years after initiation of restoration.
2. Annual 15+ minute pedestrian surveys; number of survey paths to be determined in field.
3. Permanent 360° 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 deemed necessary by NFWMD or specified by USACE.

Long-term Management:

The NFWMD 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 NFWMD. Mitigation lands owned by the NFWMD will be managed in perpetuity for ecological integrity in accordance with NFWMD policies. Long-term management will include exotics control and prescribed fire where appropriate.

Adaptive Management Plan:

If changes in the implementation of this mitigation plan become necessary due to the stochastic nature of ecological processes, the NFWMD will first obtain approvals from the USACE.

Financial Assurances:

The NFWFMD 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.

Other Information:

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

Credit Release:

Credit release schedules will be developed in consultation with the USACE.



USACE/Umbrella Plan Review Team inspecting Yellow River Ranch pasture and dike (9/25/07)

Yellow River Ranch Soils

Bibb-Kinston Association. These are floodplain soils subject to frequent flooding. Natural vegetation consists of “gum, bay, cypress, juniper, oak, and a few scattered longleaf pine. The dense understory consists of tit, wax myrtle, ferns, and other water-tolerant shrubs” (NRCS, 5/1980).

Goldhead Fine Sand. Typical tree species includes slash pine, loblolly pine, longleaf pine, and blackgum with cypress occurring in the wettest places. The understory includes inkberry, waxmyrtle, pineland threeawn, pitcher plants, and bracken fern (NRCS, 7/1999).

Meadowbrook Fine Sand. Typical vegetation includes mixed stands of slash pine, loblolly pine, and longleaf pine with live laurel, and water oaks, blackgum, sweetgum, red maple and cypress in wetter areas. The understory includes gallberry, waxmyrtle, wiregrass, pitcher plants, and bracken fern (NRCS, 7/2007).

Mulat Loamy Fine Sand. Typical natural vegetation is slash and longleaf pine, gallberry, waxmyrtle, pineland threeawn, dwarf huckleberry, and bluestems. Wetter areas contain baldcypress and pitcher plants (NRCS, 9/2002).

Figure 1: Original and Revised Community Restoration Targets

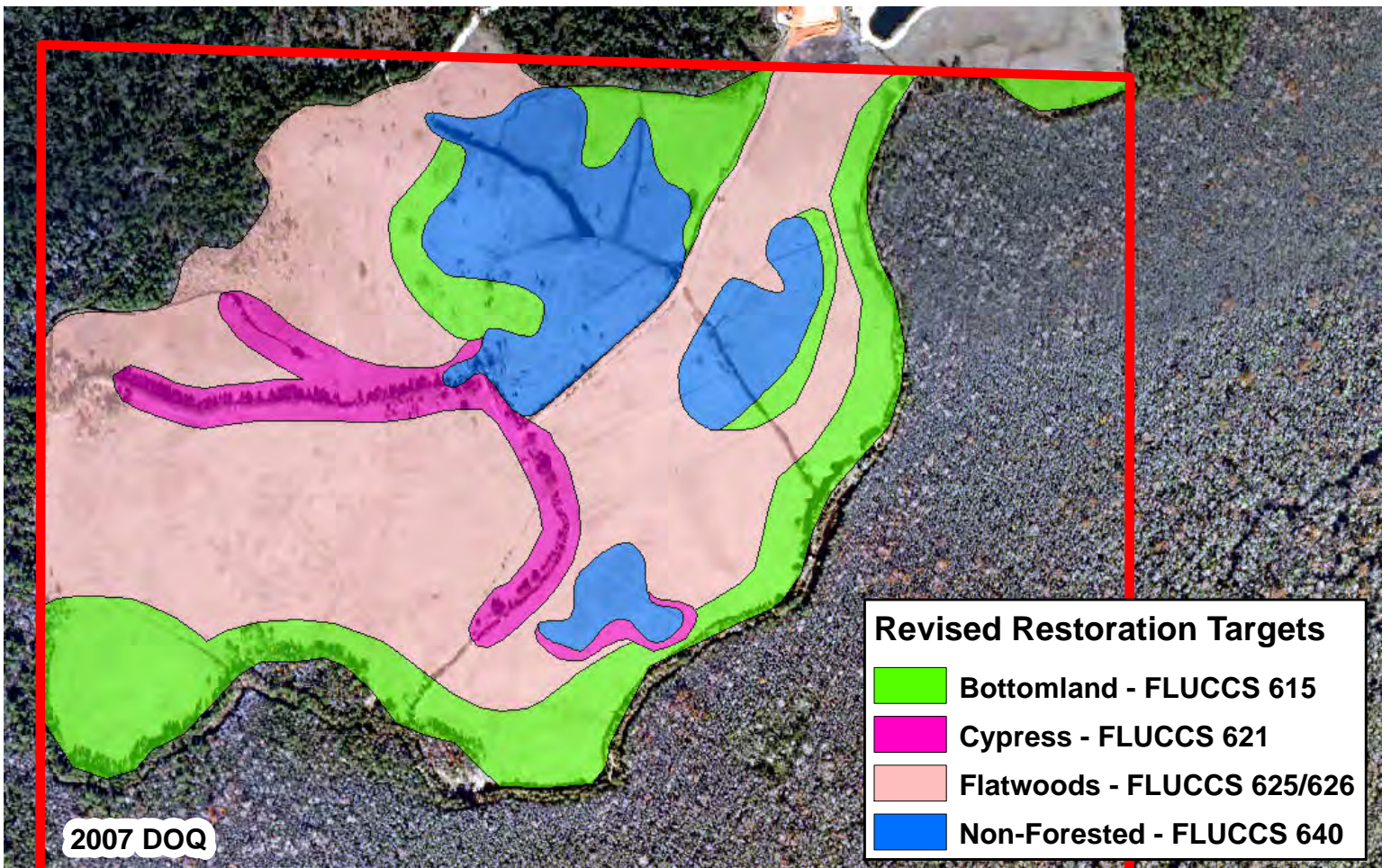
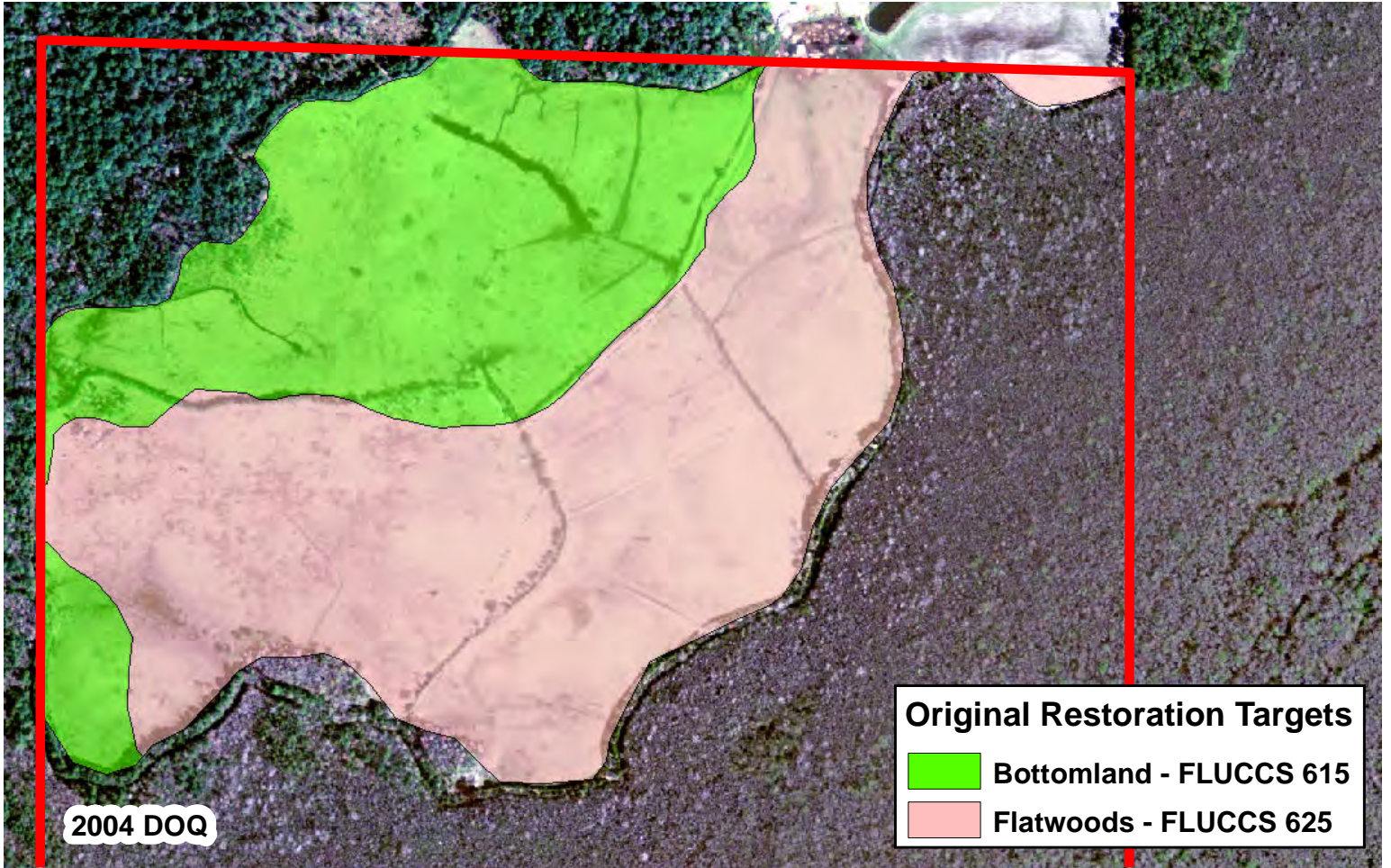
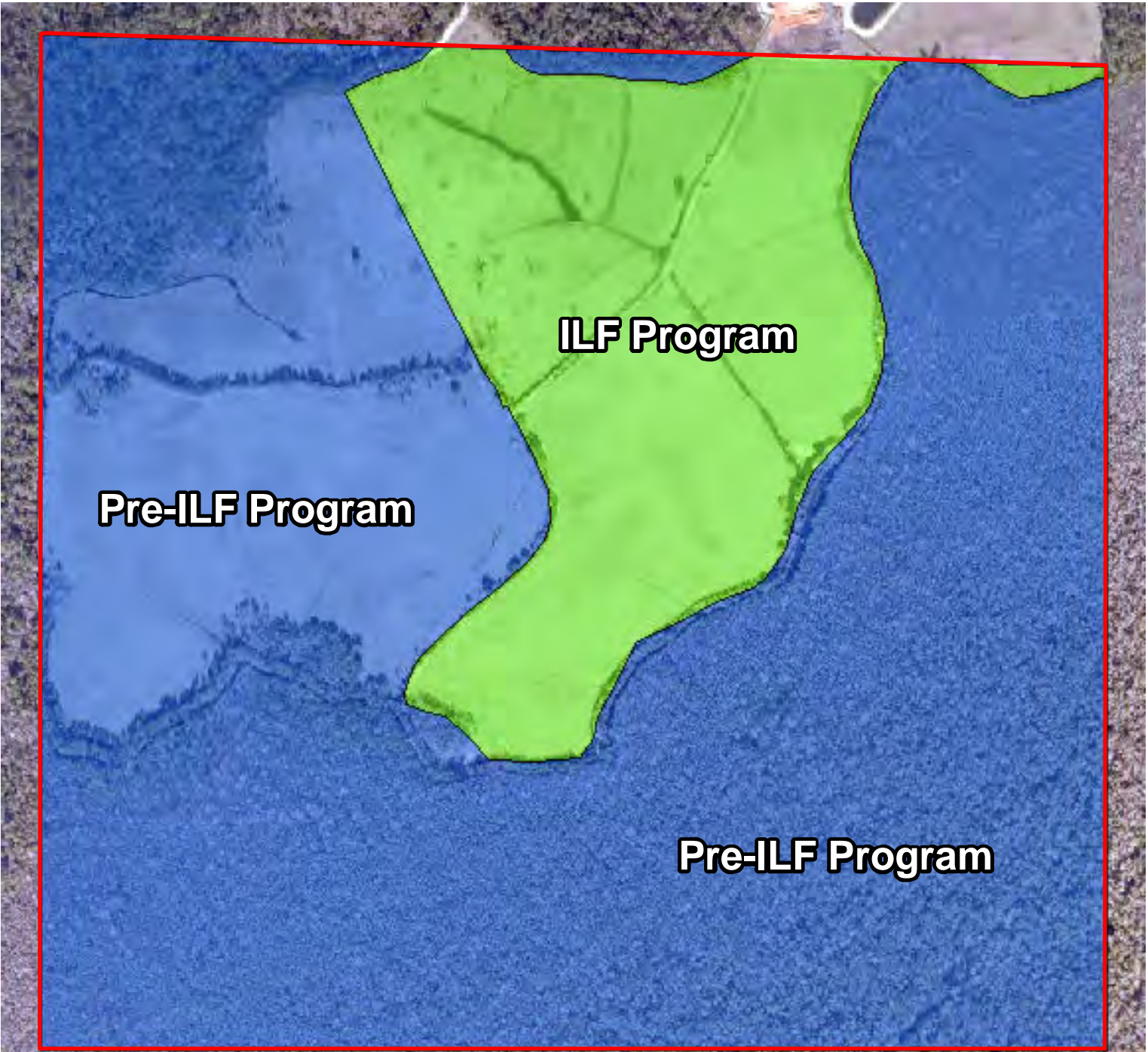


Figure 2: ILF Program / Pre-ILF Program



 Mitigation Area Incorporated into ILF Program (~61 Acres)

 Mitigation Area Offsetting FDOT Permits Prior to ILF Program (~214 Acres)



Figure 3: Yellow River Ranch within Pensacola Bay System Watershed

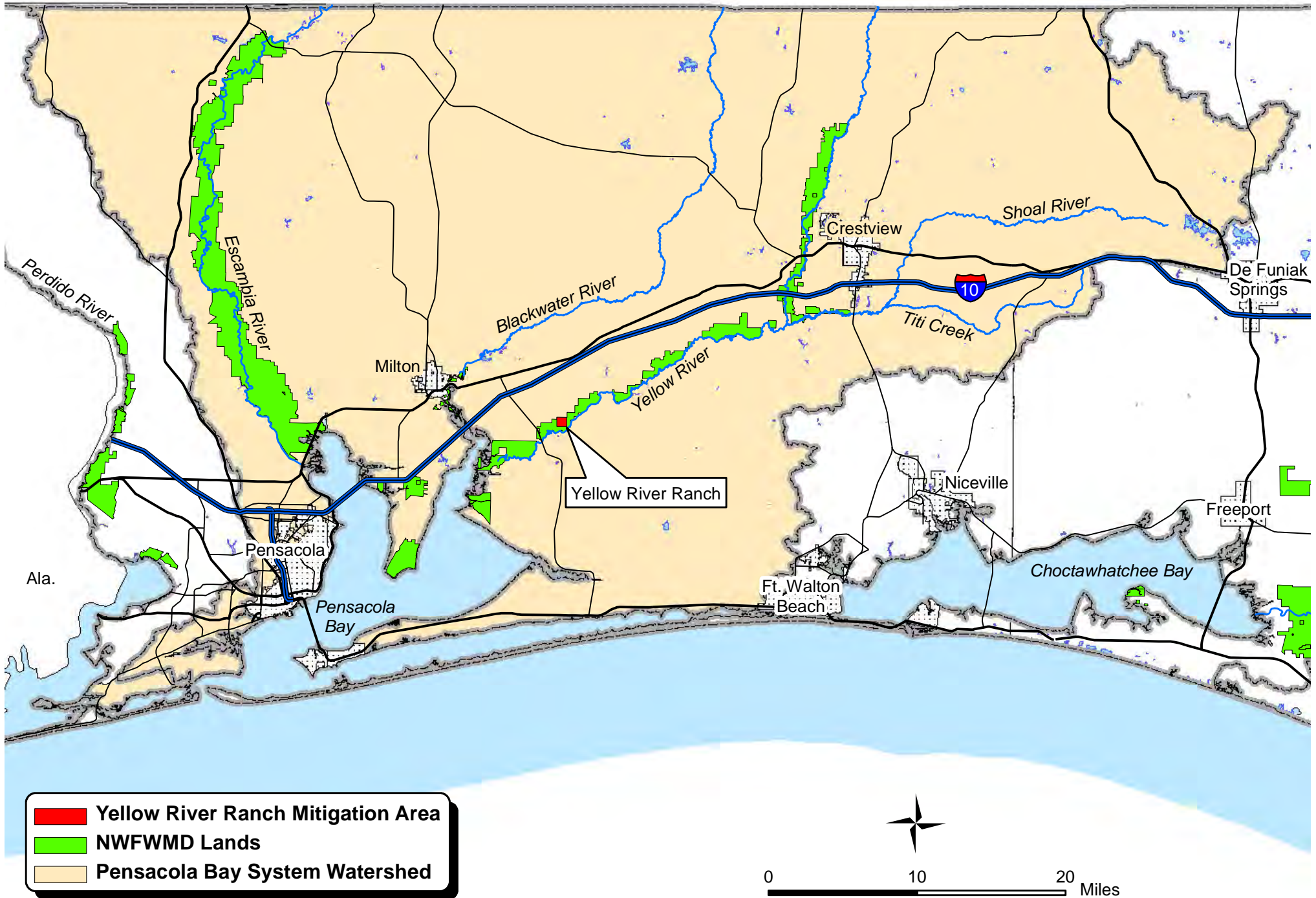


Figure 4: Directions to Yellow River Ranch

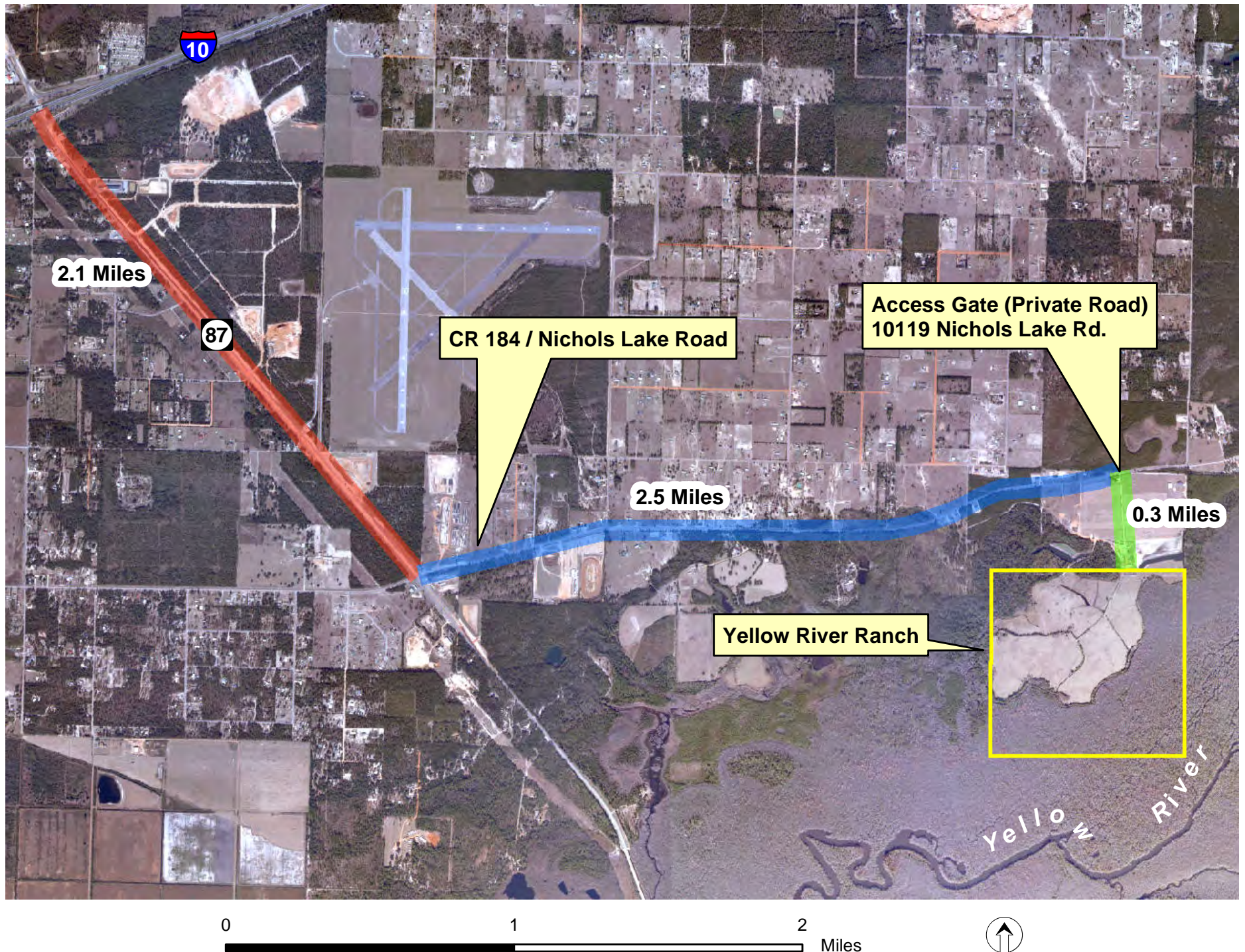
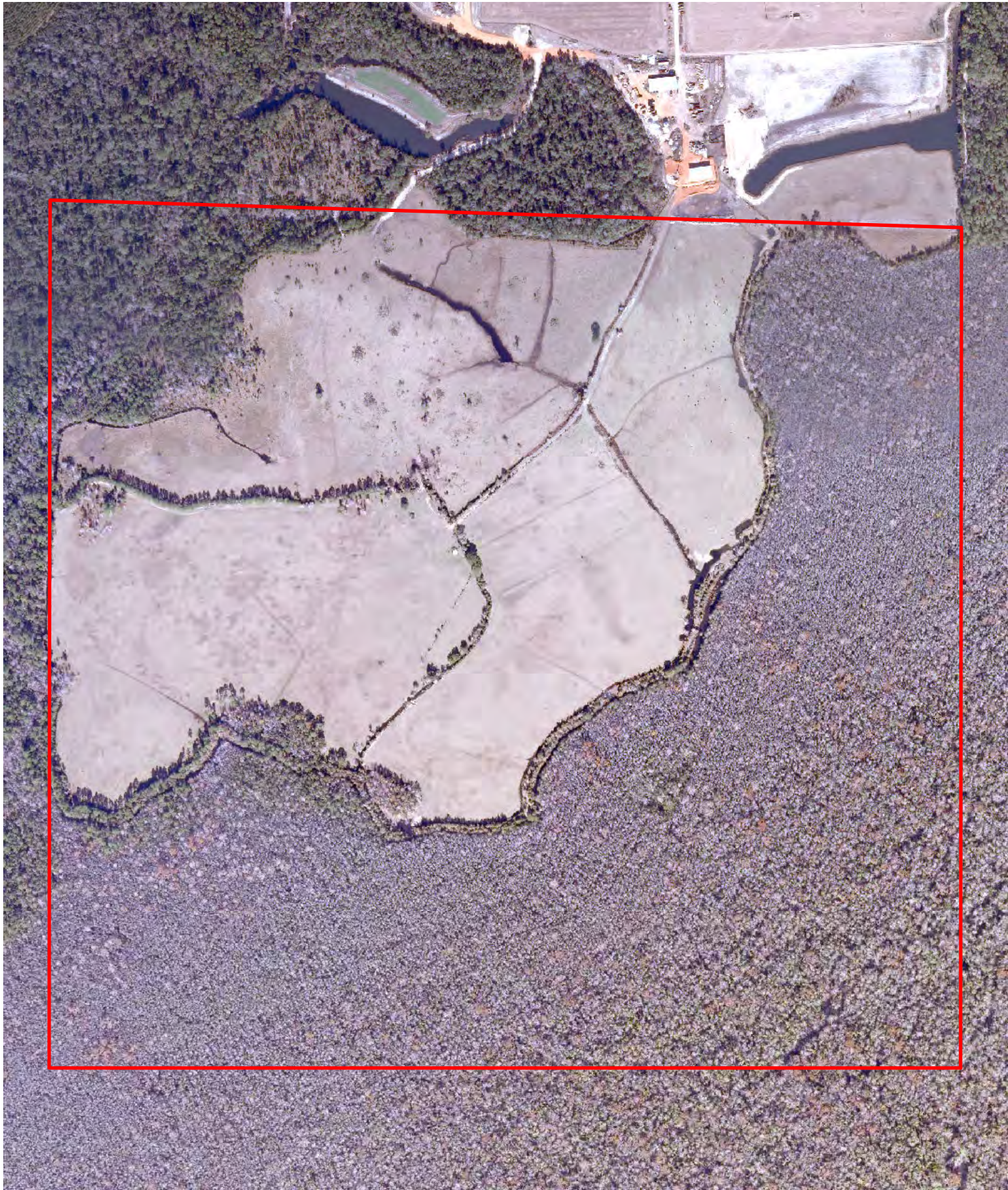
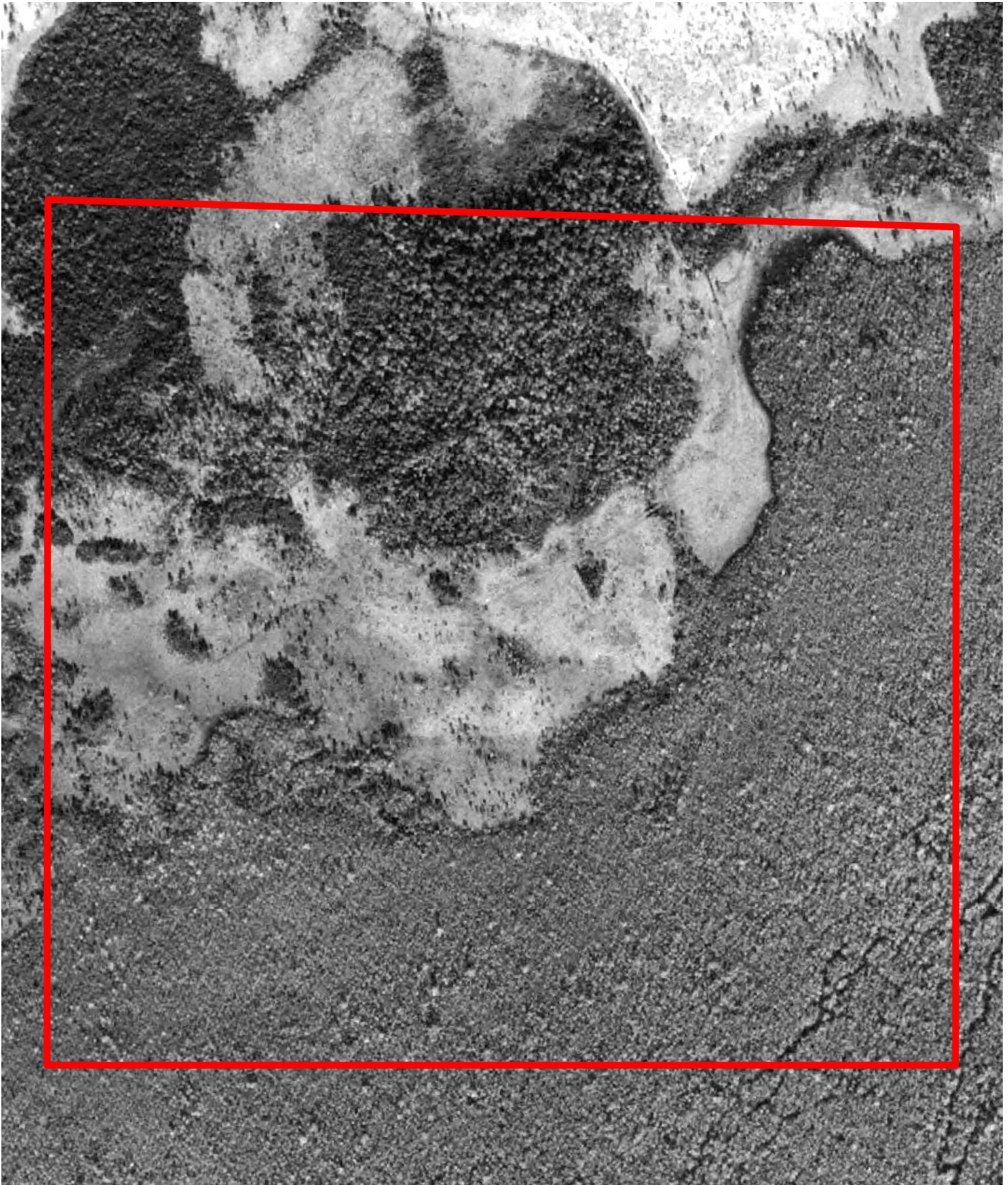


Figure 5: 2007 DOQ



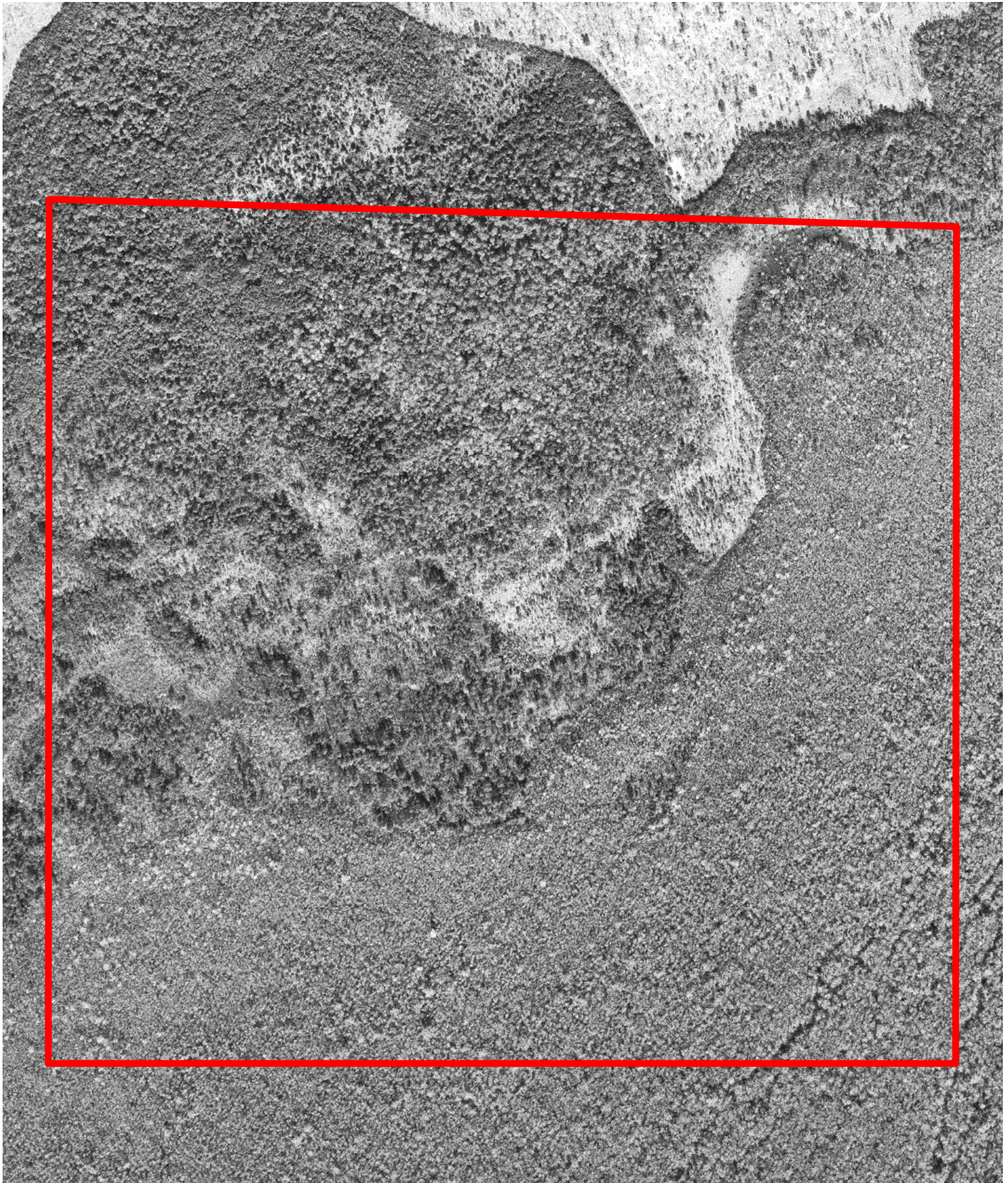
0 1,000 2,000 Feet

Figure 6: 1946 B&W Aerial



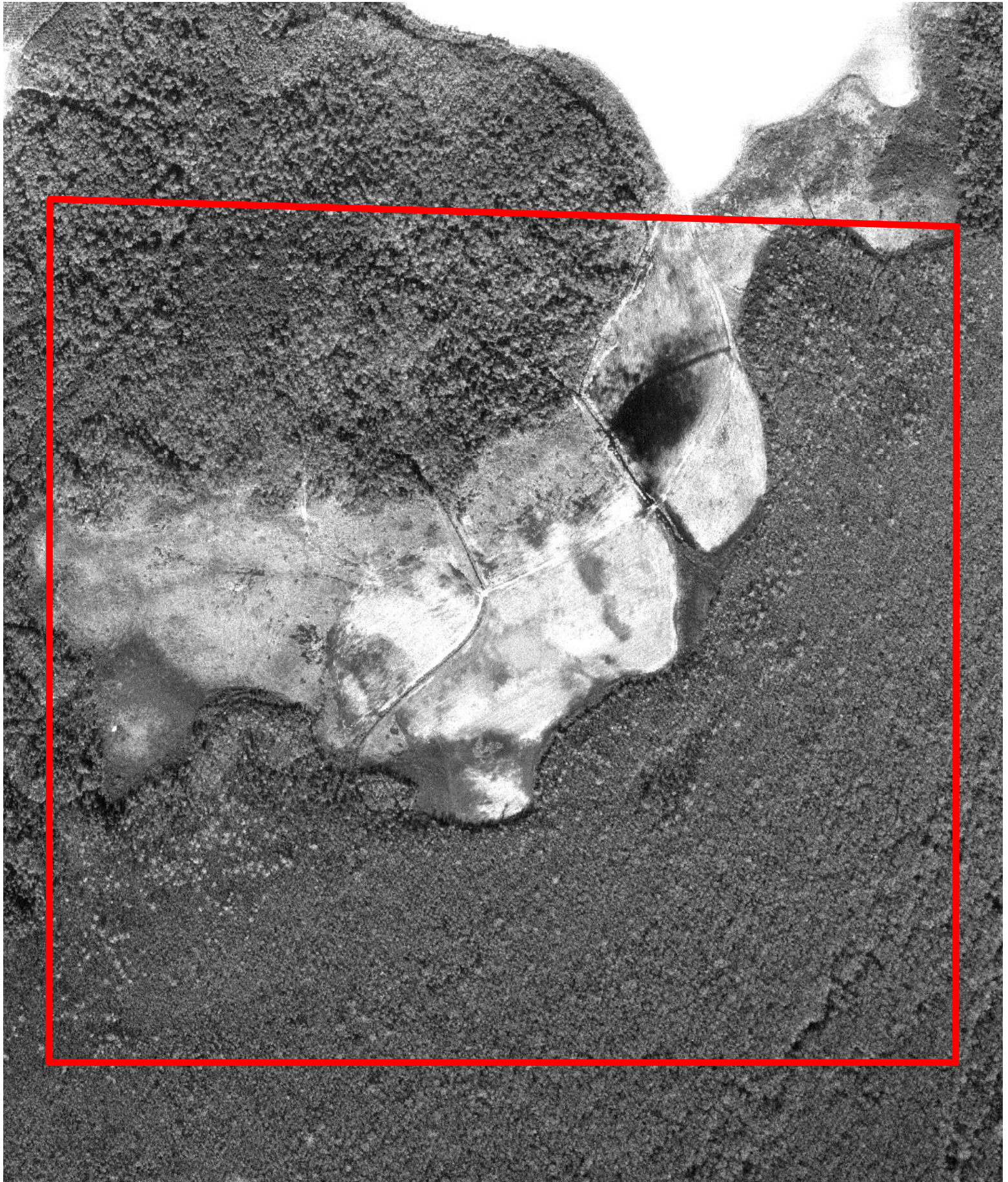
0 1,000 2,000 Feet

Figure 7: 1966 B&W Aerial



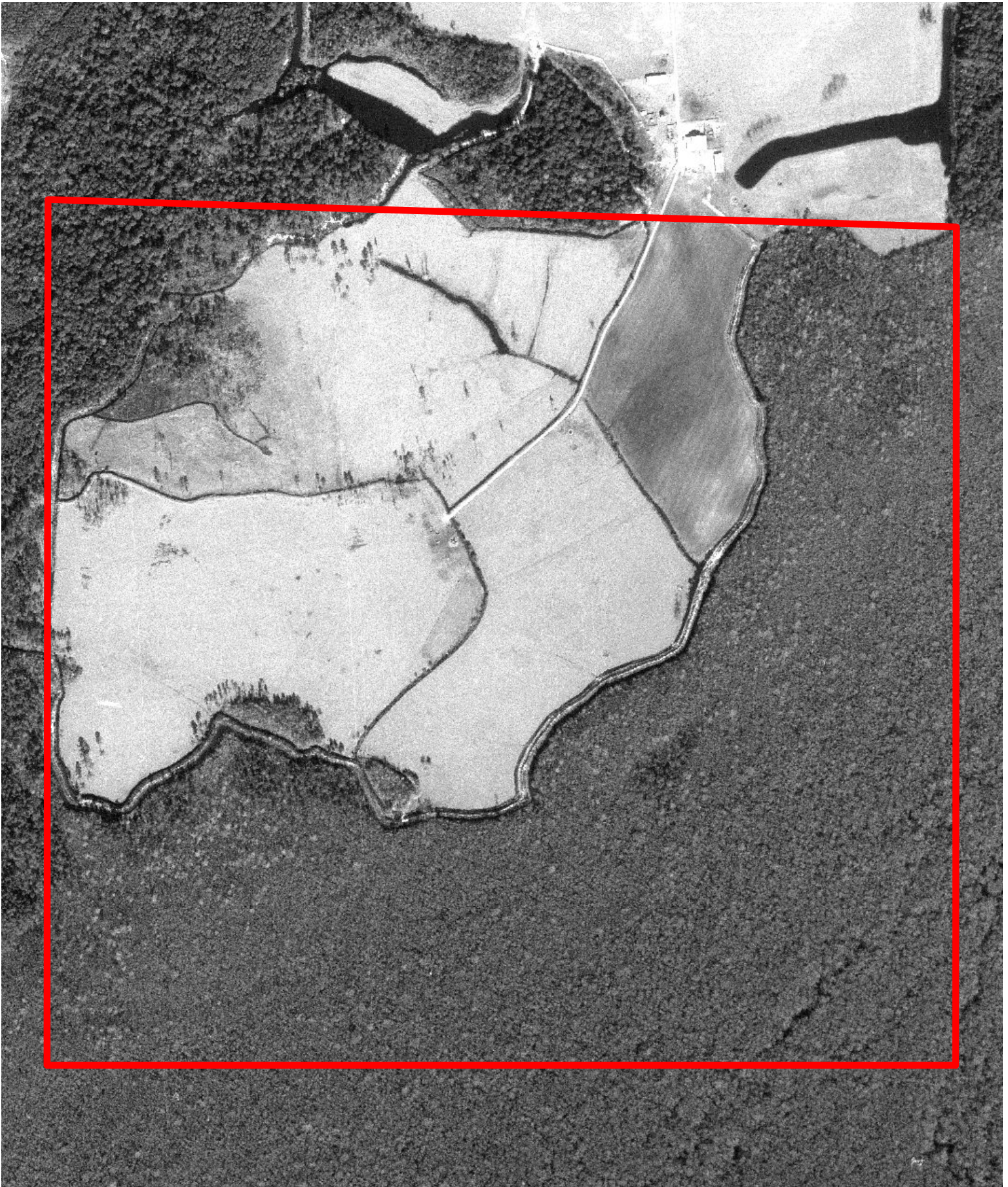
0 1,000 2,000 Feet

Figure 8: 1978 B&W Aerial



0 1,000 2,000 Feet

Figure 9: 1988 B&W Aerial



0 1,000 2,000 Feet

Figure 10: LiDAR

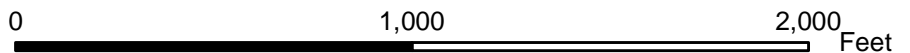
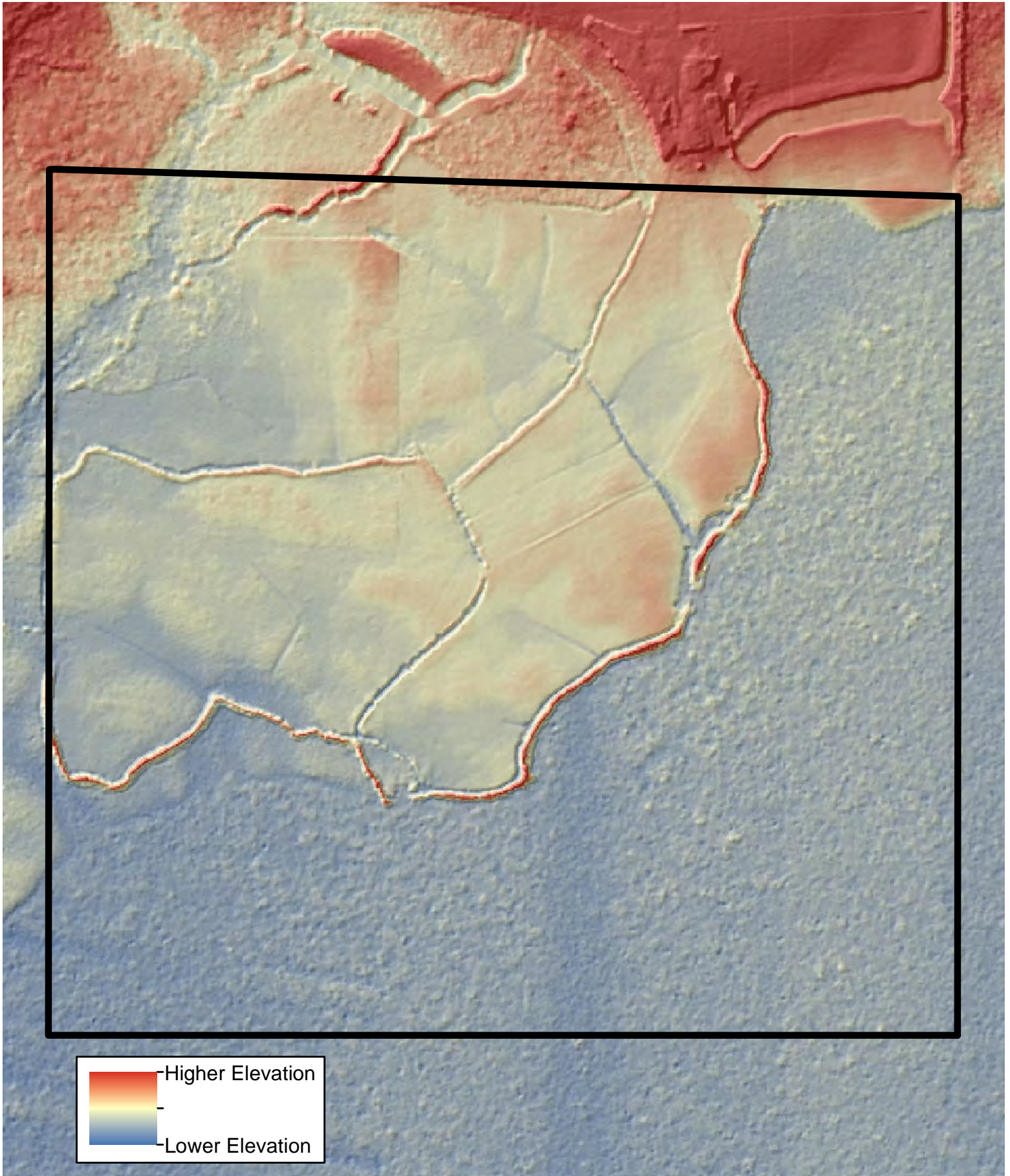
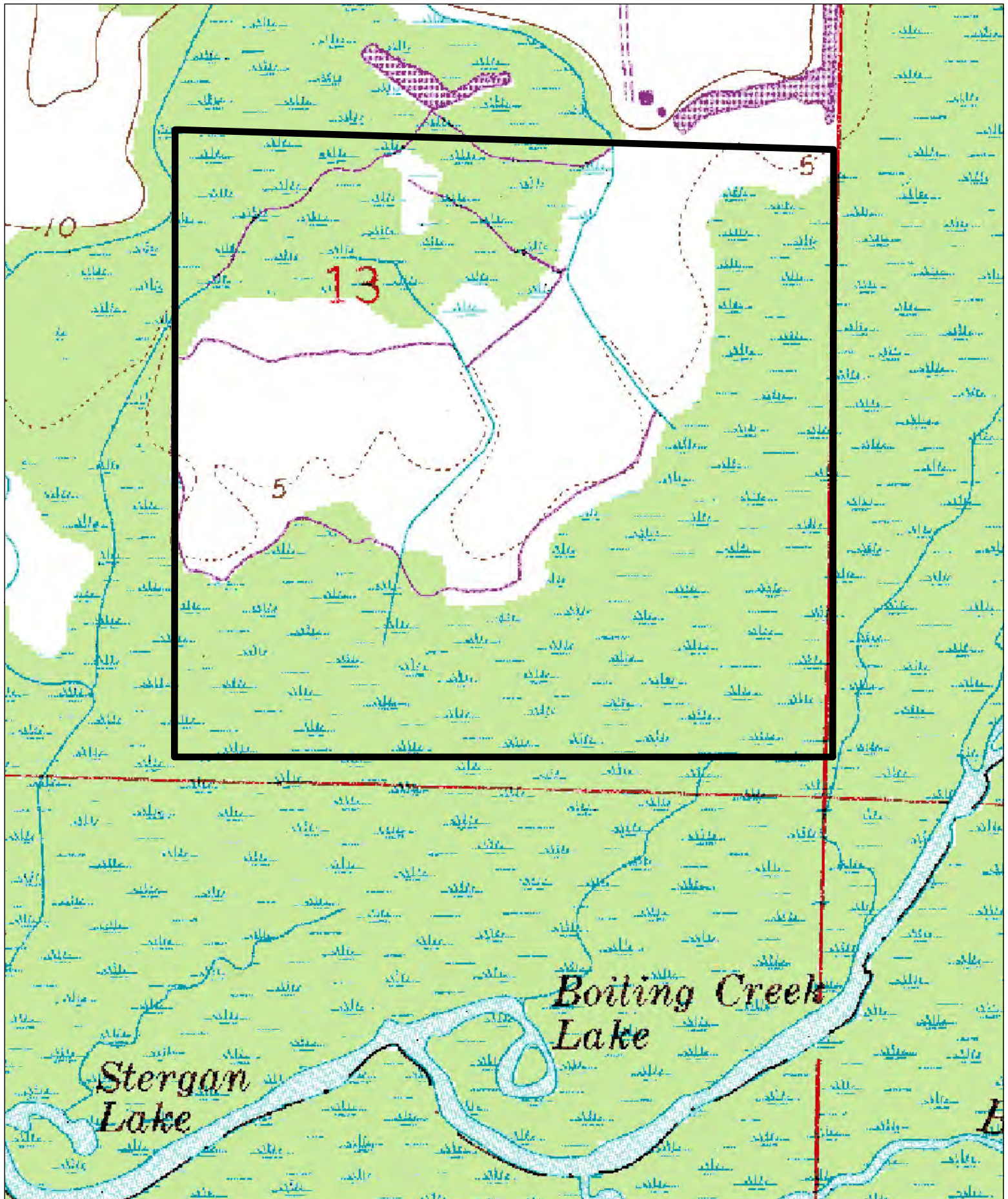


Figure 11: USGS Quad Map



Contour Interval in Feet AMSL

0 1,000 2,000 Feet



Figure 12: 100-Year Flood Zone (FEMA)



YELLOW RIVER

100-Year Flood Zone (FEMA)



0

0.5

1

Miles

Figure 13: Soils (NRCS)

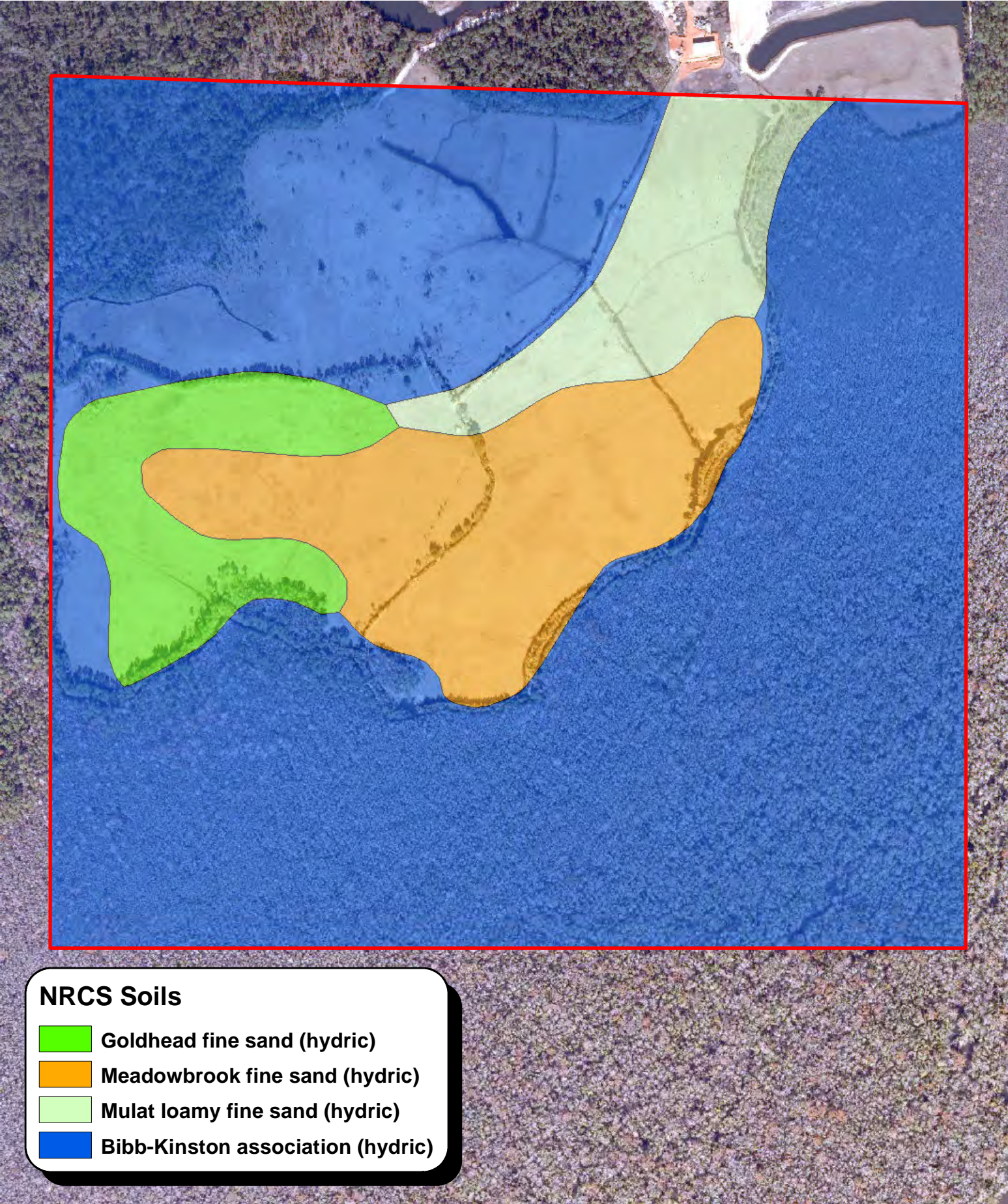
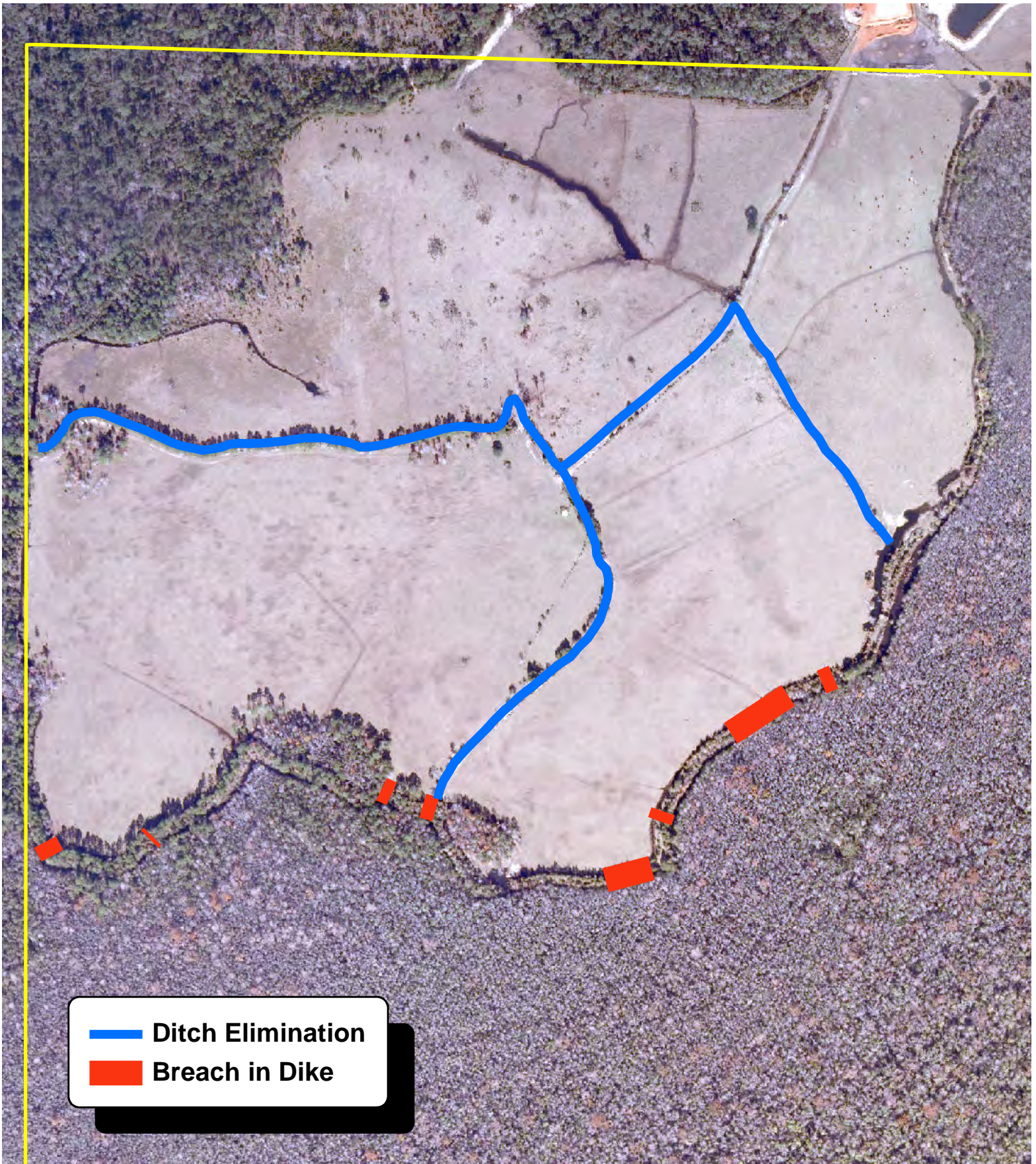


Figure 14: Hydrologic Restoration



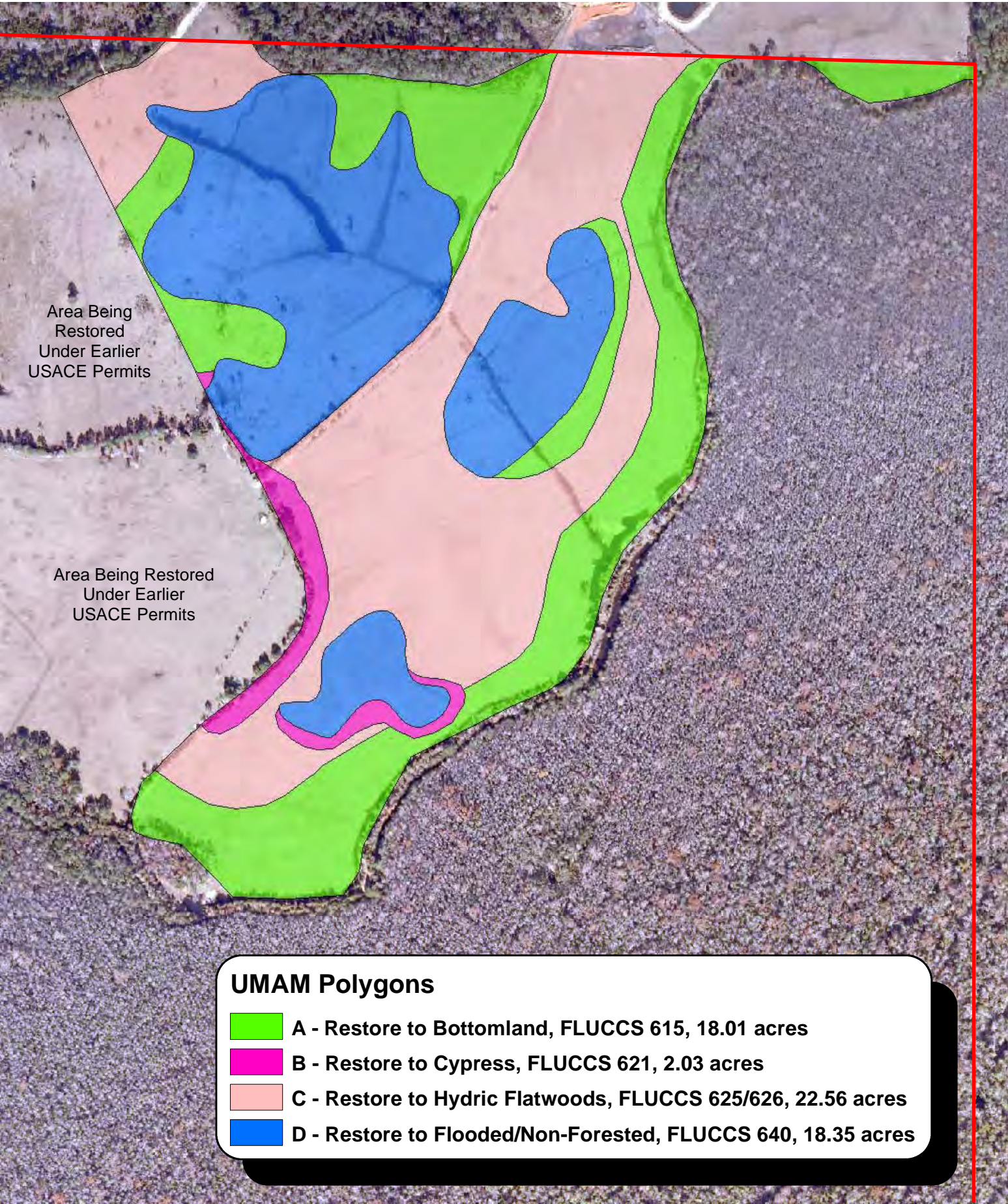
— Ditch Elimination
- - - Breach in Dike

2007 DOQ

0 500 1,000 Feet



Figure 15: UMAM Polygons



Yellow River Ranch (Estimated UMAM Credits)

27-Sep-07

Polygon	Acres	L1	L2	W1	W2	C1	C2	W/Out Score	With Score	Raw Delta	Time Lag	PF Factor	Risk	Adjusted Delta	UMAM Credits
Polygon A	18.01	0	9	0	8	0	9	0.00	0.87	0.87	1.68	1	1.25	0.41	7.43
Polygon B	2.03	0	9	0	8	0	9	0.00	0.87	0.87	1.68	1	1.25	0.41	0.84
Polygon C	22.56	0	9	0	8	0	9	0.00	0.87	0.87	1.14	1	1.25	0.61	13.72
Polygon D	18.35	0	9	0	8	0	9	0.00	0.87	0.87	1.07	1	1.25	0.65	11.89
-----															33.88
60.95															

L1/L2 - Location and Landscape Support (L1 = Without Mitigation / L2 = W/Mitigation)

W1/ W2 - Water Environment (W1 = Without Mitigation / W2 = With Mitigation)

C1/C2 - Community Structure (C1 = Without Mitigation / C2 = With Mitigation)

Raw Delta = w/Mitigation Score - Without Mitigation Score

P = Preservation Factor (0 to 1; value is less than 1 ONLY for preservation-only mitigation)

Time Lag (T) = 1 (none) to 3.91 (>55 years)

Risk (R) = 1 (minimal) to 3 (high)

Adjusted Delta = (Raw Delta * PF) / (Time Lag * Risk)

UMAM Functional Gain = * Adjusted Delta * Acres

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

Site/Project Name Yellow River Ranch		Application Number Not Applicable		Assessment Area Name or Number Polygon A	
FLUCCS code 211 - Improved Pasture (Current) 615 - Bottomland (Target)		Further classification (optional) ---		Impact or Mitigation Site? Mitigation	
				Assessment Area Size 18.01 Acres	
Basin/Watershed Name/Number Pensacola Bay System		Affected Waterbody (Class) III		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) ---	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Part of Yellow River floodplain swamp. NFWMD lands border three sides of Yellow River Ranch. A cattle ranch borders the northern side.					
Assessment area description Former forested wetlands converted to improved pasture. Impacts include removal of native vegetation, ditching, dike construction, erosion, cattle grazing, and establishment of exotic pasture grasses.					
Significant nearby features Yellow River WMA; Eglin AFB.			Uniqueness (considering the relative rarity in relation to the regional landscape.) Not unique.		
Functions Water storage; water quality; floral and faunal habitat.			Mitigation for previous permit/other historic use None		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Mamals such as shrew, beaver, opossum, squirrel, bobcat, deer, rice rat, cotton mouse, raccoon, fox, black bear. Birds such as wood duck, owl, hawk, pileated woodpecker. Herpetofauna such as frog, alligator, salamander, toad, cottonmouth and other snakes.			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Black Bear, American Kestral, White Ibis		
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 USACE in Consultation with Umbrella Plan Review Team			Assessment date(s) 9/27/2007		

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

Site/Project Name Yellow River Ranch	Application Number Not Applicable	Assessment Area Name or Number Polygon A
Impact or Mitigation Mitigation	Assessment conducted by: NWFWMD Staff in Consultation with IRT	Assessment date: 9/27/2007

Scoring Guidance The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
	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

.500(6)(a) Location and Landscape Support	Without Mitigation - Existing pasture does not meet federal criteria for jurisdictional wetland. With Mitigation - Restored forested wetlands provide habitat and water quality benefits to hydrologically connected forested wetlands.							
<table border="1"> <tr> <td>w/out mit</td> <td>w/mit</td> </tr> <tr> <td align="center">0</td> <td align="center">9</td> </tr> </table>	w/out mit	w/mit	0	9				
w/out mit	w/mit							
0	9							

.500(6)(b)Water Environment (N/A for Uplands)	Without Mitigation - Existing pasture does not meet federal criteria for jurisdictional wetlands. With Mitigation - Appropriate hydrologic regime restored by elimination of ditches, breaching of dike, and reestablishment of forest cover.							
<table border="1"> <tr> <td>w/out mit</td> <td>w/mit</td> </tr> <tr> <td align="center">0</td> <td align="center">8</td> </tr> </table>	w/out mit	w/mit	0	8				
w/out mit	w/mit							
0	8							

.500(6)(c)Community structure	Without Mitigation - Existing pasture does not meet federal criteria for jurisdictional wetlands. With Mitigation - Reestablishment of forested wetlands, eradication of exotic pastures grasses.							
Vegetation and/or Benthic Community <table border="1"> <tr> <td>w/out mit</td> <td>w/mit</td> </tr> <tr> <td align="center">0</td> <td align="center">9</td> </tr> </table>	w/out mit	w/mit	0	9				
w/out mit	w/mit							
0	9							

Score = sum of above scores/30 (if uplands, divide by 20)				
<table border="1"> <tr> <td>w/out mit</td> <td>w/mit</td> </tr> <tr> <td align="center">0.00</td> <td align="center">0.87</td> </tr> </table>	w/out mit	w/mit	0.00	0.87
w/out mit	w/mit			
0.00	0.87			

Preservation Adjustment Factor (PF) =	1
Time Lag Factor (16-20 Years) =	1.68
Risk Factor =	1.25
Adjusted Delta [(Raw Delta * PF) / (T * R)] =	0.41

UMAM Functional Assessment	
Polygon Acreage =	18.01
Functional Gain w/Mitigation (Adjusted Delta * Acres) =	7.43

Raw Delta = [w/mit - w/out mit]
0.87

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

Site/Project Name Yellow River Ranch		Application Number Not Applicable		Assessment Area Name or Number Polygon B	
FLUCCS code 211 - Improved Pasture (Current) 621 - Cypress (Target)		Further classification (optional) ---		Impact or Mitigation Site? Mitigation	
Assessment Area Size 2.03 Acres					
Basin/Watershed Name/Number Pensacola Bay System		Affected Waterbody (Class) III		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) ---	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Part of Yellow River floodplain swamp. NFWMD lands border three sides of Yellow River Ranch. A cattle ranch borders the northern side.					
Assessment area description Former forested wetlands converted to improved pasture. Impacts include removal of native vegetation, ditching, dike construction, erosion, cattle grazing, and establishment of exotic pasture grasses.					
Significant nearby features Yellow River WMA; Eglin AFB.			Uniqueness (considering the relative rarity in relation to the regional landscape.) Not unique.		
Functions Water storage; water quality; floral and faunal habitat.			Mitigation for previous permit/other historic use None		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Mamals such as shrew, beaver, opossum, squirrel, bobcat, deer, rice rat, cotton mouse, raccoon, fox, black bear. Birds such as wood duck, owl, hawk, pileated woodpecker. Herpetofauna such as frog, alligator, salamander, toad, cottonmouth and other snakes.			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Black Bear, American Kestral, White Ibis		
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 USACE in Consultation with Umbrella Plan Review Team			Assessment date(s) 9/27/2007		

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

Site/Project Name Yellow River Ranch	Application Number Not Applicable	Assessment Area Name or Number Polygon B
Impact or Mitigation Mitigation	Assessment conducted by: NWFWMD Staff in Consultation with IRT	Assessment date: 9/27/2007

Scoring Guidance The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
	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

.500(6)(a) Location and Landscape Support	Without Mitigation - Existing pasture does not meet federal criteria for jurisdictional wetland. With Mitigation - Restored forested wetlands provide habitat and water quality benefits to hydrologically connected forested wetlands.							
<table border="1"> <tr> <td>w/out mit</td> <td>w/mit</td> </tr> <tr> <td align="center">0</td> <td align="center">9</td> </tr> </table>	w/out mit	w/mit	0	9				
w/out mit	w/mit							
0	9							

.500(6)(b)Water Environment (N/A for Uplands)	Without Mitigation - Existing pasture does not meet federal criteria for jurisdictional wetlands. With Mitigation - Appropriate hydrologic regime restored by elimination of ditches, breaching of dike, and reestablishment of forest cover.							
<table border="1"> <tr> <td>w/out mit</td> <td>w/mit</td> </tr> <tr> <td align="center">0</td> <td align="center">8</td> </tr> </table>	w/out mit	w/mit	0	8				
w/out mit	w/mit							
0	8							

.500(6)(c)Community structure	Without Mitigation - Existing pasture does not meet federal criteria for jurisdictional wetlands. With Mitigation - Reestablishment of forested wetlands, eradication of exotic pastures grasses.							
Vegetation and/or Benthic Community <table border="1"> <tr> <td>w/out mit</td> <td>w/mit</td> </tr> <tr> <td align="center">0</td> <td align="center">9</td> </tr> </table>	w/out mit	w/mit	0	9				
w/out mit	w/mit							
0	9							

Score = sum of above scores/30 (if uplands, divide by 20)				
<table border="1"> <tr> <td>w/out mit</td> <td>w/mit</td> </tr> <tr> <td align="center">0.00</td> <td align="center">0.87</td> </tr> </table>	w/out mit	w/mit	0.00	0.87
w/out mit	w/mit			
0.00	0.87			

Preservation Adjustment Factor (PF) =	1
Time Lag Factor (16-20 Years) =	1.68
Risk Factor =	1.25
Adjusted Delta [(Raw Delta * PF) / (T * R)] =	0.41

UMAM Functional Assessment	
Polygon Acreage =	2.03
Functional Gain w/Mitigation (Adjusted Delta * Acres) =	0.84

Raw Delta = [w/mit - w/out mit]
0.87

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

Site/Project Name Yellow River Ranch		Application Number Not Applicable		Assessment Area Name or Number Polygon C	
FLUCCS code 211 - Improved Pasture (Current) 625/626 - Flatwoods (Target)		Further classification (optional) ---		Impact or Mitigation Site? Mitigation	
Basin/Watershed Name/Number Pensacola Bay System		Affected Waterbody (Class) III		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) ---	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Part of Yellow River floodplain swamp. NFWFMD lands border three sides of Yellow River Ranch. A cattle ranch borders the northern side.					
Assessment area description Former forested wetlands converted to improved pasture. Impacts include removal of native vegetation, ditching, dike construction, erosion, cattle grazing, and establishment of exotic pasture grasses.					
Significant nearby features Yellow River WMA; Eglin AFB.			Uniqueness (considering the relative rarity in relation to the regional landscape.) Not unique.		
Functions Water storage; water quality; floral and faunal habitat.			Mitigation for previous permit/other historic use None		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Mamals such as shrew, beaver, opossum, squirrel, bobcat, deer, rice rat, cotton mouse, raccoon, fox, black bear. Birds such as wood duck, owl, hawk, pileated woodpecker. Herpetofauna such as frog, alligator, salamander, toad, cottonmouth and other snakes.			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Black Bear, American Kestral, White Ibis		
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 USACE in Consultation with Umbrella Plan Review Team			Assessment date(s) 9/27/2007		

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

Site/Project Name Yellow River Ranch	Application Number Not Applicable	Assessment Area Name or Number Polygon C
Impact or Mitigation Mitigation	Assessment conducted by: NWFWMD Staff in Consultation with IRT	Assessment date: 9/27/2007

Scoring Guidance The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
	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

.500(6)(a) Location and Landscape Support	Without Mitigation - Existing pasture does not meet federal criteria for jurisdictional wetland. With Mitigation - Restored forested wetlands provide habitat and water quality benefits to hydrologically connected forested wetlands.							
<table border="1"> <tr> <td>w/out mit</td> <td>w/mit</td> </tr> <tr> <td align="center">0</td> <td align="center">9</td> </tr> </table>	w/out mit	w/mit	0	9				
w/out mit	w/mit							
0	9							

.500(6)(b)Water Environment (N/A for Uplands)	Without Mitigation - Existing pasture does not meet federal criteria for jurisdictional wetlands. With Mitigation - Appropriate hydrologic regime restored by elimination of ditches, breaching of dike, and reestablishment of forest cover.							
<table border="1"> <tr> <td>w/out mit</td> <td>w/mit</td> </tr> <tr> <td align="center">0</td> <td align="center">8</td> </tr> </table>	w/out mit	w/mit	0	8				
w/out mit	w/mit							
0	8							

.500(6)(c)Community structure Vegetation and/or Benthic Community	Without Mitigation - Existing pasture does not meet federal criteria for jurisdictional wetlands. With Mitigation - Reestablishment of forested wetlands, eradication of exotic pastures grasses.							
<table border="1"> <tr> <td>w/out mit</td> <td>w/mit</td> </tr> <tr> <td align="center">0</td> <td align="center">9</td> </tr> </table>	w/out mit	w/mit	0	9				
w/out mit	w/mit							
0	9							

Score = sum of above scores/30 (if uplands, divide by 20)				
<table border="1"> <tr> <td>w/out mit</td> <td>w/mit</td> </tr> <tr> <td align="center">0.00</td> <td align="center">0.87</td> </tr> </table>	w/out mit	w/mit	0.00	0.87
w/out mit	w/mit			
0.00	0.87			

Preservation Adjustment Factor (PF) =	1
Time Lag Factor (5 Years) =	1.14
Risk Factor =	1.25
Adjusted Delta [(Raw Delta * PF) / (T * R)] =	0.61

UMAM Functional Assessment	
Polygon Acreage =	22.56
Functional Gain w/Mitigation (Adjusted Delta * Acres) =	13.72

Raw Delta = [w/mit - w/out mit]
0.87

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

Site/Project Name Yellow River Ranch		Application Number Not Applicable		Assessment Area Name or Number Polygon D	
FLUCCS code 211 - Improved Pasture (Current) 640 - Non-Forested (Target)		Further classification (optional) ---		Impact or Mitigation Site? Mitigation	Assessment Area Size 18.35
Basin/Watershed Name/Number Pensacola Bay System	Affected Waterbody (Class) III		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) ---		
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Part of Yellow River floodplain swamp. NFWMD lands border three sides of Yellow River Ranch. A cattle ranch borders the northern side.					
Assessment area description Former forested wetlands converted to improved pasture. Impacts include removal of native vegetation, ditching, dike construction, erosion, cattle grazing, and establishment of exotic pasture grasses.					
Significant nearby features Yellow River WMA; Eglin AFB.			Uniqueness (considering the relative rarity in relation to the regional landscape.) Not unique.		
Functions Water storage; water quality; floral and faunal habitat.			Mitigation for previous permit/other historic use None		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Mamals such as shrew, beaver, opossum, squirrel, bobcat, deer, rice rat, cotton mouse, raccoon, fox, black bear. Birds such as wood duck, owl, hawk, pileated woodpecker. Herpetofauna such as frog, alligator, salamander, toad, cottonmouth and other snakes.			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Black Bear, American Kestral, White Ibis		
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 USACE in Consultation with Umbrella Plan Review Team			Assessment date(s) 9/27/2007		

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

Site/Project Name Yellow River Ranch	Application Number Not Applicable	Assessment Area Name or Number Polygon D
Impact or Mitigation Mitigation	Assessment conducted by: NWFWMD Staff in Consultation with IRT	Assessment date: 9/27/2007

Scoring Guidance The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
	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

.500(6)(a) Location and Landscape Support w/out mit w/mit 0 9	Without Mitigation - Existing pasture does not meet federal criteria for jurisdictional wetland. With Mitigation - Restored wetlands provide habitat and water quality benefits to hydrologically connected wetlands.
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.500(6)(b)Water Environment (N/A for Uplands) w/out mit w/mit 0 8	Without Mitigation - Existing pasture does not meet federal criteria for jurisdictional wetlands. With Mitigation - Appropriate hydrologic regime restored by elimination of ditches, breaching of dike, and reestablishment of native vegetation.
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.500(6)(c)Community structure Vegetation and/or Benthic Community w/out mit w/mit 0 9	Without Mitigation - Existing pasture does not meet federal criteria for jurisdictional wetlands. With Mitigation - Reestablishment of wetlands, eradication of exotic pastures grasses.
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Score = sum of above scores/30 (if uplands, divide by 20)	
w/out mit	w/mit
0.00	0.87

Preservation Adjustment Factor (PF) =	1
Time Lag Factor (3 Years) =	1.07
Risk Factor =	1.25
Adjusted Delta [(Raw Delta * PF) / (T * R)] =	0.65

UMAM Functional Assessment	
Polygon Acreage =	18.35
Functional Gain w/Mitigation (Adjusted Delta * Acres) =	11.89

Raw Delta = [w/mit - w/out mit]
0.87