

Wilson, Matthew S.

From: Mike Dentzau <mikedentzau@aol.com>
Sent: Saturday, September 24, 2016 11:03 AM
To: Wilson, Matthew S.
Cc: matthewjaresco@gmail.com; dwilks@fountaininvestments.com
Subject: Nonuse Bank Modification
Attachments: Modification_9_24_16.pdf; Attachment A.pdf; Attachment B.pdf; Attachment C.pdf; Figure 4_revised_9_24_16.pdf; Figure 5_revised_9_24_16.pdf; Figure 5a.pdf; Figure 10_revised_9_24_16.pdf; Figure 13a.pdf

Matt, Attached are the electronic portions of the official bank modification that we have been discussing, A hard copy with the signed application and the fee will follow in regular mail. Thanks, Mike

Michael W. Dentzau, PhD
Professional Wetland Scientist
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801 Day Lake Drive
Midland, GA 31820
850-510-1047

Received by FDEP 09/26/16

Nokuse Plantation Mitigation Bank

c/o Michael W. Dentzau, PhD, PWS
Dentzau & Associates, Inc.
801 Day Lake Drive
Midland, GA 31820

September 24, 2016

Matt Wilson
Environmental Specialist
Florida Department of Environmental Protection
Mining and Mitigation Program
2600 Blair Stone Road, MS 3577
Tallahassee, Florida 32399-2400

Re: Modification with Fee of Nokuse Plantation Mitigation Bank

Dear Mr. Wilson,

The purpose of this submittal is to initiate the process of modification of the activities within the Nokuse Plantation Mitigation Bank. We believe these modifications to be relatively minor with respect to the overall bank, although we recognize that for regulatory purposes this may be considered a major modification with fee and comment. The modifications requested will be presented as aligned with the specific conditions of the permit, and incorporate the comments you provided in your email dated 6/9/16. Please also refer to the enclosed Section A of the application form. A check in the amount of \$2,680.00, as requested, is enclosed.

SC 10 a. 1-3.

The reduction of the wet pine plantation originally stipulated in the permit has been completed as referenced in your March 14, 2016 correspondence to us. These reductions are stipulated as “no more than XX trees/acre”. Original best research suggested that retaining a slight canopy of slash pine would be desirable to facilitate prescribed fire, and that drove our maximum pine coverage. After implementation on the site, Dr. Aresco strongly feels that reducing the pine canopy further is in the best interest of ecological restoration. While you have indicated that since the condition stated a maximum density, reductions below that would not require a modification, we would like to suggest the following at the end of each of these 3 conditions to make this explicit when we deal with the ACOE:

Nothing herein prevents the Bank under the direction of the QMS to further reduce pine canopy in the effort to maximize herbaceous coverage and environmental benefit.

SC No. 10.a.5

This condition requires the cutting of shrubs and slash pine in approximately 82 acres surrounding depressions gum wetlands. The intent of this was to improve the ability for long-term fire to modify the edges and improve herbaceous representation. This was to be completed mechanically.

A significant amount of work towards this goal has been completed with a tractor and Brown's tree cutter, please refer to the below images showing the results of some of this work.



However, as we accessed these areas we found that this shrubby zone was in most cases growing on an “organic debris berm”. After looking closely at these areas (which was only possible after pine reduction

and fire), it appears that previous silviculture practice involved pushing debris piles towards the wetland depressions. As a result, cutting of the vegetation and prescribed fire are not enough to restore the transitional zone. Furthermore, and more importantly, this organic berm substantially impacts hydrology and the ability of amphibians to use the wetlands for breeding.

In an effort to determine an appropriate course of action and under what we felt was the latitude provided to the QMS, the bank initiated a pilot project during a period of *extreme low rainfall conditions*. **Attachment A** shows the location of the pilot project. In addition to cutting the vegetation the QMS used a bucket and blade to punch through the vegetation/soil berm and to spread the material into logging ruts and artificial depressions. **Attachment B** shows the conditions on site after the cutting and prior to the additional work described above. **Attachment C** shows the site conditions approximately 6 months after recontouring of the berm. All revegetation was natural and not augmented.

We would like to recommend that this condition be modified in a manner consistent with the following:

*10.a.5. Brush Reduction. Brush reduction will be completed within approximately 82 acres surrounding the Depressional Wetlands (gum swamps), to the greatest degree possible using a combination of mechanical cutting and hand cutting followed by herbicide treatment to retard regrowth. In addition, where possible and feasible without causing additional rutting, the Bank will either breach or otherwise lower organic berms surrounding the Depressional Wetlands to facilitate the movement of surface water and ground dwelling animals. The areas that are expected to benefit from this additional work are reflected in **Figure 5a**. This additional work needs to be completed during extremely dry conditions to minimize adverse impacts. This work should be completed prior to the second interim credit release, at the latest.*

SC No. 10.b.1

This condition requires the recontouring of elevations within the wet flatwoods on a case-by-case basis based upon the evaluation of the QMS. After review and consideration of this over several years, we are of the opinion that substantial drainage of the flatwoods/prairie is not occurring **after the hydrologic improvements (to be discussed later) were completed**. While there may be some areas where the tops of the beds would benefit from being lowered, we believe this is not significant and may in fact cause more damage in the long run. As a result, we request modification of the condition in a manner consistent with the following:

10.b.1. Wet Flatwoods. While inspections to date have not revealed substantial adverse effect, in those areas outside of the

100' buffer surrounding depressional wetlands, the QMS will continue to evaluate need for recontouring of pine beds. In the event inspections suggest they may be contributing to drainage, the QMS will coordinate minor blading perpendicular to the beds in a manner that excavates elevated ridges and fills depressions, if such activities can be completed in a manner that minimizes existing herbaceous cover.

SC No. 10.b.2

This condition requires the bed re-contouring that was to be considered in b.1 above in those wetlands surrounding the Depressional Wetlands. Consistent with your evaluation in the most recent site inspection it is the professional opinion of Dr. Aresco that these activities should be completed to maximize the restoration efforts in some areas, and should be excluded in others where the access and activities are anticipated to result in more harm than benefit. We therefore would like this condition to be modified consistent with the following intent:

10.b.2. Wet Flatwoods Surrounding Depressional Wetlands. The pine bedding within 100' surrounding the Depressional Wetlands (Figure 9) will be re-contoured during a period of extreme low rainfall conditions that will allow an excavator to access the areas without causing unnecessary rutting of the soils. This will be accomplished by excavating the ridges of the beds and filling the depressions of the beds in a perpendicular fashion a minimum of 10' wide every 100'. Once completed these areas will be replanted with wiregrass plugs at a density of 4,000 plugs/acre. The QMS reserves the right to determine on a case-by-case basis if the above activities are expected to result in unacceptable groundcover impacts and should be avoided in a particular area. All areas excluded from this activity will be identified on an exhibit after completion of the other sites.

Dr. Aresco has found that the blading and disking is not an adequate methodology for the restoration and therefore the condition acknowledges the need to use a larger piece of equipment. We understand that we cannot place a time limit on the work, since it requires specific site conditions, and would request, therefore, that this become a condition that affects final success.

SC No. 10.c.2 and 3

This requires the assessment of the herbaceous cover in the wet flatwoods and the implementation of a groundcover restoration protocol in the event that the herbaceous cover is less than 35% in the wet flatwoods and 45% in those portions surrounding depressional wetlands. During your inspection referenced in your March 14, 2016 correspondence, you concur that the herbaceous

ground coverage meets these minimums. We therefore request that the conditions c.2 and c.3 be amended to include the following sentence at the end of each:

*Herbaceous augmentation is not required at this time.
However, the Department reserves the right to re-visit this issue
at a later date in the event it is deemed appropriate to augment
groundcover to attain final success.*

SC No. 13.a

This requires the abandonment or removal of approximately 10 acres of roads. As you noted in your assessment, the intent of this has been complied with and some of these roads are now used as disked fire breaks. While you did observe some that driving had occurred on some of the roads, this access was for fire management and all roads associated with this condition are at grade and not impacting hydrology. Therefore, we believe we are in compliance with this condition. Figure 10 has been revised to show those roads remaining for fire management.

SC No. 13.b

The permit required the removal of 6 road crossings. Detailed site review however has documented 12 areas where road culverts and some degree of restoration is appropriate. We request the condition be modified in the spirit of the following:

13.b. Twelve road crossings where the flow is currently impeded to various degrees will be restored by the removal of culverts or the installation of low water crossings flow (Figure 10). For culver removal, the road fill and the culverts will be excavated to attain adjacent natural grades, or when apparent, to native soils. For low water crossings, the culvert and fill material will be excavated to slightly below adjacent grades and the access point will be stabilized (Figure 13A). In either case, fill material shall be removed to an appropriate upland site and care will be taken to leave a surface area that has appropriate soils for colonization by native plants outside of any areas of rock, geotextile webbing or filter fabric required for the stability of the crossing.

SC No. 13.c

Two railcar bridges were to be installed on the bank. While one of these has been installed the second, located on the southwestern portion of the bank, has not because it lies within a dedicated access to property to the southwest. We would like to modify this condition consistent with the following intent:

13.c. A railroad boxcar bridge shall be installed at one stream crossing to maintain access with minimal impact on natural contours and vegetation (Figures 10 and 13).

Our justification for modification is twofold. First, the topography associated with the crossing would require alteration of the uplands and minor relocation of the existing trails to accommodate the bridge. We felt this was an impact not commensurate with the benefit and in fact would have been contrary to the requirement for the work to have a “minimal impact on natural contours and vegetation”. Second, unlike the other location, this is not a heavily traveled area and in fact is really only traveled during fire management and inspection.

SC 13.d

Required the installation of at least 9 ditch blocks. After pine removal and additional access to the site was possible, it was deemed appropriate that instead of blocks alone, some ditches would benefit from complete filling. We therefore request the condition be modified consistent with the following intent:

d. Ditches that appear to have a negative impact on hydrology will be either blocked or filled using existing material onsite to match adjacent elevations as shown in Figure 10 and 14.

SC 19.

This condition specifies the credit release schedule. We respectfully request, in accordance with your recommendations, that be noted that the activity referenced in Specific Condition No. 10.a.5 needs to be completed prior to the second interim success release.

SC 22.b.5

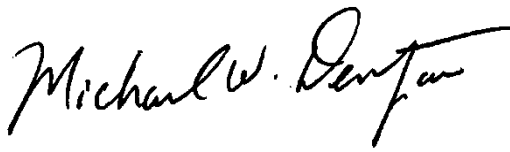
The final success criteria of the upland component of the project calls for an average of 1 gopher tortoise burrow over the approximately 500 acres suitable for the species. While the best science based upon appropriate soil types for this species went into the planning for this project, the very wet year we experienced in 2013 has required that we reconsider this condition. While Nokuse has been authorized by the Florida Freshwater Fish and Wildlife Conservation Commission to relocate tortoises to this location, the high water table experienced during our wet summer referenced above suggests that while suitable, this location is not ideal for the gopher tortoise. As such, the Plantation secured another relocation spot that is not on the Bank property for the relocation of tortoise.

Normally, fluctuations in hydrology are expected and such years so drastically removed from the norm would be expected to be a factor in the normal population curve of the species. Given the listed status of this species it is not considered good conservation ethic to continue to use this suboptimal site when other sites off the bank, but controlled by Nokuse, are available. We therefore request the following modification:

Delete 22.b.5 as a requirement for success.

Please consider this request for modification of the Nokuse Plantation Mitigation Bank permit. Most of these issues have been discussed with the Department, and while requiring an official modification of the permit, I trust that you agree these are minor in nature. If you need to reinspect the site please contact Dr. Matt Aresco at 850-585-5415 or matthewjaresco@gmail.com. For issues concerning the language and exhibits, please feel free to contact me at mikedentzau@aol.com or 850-10-1047. Thank you so much for your cooperation with this project.

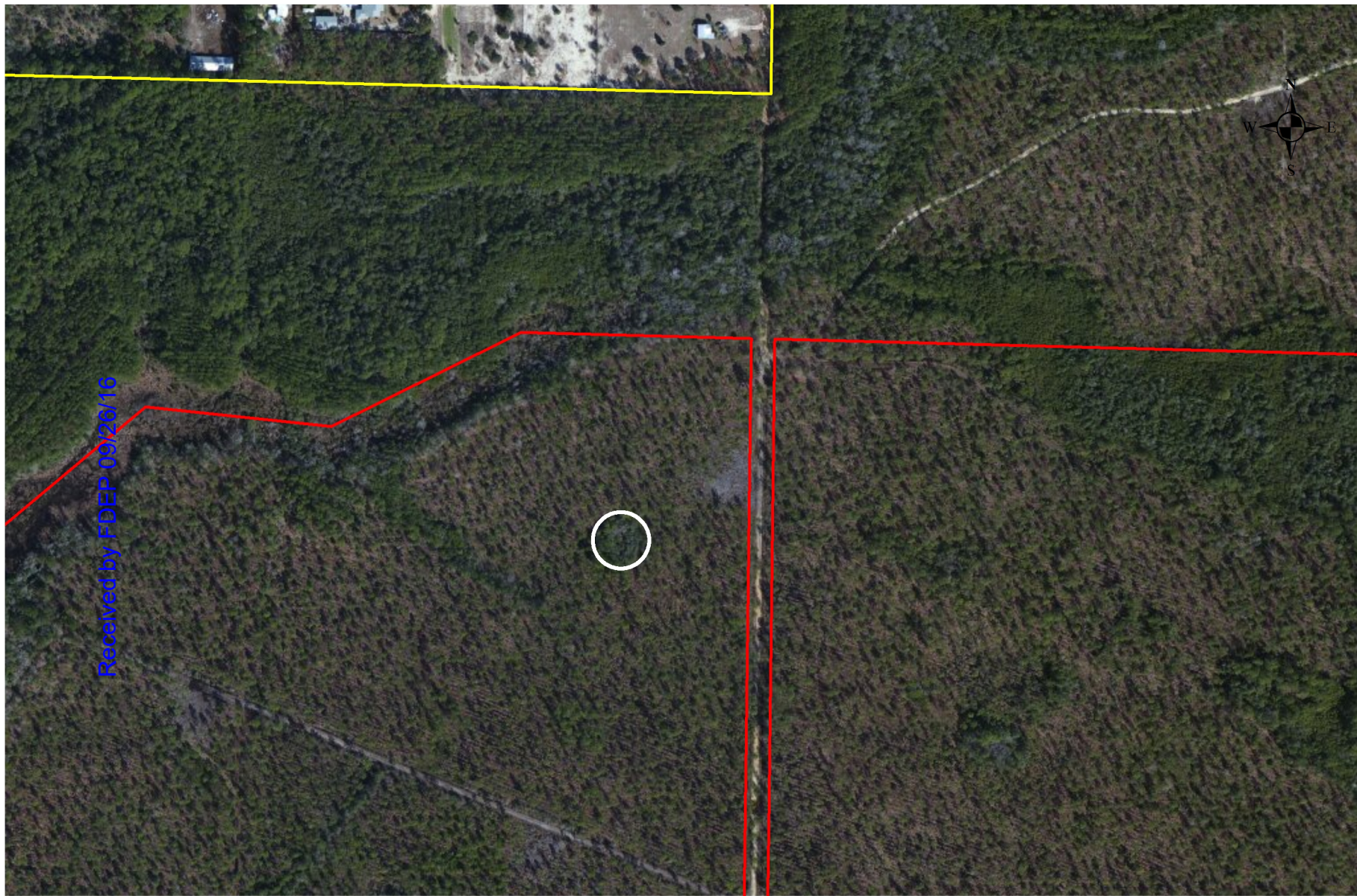
Sincerely,

A handwritten signature in black ink that reads "Michael W. Dentzau". The signature is fluid and cursive, with the first name being the most prominent.

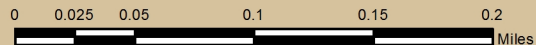
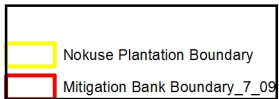
Michael W. Dentzau, PhD, PWS

cc: Dr. Matt Aresco
Diane Wilks

ATTACHMENT A



**Depressional Wetland Restoration
Pilot Study
Organic Debris Removal
Nokuse Plantation Wetlands Mitigation Bank**



Coordinate System: Mercator Auxiliary Sphere
Central Meridian: 0°0'0"
1st Std Parallel: 0°0'0"
2nd Std Parallel: 0°0'0"
Latitude of Origin: 0°0'0"

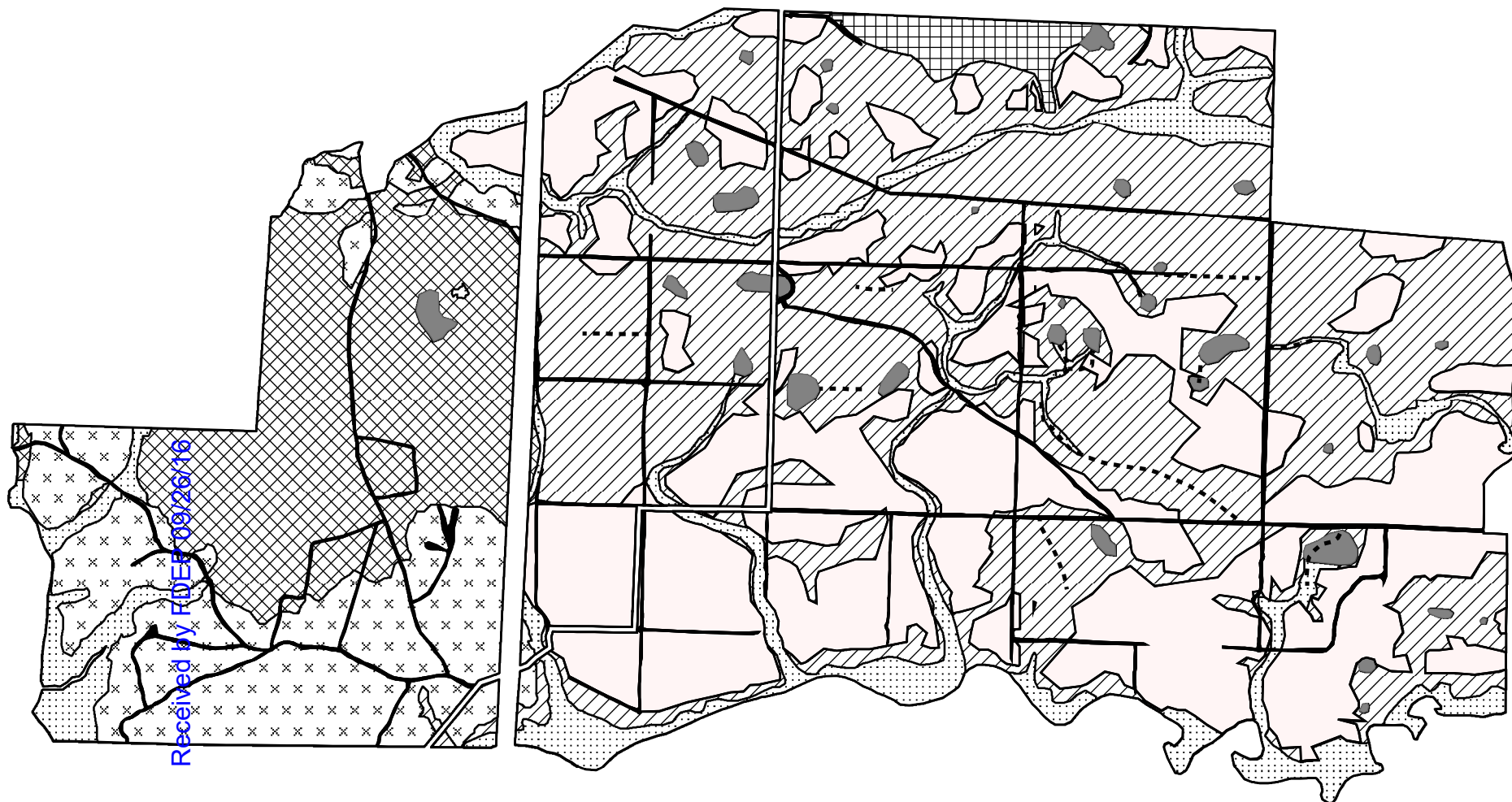
Author: Matthew J. Aresco, PhD
Nokuse Plantation



ATTACHMENT B – Pilot depressional wetland after mechanical cutting and prior to additional enhancements



ATTACHMENT C – Depressional wetland 6 months after alterations to the berm



Legend

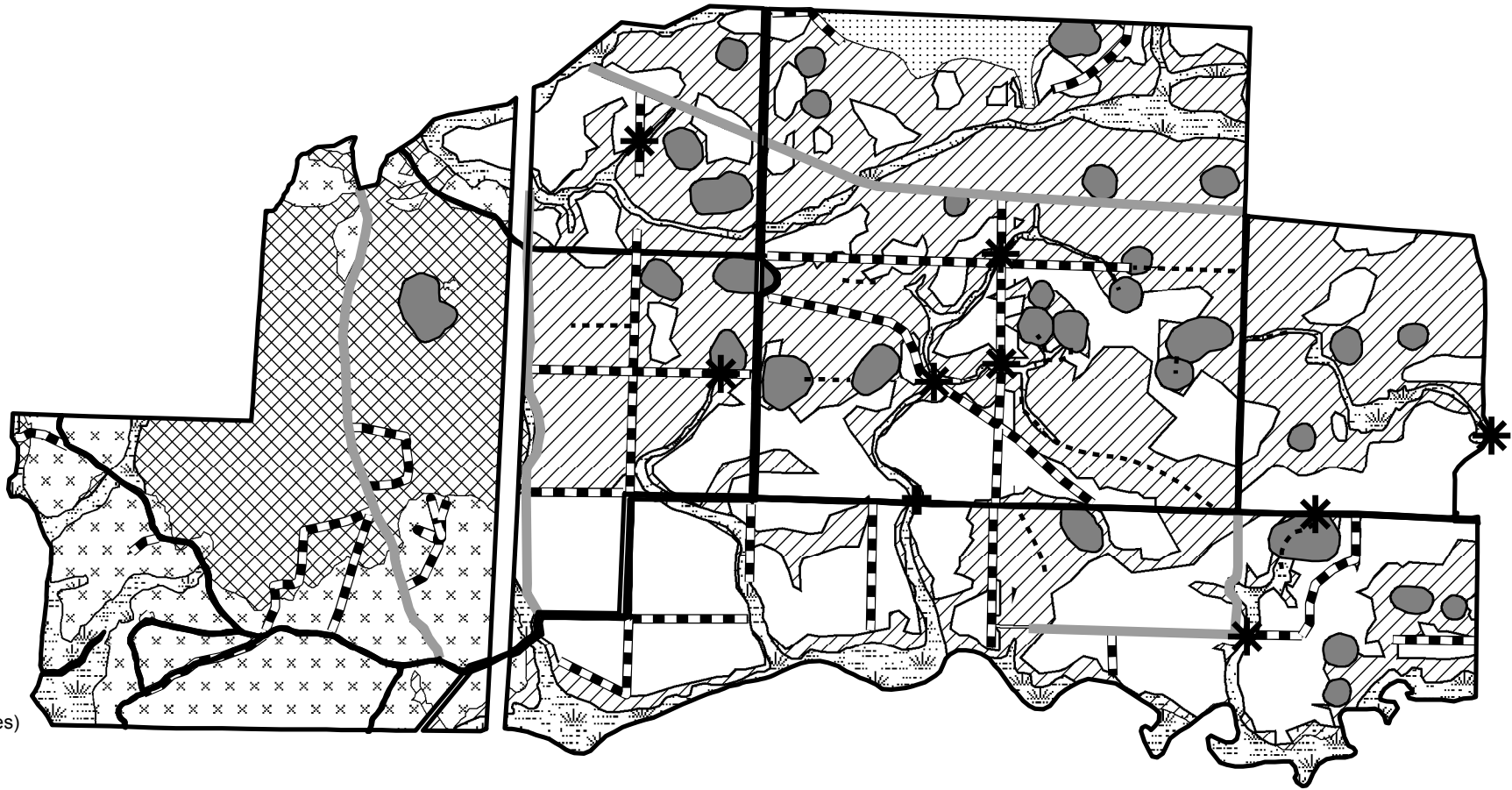
- | | | |
|--|--|--|
| Boundary | Ditch | Baygall - FLUCCS 611/Bay Swamps |
| Timber Roads/Trails - FLUCCS 8146 | Mixed Forest Wetlands - FLUCCS 610/Wetland Hardwood Forest | Hydric Pine Plantation - FLUCCS 441 |
| Upland/Mesic Pine Plantation - FLUCCS 441 | Hardwood Depressional Wetlands - FLUCCS 613/Gum Swamps | Wet Prairie/Wet Flatwoods - FLUCCS 625/Hydric Pine Flatwoods |
| Sandhill Uplands - FLUCCS 412/Longleaf-Oak | | |



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Legend

-  Rail Car Bridge
-  Boundary (2,206 acres)
-  Culvert Removal
-  Ditch Fill Completed
-  Ditch Fill Proposed
-  Roads Abandoned Except for Fire Management
-  Roads Abandoned
-  Roads/Trails to Remain for Access
-  Depressional Hardwoods and 100' Buffer - Fire; Pine Reduction (<75-100 trees/acre); Grading of Pine Beds; Herbaceous Augmentation; Mechanical Cutting of Woody Material
-  Sandhill/Mesics Flatwoods - Fire; Pine Reduction to < 100 trees/acre
-  Mixed Forest Wetlands - FLUCCS 610/Wetland Hardwood Forest
-  Baygall/Mixed Wetland Forest - Fire Into Transitional Zones
-  Plantation to Mesic Flatwoods - Fire; Slash/Loblolly Reduction; Longleaf Planting
-  Plantation to Wet Flatwoods - Pine Harvesting; Prescribed Fire; De-bedding and Herbaceous Augmentation (as necessary)
-  Wet Prairie/Wet Flatwoods - Prescribed Fire; Pine Reduction to <35 trees/acre



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Legend

 Vegetative_Berm_Removal

Nokuse Plantation
Mitigation Bank

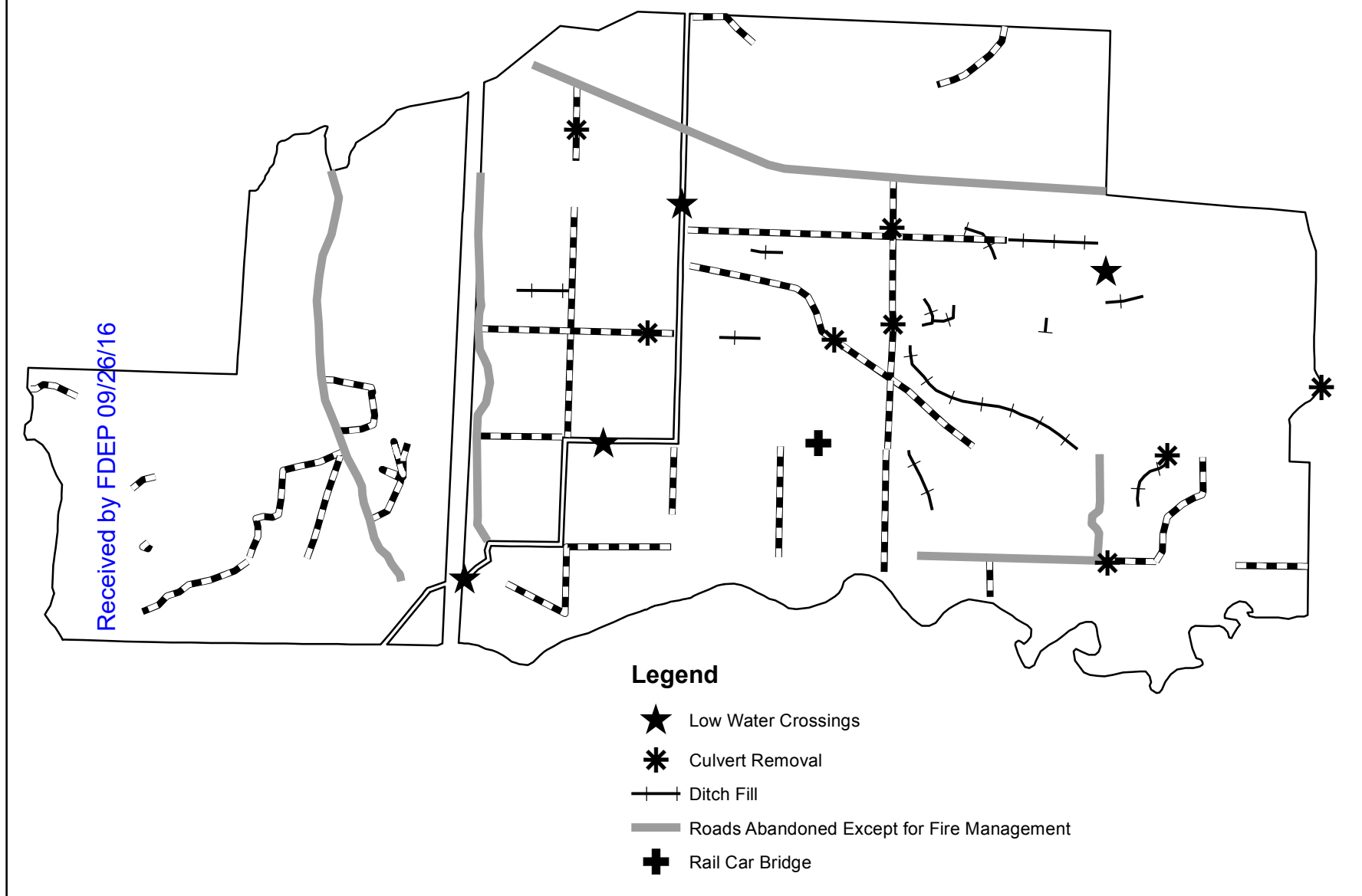


Figure 5a - Brush Reduction 5/2016

0 1,000 2,000 4,000 Feet



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Legend

- ★ Low Water Crossings
- * Culvert Removal
- + Ditch Fill
- Roads Abandoned Except for Fire Management
- ⊕ Rail Car Bridge

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Figure 10 - Hydrologic Enhancement Activities
9/24/2016

0 1,000 2,000 4,000 Feet

A horizontal scale bar with tick marks at 0, 1,000, 2,000, and 4,000 feet.

FIGURE 13 A - 5/2016

PROFILE VIEW

AT GRADE LOW WATER CROSSING

