JOHN M. BETHEA STATE FOREST

2015

10-YEAR MANAGEMENT PLAN

EXHIBITS

Exhibit A

Ten Year Management Accomplishment Summary

Etoniah State Forest 10-Year Accomplishment Report

Planting	ACTIVITIES		2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	Total
	Longleaf Bareroot	No.					385,440	275,000			185,130	94,380		939,950
Reforestation/		Acres					584	378			255	130		1,347
Restoration	Slash Bareroot	No.		714	300,685	368,940	155,364	145,000	157,000		50,820			1,178,523
(Indicate Species &		Acres			498	559	214	201	216		70			1,758
Bareroot (B) or	Containerized LL	No.		1,471	399,300		700,000	675,000	502,920	209,000			10,890	2,498,581
Containerized (C))		Acres			660		1,061	1,027	762	289			15	3,814
Seedling Survival Checks	Survival Checks	Acres				1,163	267	1,582	1,718	558	292	300	137	6,017
Timber Inventory	Inventory update	Acres				4,000	4,000	3,900	24,328	5,347	2,179	1,215	3,292	48,261
Site Preparation	Chop Single Pass	Acres	501	339	1,778		1,607							4,225
	Chop Tandem	Acres						356		289	404	104	154	1,307
(Indicate treatment)	Herbicide	Acres		2,081	2,316			722	329		300	104	150	6,002
(pre-plant)	Burn	Acres				82			195				37	314
	Disk	Acres					267	520	271					1,058
	Rake	Acres		1,200			170							1,370
Exotic Species	Japanese Climbing Fern (Sprayed)	Acres								3	1	5	5	14
Control (Indicate	Rattlebox (Sprayed)	Acres								15	25	20	20	80
Species & Method)	Chinese Tallow (Girdled)	Acres											2	2
	Cogon Grass	Acres											1	1
Timber Stand	Herbicide Treatment Banded	Acres				1,466	1,849	834	693	289				5,131
Improvement	Mechanical Treatments Mowing	Acres					10			113				123
Timber Sales	Marking DOF	Acres				320	122	105					20	567
Preperation for next Fiscal	Contractor	Acres												
Year	Sale Acreage to Cruise	Acres					260	1,097					695	2,052
Current Year Sales	Harvest	Acres				352	42	380	708	319				1,801
		Tons				10,726	50,640	4,105	22,227	10,258				97,956
Recreation	Day Use	No.	4,570	4,370	2,320	3,450	2,150	4,600	3,900	4,500	300	3,000	3,000	36,160
	Overnight - Primitive	No.							26	10	1	2	1	40
Fire	Wildfire	No.				1	2		2	11	8			24
	Wildfire	Acres	20,743			2,800	15		15	832	1,579			25,984
	Prescribed Burning	Acres	873	271	1,409	89	1,050	2,907	7,027	3,390	1,092	526	8,407	27,041
Roads & Bridges	Roads Graded	Miles	240	173	183	128	70	76	59	61	21	75	17	1,103
	Roads Rebuilt	Miles		1		5	7		7	2	2	17	8	49
	Bridges Repaired	No.					1		3			1		5
	Culverts Installed	No.		1				16	6	9	14	4	3	53
	Low Water Crossing Installed	No.	5	3	3	1			2				10	24
Boundary Maintenance	Maintenance / Marking	Miles				8		1	17	13		8	9	56
Other Activities	Hunt Camp Rental ($70 hunt)	No.				2			1	2	1		1	7
	Piles Burned	No.					143	64		3		2		212
	Apiary Permits	No.					0		2	2	2	1	2	9

Exhibit B

Boundary Map

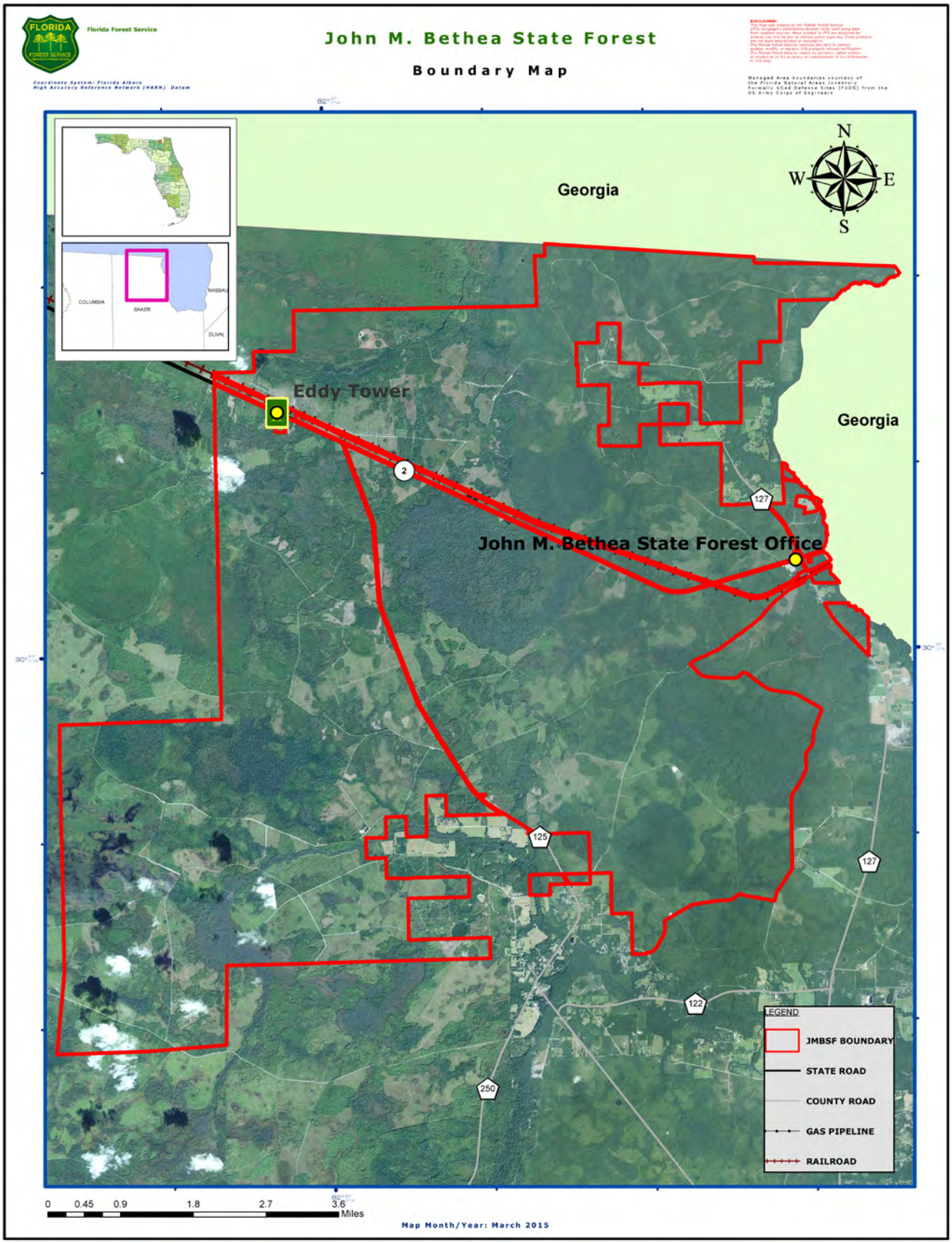

Florida Forest Service
John M. Bethea State Forest
Boundary Map
Coordinate System: Florida Albers
High Accuracy Reference Network (HARN) Datum
Managed Area boundaries courtesy of the Florida Natural Areas Inventory
Formally Used Defense Sites (FUDS) from the US Army Corps of Engineers
N
W
E
S
Georgia
Georgia
COLUMBIA
BAKER
NASSAU
DUVAL
Eddy Tower
John M. Bethea State Forest Office
2
127
125
127
122
250
LEGEND
JMBSF BOUNDARY
STATE ROAD
COUNTY ROAD
GAS PIPELINE
RAILROAD
0 0.45 0.9 1.8 2.7 3.6
Miles
Map Month/Year: March 2015

Exhibit C

Optimum Management Boundary Map

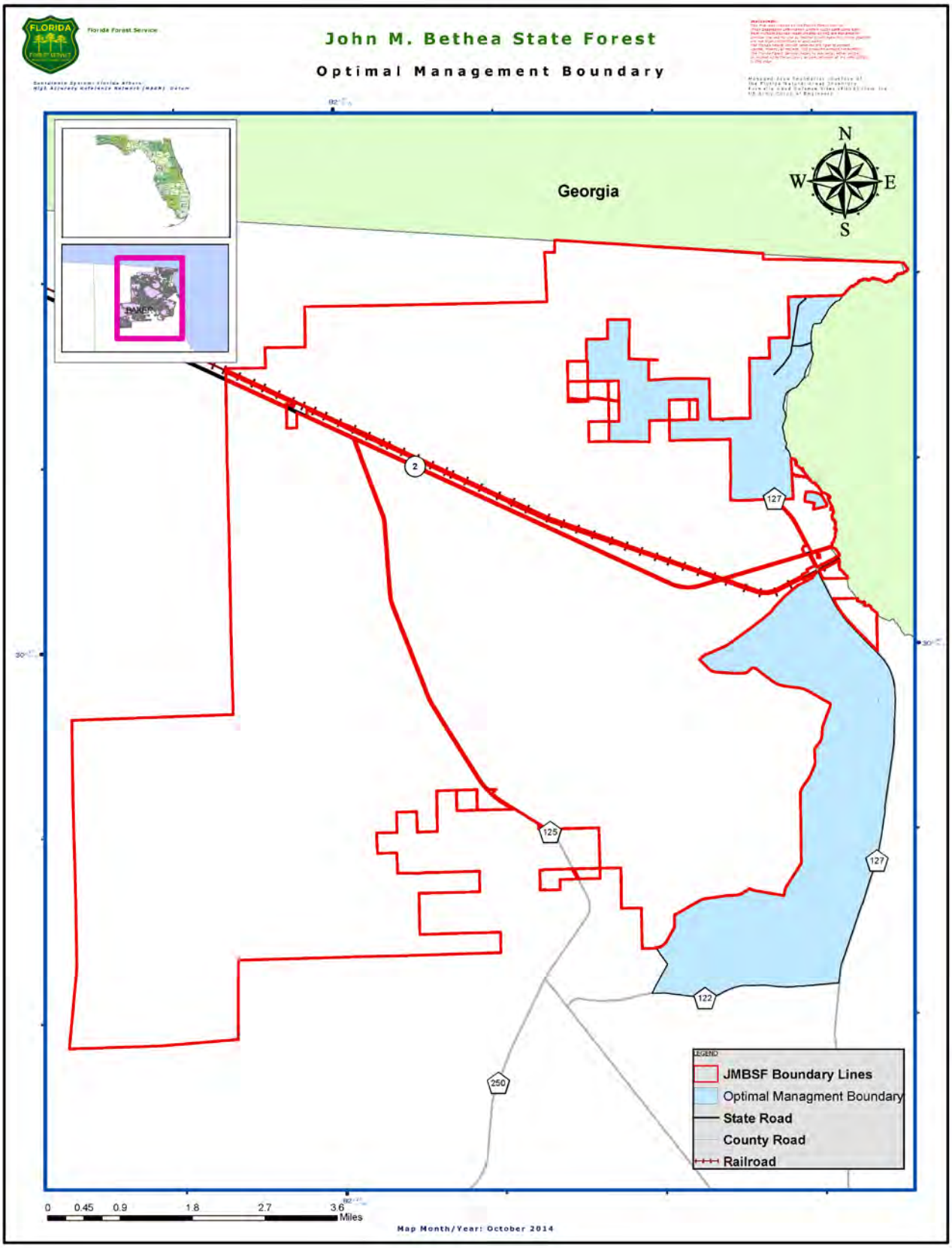

Florida Forest Service
John M. Bethea State Forest
Optimal Management Boundary
Georgia
N
W
E
S
BAKER
2
127
125
127
122
250
LEGEND
JMBSF Boundary Lines
Optimal Managment Boundary
State Road
County Road
Railroad
0 0.45 0.9 1.8 2.7 3.6
Miles
Map Month/Year: October 2014

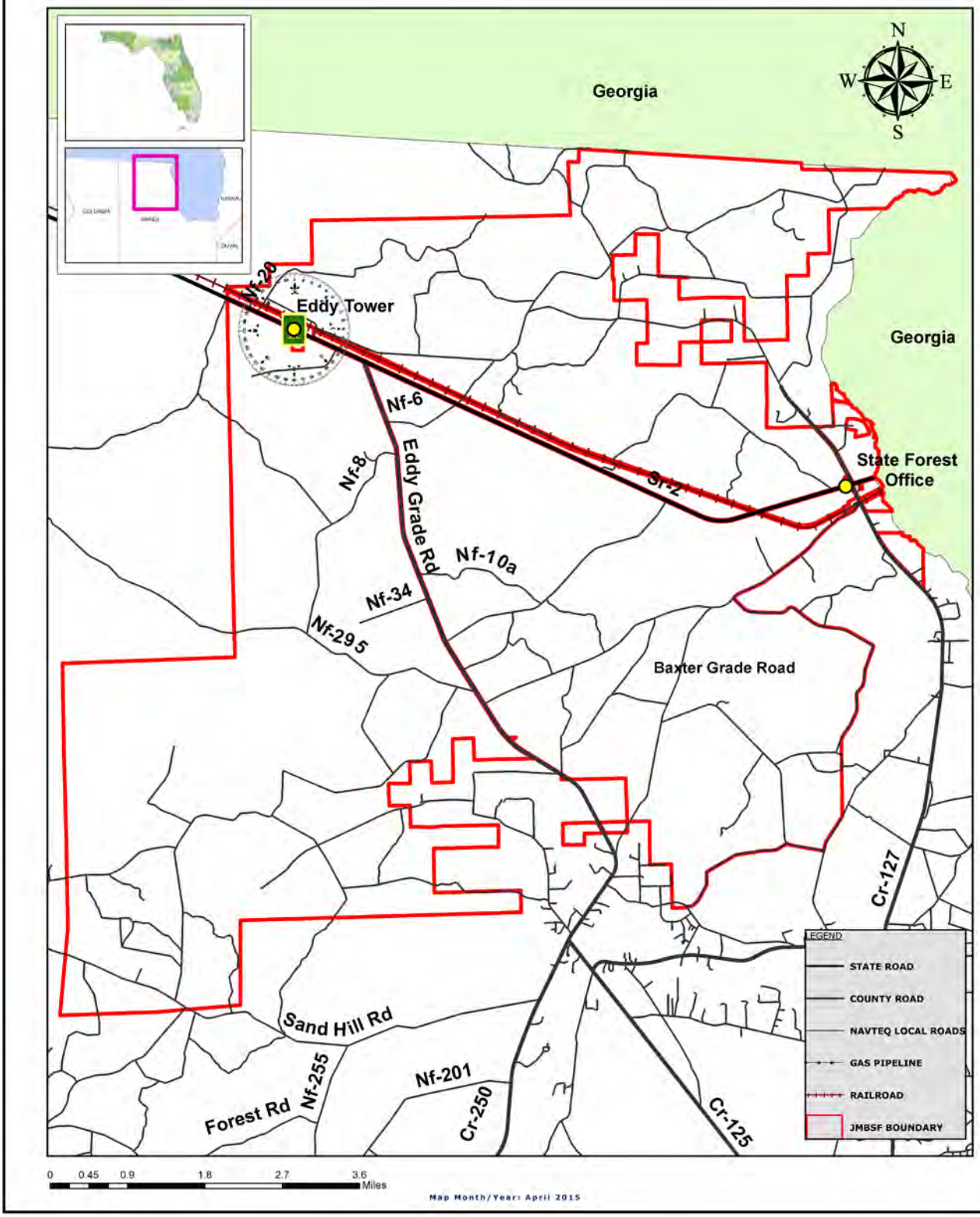
Exhibit D

Road Map

Florida Forest Service

John M. Bethea State Forest

Road Map



Map Month/Year: April 2015

Exhibit E

Facilities and Improvements

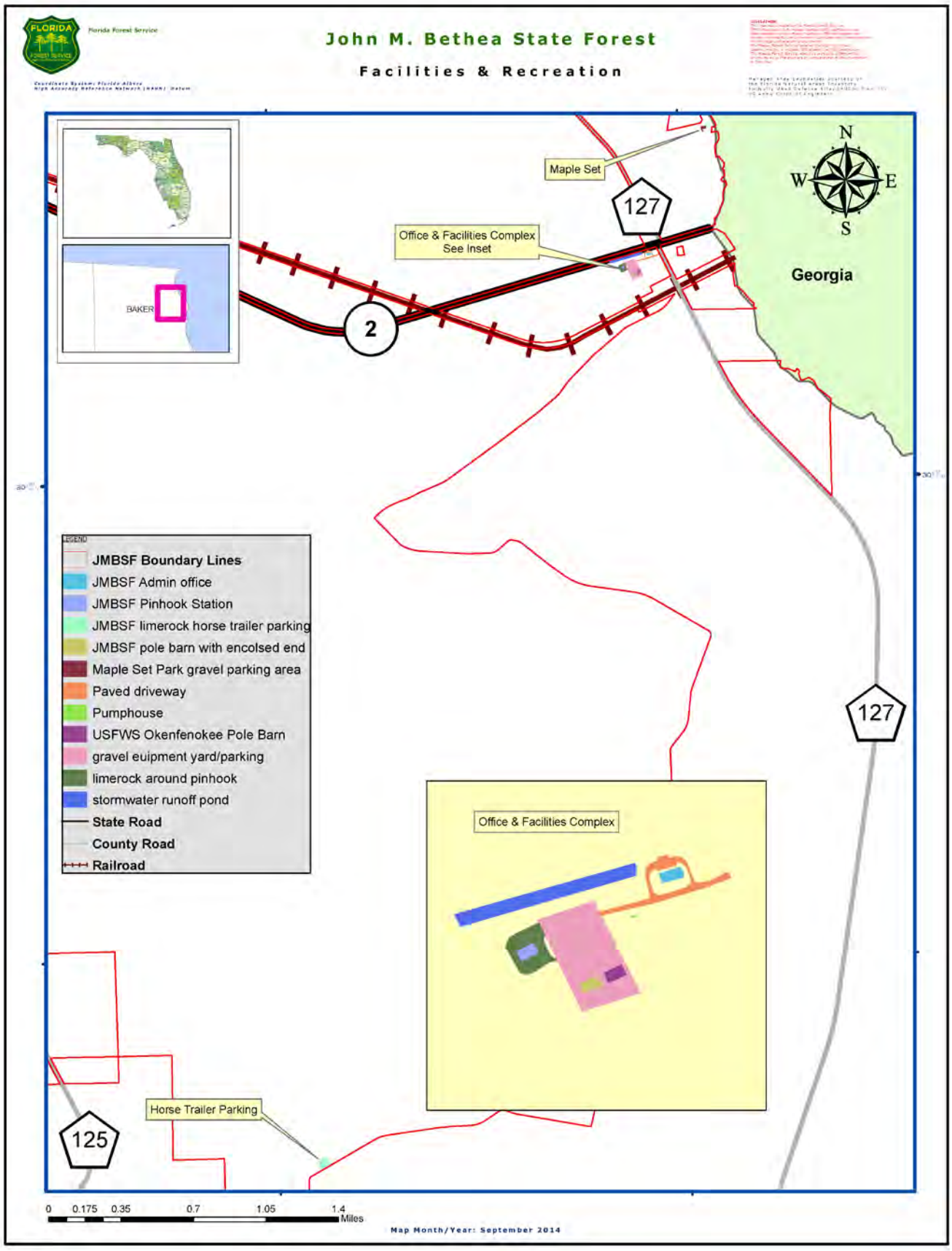

Florida Forest Service
John M. Bethea State Forest
Facilities & Recreation
Maple Set
Office & Facilities Complex
See Inset
127
2
N
W
E
S
Georgia
BAKER
LEGEND
JMBSF Boundary Lines
JMBSF Admin office
JMBSF Pinhook Station
JMBSF limerock horse trailer parking
JMBSF pole barn with encolsed end
Maple Set Park gravel parking area
Paved driveway
Pumphouse
USFWS Okenfenokee Pole Barn
gravel euipment yard/parking
limerock around pinhook
stormwater runoff pond
State Road
County Road
Railroad
Office & Facilities Complex
Horse Trailer Parking
125
0 0.175 0.35 0.7 1.05 1.4
Miles
Map Month/Year: September 2014

Exhibit F

Proximity to Significant Managed Lands

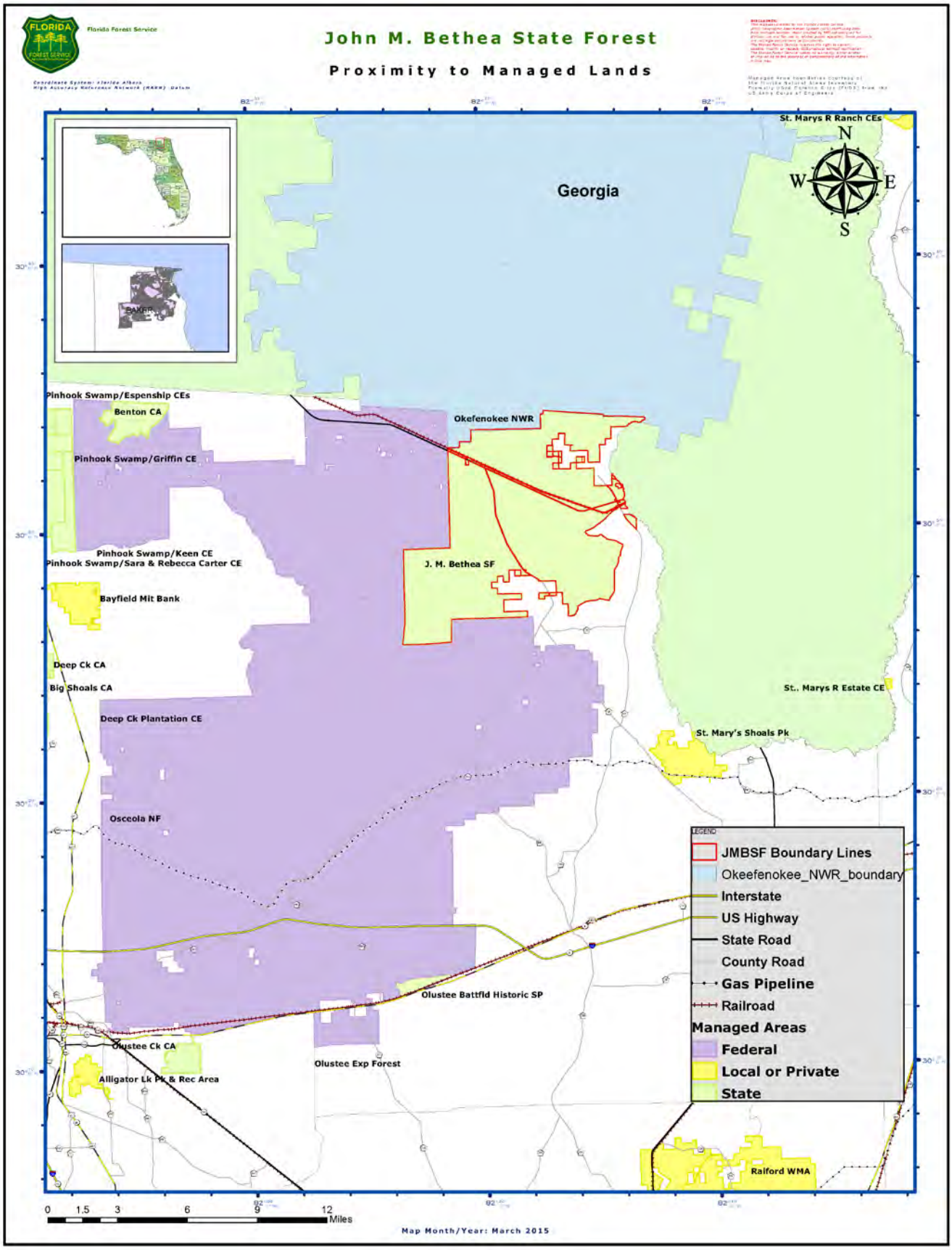

Florida Forest Service
John M. Bethea State Forest
Proximity to Managed Lands
Georgia
St. Marys R Ranch CEs
N
W
E
S
Pinhook Swamp/Espenship CEs
Benton CA
Okefenokee NWR
Pinhook Swamp/Griffin CE
Pinhook Swamp/Keen CE
Pinhook Swamp/Sara & Rebecca Carter CE
J. M. Bethea SF
Bayfield Mit Bank
Deep Ck CA
Big Shoals CA
St.. Marys R Estate CE
Deep Ck Plantation CE
St. Mary's Shoals Pk
Osceola NF
Olustee Battfld Historic SP
Olustee Ck CA
Olustee Exp Forest
Alligator Lk Pk & Rec Area
Ralford WMA
LEGEND
JMBSF Boundary Lines
Okeefenokee_NWR_boundary
Interstate
US Highway
State Road
County Road
Gas Pipeline
Railroad
Managed Areas
Federal
Local or Private
State
0 1.5 3 6 9 12 Miles
Map Month/Year: March 2015

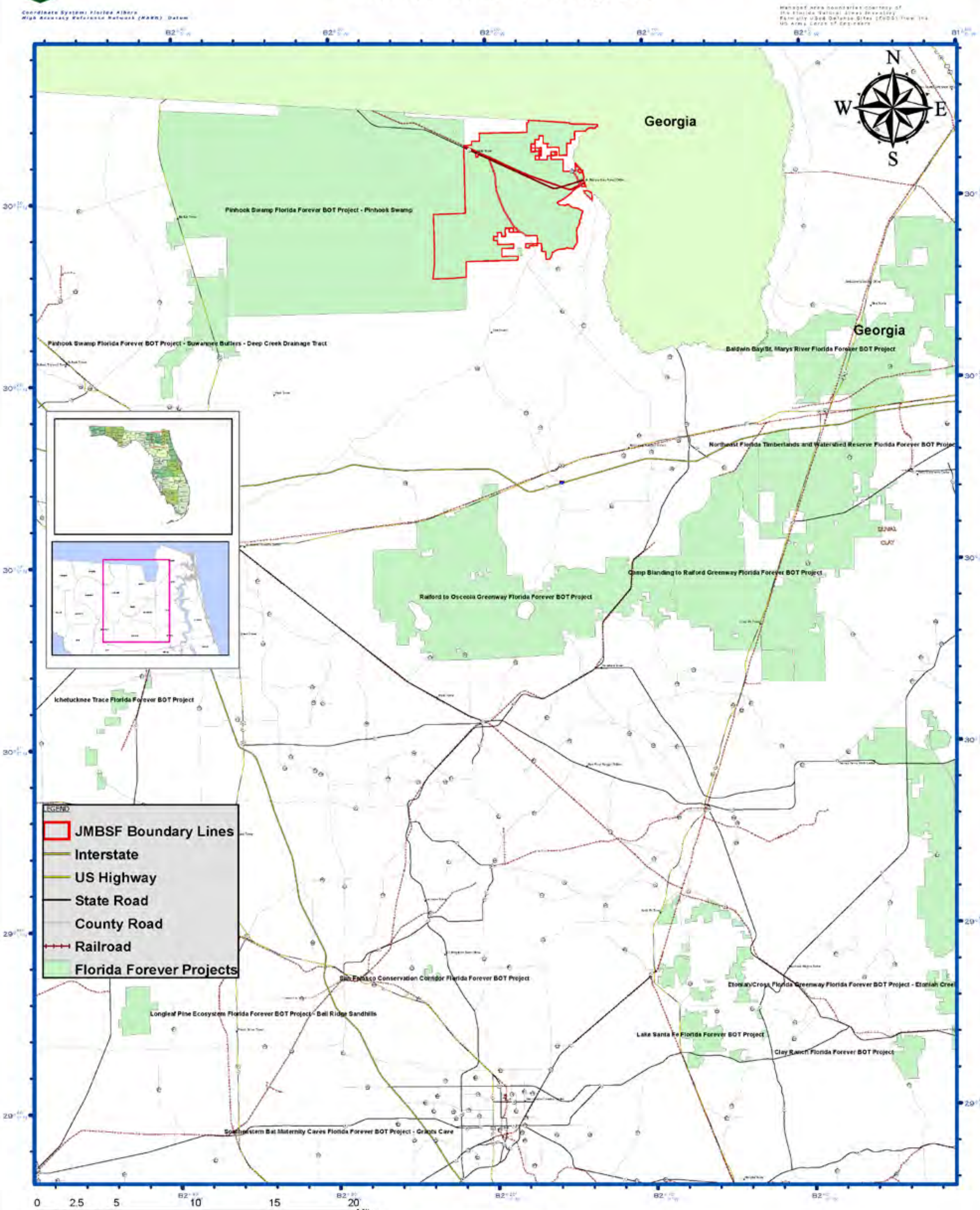
Exhibit G

Florida Forever Projects at JMBSF

Florida Forest Service

John M. Bethea State Forest

Florida Forever Projects



Map Month/Year: July 2014

Exhibit H

Department of State Report on Archeological Sites and Historical Sites

This record search is for informational purposes only and does NOT constitute a project review. This search only identifies resources recorded at the Florida Master Site File and does NOT provide project approval from the Division of Historical Resources. Contact the Compliance and Review Section of the Division of Historical Resources at 850-245-6333 for project review information.

May 22, 2014

Florida Master Site File

Jennifer Reed
Florida Forestry Service
3125 Conner Boulevard Tallahassee, FL 32399
Phone: 850-681-5828
Email: Jennifer.reed@freshfromflorida.com

In response to your inquiry of May 22, 2014 the Florida Master Site File lists twenty previously recorded archaeological sites, one resource group, and one standing structure found within the **John M. Bethea State Forest** located in Baker County.

When interpreting the results of our search, please consider the following information:

- **This search area may contain *unrecorded* archaeological sites, historical structures or other resources even if previously surveyed for cultural resources.**
- **Because vandalism and looting are common at Florida sites, we ask that you limit the distribution of location information on archaeological sites.**
- **While many of our records document historically significant resources, the documentation of a resource at the Florida Master Site File does not necessarily mean the resource is historically significant.**
- **Federal, state and local laws require formal environmental review for most projects. This search DOES NOT constitute such a review. If your project falls under these laws, you should contact the Compliance and Review Section of the Division of Historical Resources at 850-245-6333.**

Please do not hesitate to contact us if you have any questions regarding the results of this search.

Sincerely,

Mary G Berman

Mary Berman
Archaeological Analyst
Florida Master Site File
mary.berman@dos.state.fl.us

Florida Master Site File

Created: 5/22/2014

AR=20
SS=1
CM=0
RG=1
BR=0
Total=22

Cultural Resource Roster

SiteID	Type	Site Name	Address	Additional Info	SHPO Eval	NR Status
BA00247	AR	USFS OSC 89-7/OSCEOLA A,B,C	Taylor		Insufficient Info	
BA00264	AR	USFS 89-44 OSC/JACOBS 15 ON DOG ISLAND				
BA00265	AR	USFS 89-45 OSC/JACOBS 16 ON LICE ISLAND				
BA00266	AR	USFS 89-46 OSC/PINHOOK 17				
BA00269	AR	USFS 89-49 OSC/PINHOOK 20				
BA00270	AR	USFS 89-50 OSC/JACOBS PINHOOK 21				
BA00345	AR	NN		Human Remains May Be Present		
BA00346	AR	NN		Human Remains May Be Present		
BA00351	AR	NORTH OF TAYLOR	TAYLOR			
BA00535	AR	USFS #02-06 (B) Osc, "Eddy Tower"	nono			
BA00595	AR	Firebreak I	Unspecified			
BA00596	AR	Firebreak II	Unspecified			
BA00597	AR	Firebreak III	Unspecified			
BA00598	AR	Moccasin Circle	Unspecified			
BA00599	AR	Barnwell I	Unspecified			
BA00600	AR	Barnwell II	Unspecified			
BA00601	AR	Sawmill East of Eddy	Unspecified			
BA00602	AR	Sawdust Pile	Unspecified			
BA00603	AR	West of Eddy	Unspecified			
BA00604	AR	Eddy	Unspecified			
BA00605	RG	Barnwell Villa	Unspecified	Archaeological District - 3 Contrib Resources		
BA00111	SS	LYONS, WESLEY - CORN CRIB		-RESOURCE DESTROYED-		

Exhibit I

Management Procedures
for
Archaeological and Historical Sites and Properties

Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties
(revised March 2013)

These procedures apply to state agencies, local governments, and non-profits that manage state-owned properties.

A. General Discussion

Historic resources are both archaeological sites and historic structures. Per Chapter 267, Florida Statutes, '*Historic property' or 'historic resource' means any prehistoric district, site, building, object, or other real or personal property of historical, architectural, or archaeological value, and folklife resources. These properties or resources may include, but are not limited to, monuments, memorials, Indian habitations, ceremonial sites, abandoned settlements, sunken or abandoned ships, engineering works, treasure trove, artifacts, or other objects with intrinsic historical or archaeological value, or any part thereof, relating to the history, government, and culture of the state."*

B. Agency Responsibilities

Per State Policy relative to historic properties, state agencies of the executive branch must allow the Division of Historical Resources (Division) the opportunity to comment on any undertakings, whether these undertakings directly involve the state agency, i.e., land management responsibilities, or the state agency has indirect jurisdiction, i.e. permitting authority, grants, etc. No state funds should be expended on the undertaking until the Division has the opportunity to review and comment on the project, permit, grant, etc.

State agencies shall preserve the historic resources which are owned or controlled by the agency.

Regarding proposed demolition or substantial alterations of historic properties, consultation with the Division must occur, and alternatives to demolition must be considered.

State agencies must consult with Division to establish a program to location, inventory and evaluate all historic properties under ownership or controlled by the agency.

C. Statutory Authority

Statutory Authority and more in depth information can be found at:
http://www.flheritage.com/preservation/compliance/guidelines.cfm

D. Management Implementation

Even though the Division sits on the Acquisition and Restoration Council and approves land management plans, these plans are conceptual. Specific information regarding individual projects must be submitted to the Division for review and recommendations.

Managers of state lands must coordinate any land clearing or ground disturbing activities with the Division to allow for review and comment on the proposed project. Recommendations may include, but are not limited to: approval of the project as submitted, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effects.

Projects such as additions, exterior alteration, or related new construction regarding historic structures must also be submitted to the Division of Historical Resources for review and comment by the Division's architects. Projects involving structures fifty years of age or older, must be submitted to this agency for a significance determination. In rare cases, structures under fifty years of age may be deemed historically significant. These must be evaluated on a case by case basis.

Adverse impacts to significant sites, either archaeological sites or historic buildings, must be avoided. Furthermore, managers of state property should make preparations for locating and evaluating historic resources, both archaeological sites and historic structures.

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, certain information must be submitted for comments and recommendations. The minimum review documentation requirements can be found at:
http://www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf .

* * *

Questions relating to the treatment of archaeological and historic resources on state lands should be directed to:

Deena S. Woodward
Division of Historical Resources
Bureau of Historic Preservation
Compliance and Review Section
R. A. Gray Building
500 South Bronough Street
Tallahassee, FL 32399-0250

Phone: (850) 245-6425

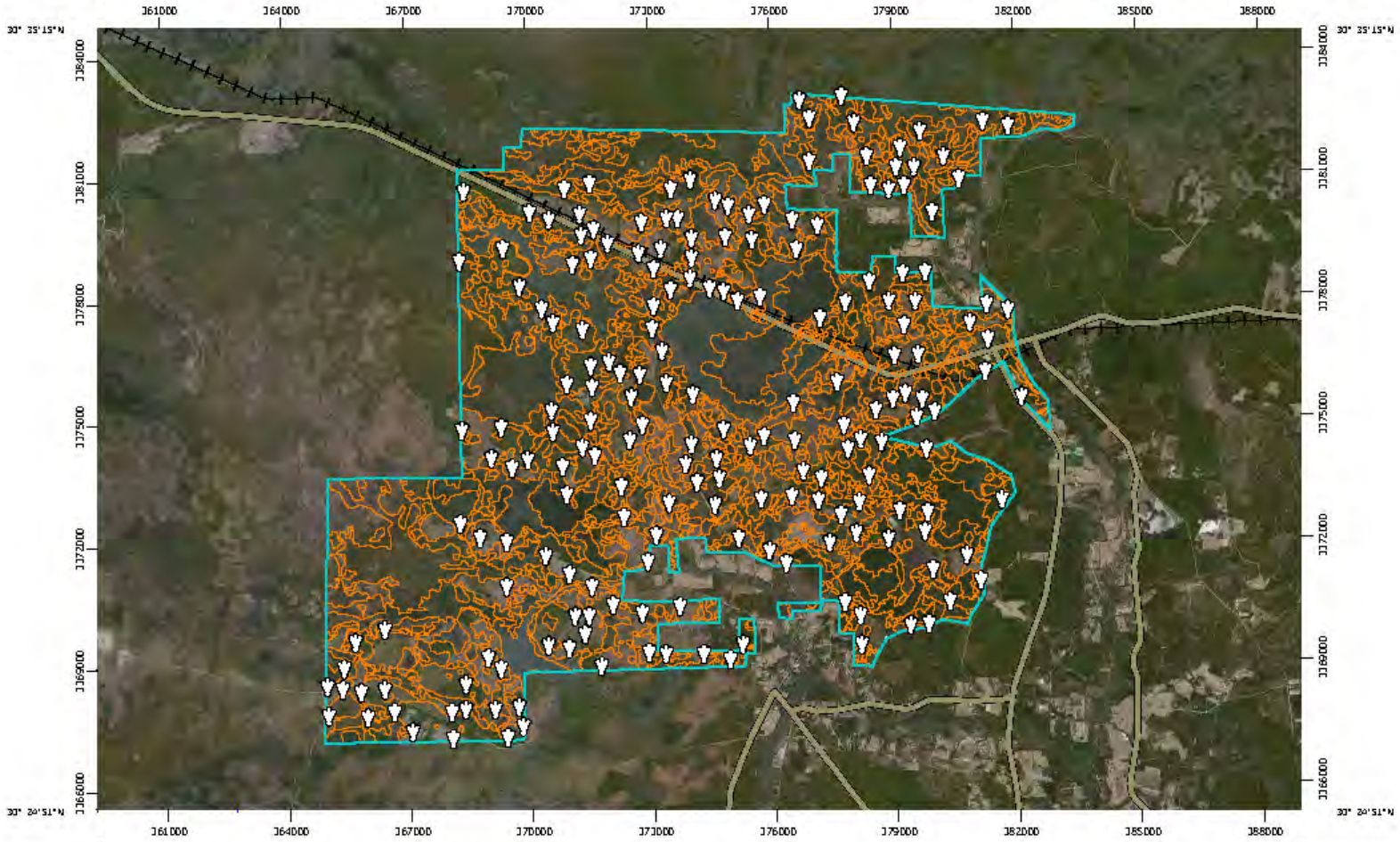
Toll Free: (800) 847-7278
Fax: (850) 245-6435

Exhibit J

Soil Maps and Descriptions

For a Complete Map Unit Description Report, please contact the FFS at 850 / 681-5828

Soil Map—Baker County, Florida, Brantley and Charlton Counties, Georgia, and Ware County, Georgia
(John M. Bethea State Forest)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:20,000 to 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Baker County, Florida
Survey Area Data: Version 11, Dec 13, 2013

Soil Survey Area: Brantley and Charlton Counties, Georgia
Survey Area Data: Version 7, Nov 22, 2013

Soil Survey Area: Ware County, Georgia
Survey Area Data: Version 8, Dec 14, 2013

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 14, 2011—Mar 13, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Baker County, Florida (FL003)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
11	Boulogne sand	21.4	0.0%
16	Dasher mucky peat, depressional	236.0	0.5%
18	Surrency-Mulat complex, frequently flooded	410.0	0.9%
23	Leon sand	1,170.7	2.7%
24	Leon-Evergreen complex, depressional	9.2	0.0%
26	Kingsferry and Allanton soils	5.8	0.0%
28	Mandarin fine sand, 0 to 2 percent slopes	34.8	0.1%
29	Mascotte fine sand	10,504.1	23.9%
32	Ocilla fine sand, 0 to 3 percent slopes	30.2	0.1%
33	Olustee-Pelham complex	217.5	0.5%
36	Pantego-Pamlico, loamy substratum, complex, depressional	11,936.7	27.1%
37	Pelham fine sand	1,946.5	4.4%
39	Plummer fine sand	405.4	0.9%
40	Pamlico muck, loamy substratum, depressional	4,822.9	11.0%
42	Pottsburg sand, high	1.3	0.0%
43	Pottsburg sand	21.5	0.0%
47	Sapelo fine sand	7,078.1	16.1%
52	Mascotte-Pamlico, loamy substratum, complex, depressional	4,698.1	10.7%
53	Mascotte fine sand, low	345.5	0.8%
99	Water	48.1	0.1%
Subtotals for Soil Survey Area		**43,943.9**	**99.9%**
Totals for Area of Interest		**43,980.3**	**100.0%**

Brantley and Charlton Counties, Georgia (GA611)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
KJA	Kinston and Johnston soils, 0 to 2 percent slopes, frequently flooded	34.4	0.1%
McA	Mascotte fine sand, 0 to 2 percent slopes	0.2	0.0%

Brantley and Charlton Counties, Georgia (GA611)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
PbA	Pottsburg fine sand, 0 to 2 percent slopes	0.0	0.0%
PgA	Pantego-Pamlico complex, loamy substratum, ponded, 0 to 1 percent slopes	0.0	0.0%
PmB	Pelham loamy fine sand, 0 to 5 percent slopes	0.6	0.0%
Subtotals for Soil Survey Area		**35.2**	**0.1%**
Totals for Area of Interest		**43,980.3**	**100.0%**

Ware County, Georgia (GA299)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
PgA	Pantego-Pamlico, loamy substratum complex, ponded, 0 to 1 percent slopes	1.1	0.0%
PmB	Pelham loamy fine sand, 0 to 5 percent slopes	0.1	0.0%
Subtotals for Soil Survey Area		**1.2**	**0.0%**
Totals for Area of Interest		**43,980.3**	**100.0%**

Component Legend

This report presents general information about the map units and map unit components in the selected area. It shows map unit symbols and names and the components in each map unit. It also shows the percent of the components in the map units, the kind of component, and the slope range of each component.

Report—Component Legend

Component Legend–Baker County, Florida							
Map unit symbol and name	Map unit acres	Pct. of map unit	Component name	Component kind	Pct. slope		
					Low	RV	High
11—Boulogne sand	3,720						
		90	Boulogne	Series	0.0	1.0	2.0
		2	Allanton	Series	0.0	1.0	2.0
		2	Evergreen, depressional	Series	0.0	1.0	2.0
		2	Kingsferry	Series	0.0	1.0	2.0
		2	Leon, non-hydric	Series	0.0	1.0	2.0
		1	Pottsburg	Series	0.0	1.0	2.0
		1	Murville	Series	0.0	1.0	2.0
16—Dasher mucky peat, depressional	4,080						
		90	Dasher, depressional	Series	0.0	1.0	2.0
		10	Mascotte, hydric	Series	0.0	1.0	2.0
18—Surrency-Mulat complex, frequently flooded	7,705						
		59	Surrency	Series	0.0	1.0	2.0
		33	Mulat	Series	0.0	1.0	2.0
		3	Osier	Series	0.0	1.0	2.0
		3	Pamlico, loamy substratum	Series	0.0	1.0	2.0
		2	Pottsburg	Series	0.0	1.0	2.0
23—Leon sand	23,195						
		90	Leon, non-hydric	Series	0.0	1.0	2.0
		5	Leon, hydric	Series	0.0	1.0	2.0
		1	Pottsburg	Series	0.0	1.0	2.0
		1	Hurricane	Series	0.0	3.0	5.0
		1	Mandarin	Series	0.0	1.0	2.0
		1	Kingsferry	Series	0.0	1.0	2.0
		1	Osier	Series	0.0	1.0	2.0

Component Legend–Baker County, Florida							
Map unit symbol and name	Map unit acres	Pct. of map unit	Component name	Component kind	Pct. slope		
					Low	RV	High
24—Leon-Evergreen complex, depressional	3,095						
		67	Leon, depressional	Series	0.0	1.0	2.0
		28	Evergreen, depressional	Series	0.0	1.0	2.0
		1	Pottsburg	Series	0.0	1.0	2.0
		1	Osier	Series	0.0	1.0	2.0
		1	Boulogne	Series	0.0	1.0	2.0
		1	Allanton	Series	0.0	1.0	2.0
		1	Kingsferry	Series	0.0	1.0	2.0
26—Kingsferry and Allanton soils	2,220						
		76	Kingsferry	Series	0.0	1.0	2.0
		21	Allanton	Series	0.0	1.0	2.0
		2	Boulogne	Series	0.0	1.0	2.0
		1	Leon, non-hydric	Series	0.0	1.0	2.0
28—Mandarin fine sand, 0 to 2 percent slopes	525						
		92	Mandarin	Series	0.0	0.5	2.0
		5	Leon	Series	0.0	0.5	2.0
		1	Centenary	Series	0.0	0.5	2.0
		1	Rutlege	Series	0.0	0.5	2.0
		1	Ortega	Series	0.0	0.5	2.0
29—Mascotte fine sand	74,380						
		80	Mascotte, non-hydric	Series	0.0	1.0	2.0
		10	Mascotte, hydric	Series	0.0	1.0	2.0
		2	Leefield	Series	0.0	3.0	5.0
		2	Ocilla	Series	0.0	2.0	3.0
		2	Pantego	Series	0.0	1.0	2.0
		2	Pelham, hydric	Series	0.0	1.0	2.0
		1	Rains	Series	0.0	1.0	2.0
		1	Plummer, non-hydric	Series	0.0	1.0	2.0
32—Ocilla fine sand, 0 to 3 percent slopes	12,735						
		94	Ocilla	Series	0.0	2.0	3.0
		2	Albany	Series	0.0	3.0	5.0
		1	Pelham, non-hydric	Series	0.0	1.0	2.0
		1	Mascotte, non-hydric	Series	0.0	1.0	2.0
		1	Leefield	Series	0.0	3.0	5.0
		1	Olustee	Series	0.0	1.0	2.0

Component Legend–Baker County, Florida							
Map unit symbol and name	Map unit acres	Pct. of map unit	Component name	Component kind	Pct. slope		
					Low	RV	High
33—Olustee-Pelham complex	14,660						
		64	Olustee	Series	0.0	1.0	2.0
		21	Pelham, non-hydric	Series	0.0	1.0	2.0
		10	Pelham, hydric	Series	0.0	0.5	1.0
		2	Albany	Series	0.0	3.0	5.0
		2	Ocilla	Series	0.0	2.0	3.0
		1	Rains	Series	0.0	1.0	2.0
36—Pantego-Pamlico, loamy substratum, complex, depressional	67,175						
		60	Pantego	Series	0.0	1.0	2.0
		30	Pamlico, loamy substratum	Series	0.0	1.0	2.0
		3	Olustee	Series	0.0	1.0	2.0
		3	Pelham, non-hydric	Series	0.0	1.0	2.0
		2	Plummer, non-hydric	Series	0.0	1.0	2.0
		2	Rains	Series	0.0	1.0	2.0
37—Pelham fine sand	46,875						
		80	Pelham, non-hydric	Series	0.0	1.0	2.0
		10	Pelham, hydric	Series	0.0	1.0	2.0
		2	Mascotte, non-hydric	Series	0.0	1.0	2.0
		2	Mulat	Series	0.0	1.0	2.0
		2	Albany	Series	0.0	3.0	5.0
		1	Surrency	Series	0.0	1.0	2.0
		1	Sapelo, non-hydric	Series	0.0	1.0	2.0
		1	Ocilla	Series	0.0	2.0	3.0
		1	Olustee	Series	0.0	1.0	2.0
39—Plummer fine sand	4,440						
		80	Plummer, non-hydric	Series	0.0	1.0	2.0
		10	Plummer, hydric	Series	0.0	1.0	2.0
		2	Mulat	Series	0.0	1.0	2.0
		2	Leon, non-hydric	Series	0.0	1.0	2.0
		2	Albany	Series	0.0	3.0	5.0
		1	Pantego	Series	0.0	1.0	2.0
		1	Osier	Series	0.0	1.0	2.0
		1	Sapelo, non-hydric	Series	0.0	1.0	2.0
		1	Surrency	Series	0.0	1.0	2.0

Component Legend–Baker County, Florida							
Map unit symbol and name	Map unit acres	Pct. of map unit	Component name	Component kind	Pct. slope		
					Low	RV	High
40—Pamlico muck, loamy substratum, depressional	25,155						
		90	Pamlico, loamy substratum	Series	0.0	0.6	2.0
		4	Pantego	Series	0.0	1.0	2.0
		3	Pelham, hydric	Series	0.0	1.0	2.0
		3	Plummer, non-hydric	Series	0.0	1.0	2.0
42—Pottsburg sand, high	3,025						
		90	Pottsburg, high	Series	0.0	1.0	2.0
		3	Leon, depressional	Series	0.0	1.0	2.0
		3	Allanton	Series	0.0	1.0	2.0
		2	Hurricane	Series	0.0	3.0	5.0
		2	Boulogne	Series	0.0	1.0	2.0
43—Pottsburg sand	6,620						
		90	Pottsburg	Series	0.0	1.0	2.0
		2	Boulogne	Series	0.0	1.0	2.0
		2	Kingsferry	Series	0.0	1.0	2.0
		2	Evergreen, depressional	Series	0.0	1.0	2.0
		2	Allanton	Series	0.0	1.0	2.0
		1	Osier	Series	0.0	1.0	2.0
		1	Leon, depressional	Series	0.0	1.0	2.0
47—Sapelo fine sand	27,555						
		80	Sapelo, non-hydric	Series	0.0	1.0	2.0
		10	Sapelo, hydric	Series	0.0	1.0	2.0
		2	Albany	Series	0.0	3.0	5.0
		2	Leon, non-hydric	Series	0.0	1.0	2.0
		1	Leefield	Series	0.0	3.0	5.0
		1	Boulogne	Series	0.0	1.0	2.0
		1	Ocilla	Series	0.0	2.0	3.0
		1	Plummer, non-hydric	Series	0.0	1.0	2.0
		1	Pelham, non-hydric	Series	0.0	1.0	2.0
		1	Pantego	Series	0.0	1.0	2.0
52—Mascotte-Pamlico, loamy substratum, complex, depressional	17,620						
		50	Mascotte	Series	0.0	0.8	2.0
		40	Pamlico, loamy substratum	Series	0.0	0.6	2.0
		5	Plummer, non-hydric	Series	0.0	1.0	2.0
		5	Pelham, hydric	Series	0.0	0.5	1.0

Component Legend–Ware County, Georgia							
Map unit symbol and name	Map unit acres	Pct. of map unit	Component name	Component kind	Pct. slope		
					Low	RV	High
PgA—Pantego-Pamlico, loamy substratum complex, ponded, 0 to 1 percent slopes	645						
		60	Pantego	Series	0.0	1.0	2.0
		30	Pamlico	Series	0.0	1.0	2.0
PmB—Pelham loamy fine sand, 0 to 5 percent slopes	87,910						
		96	Pelham	Series	0.0	1.0	5.0

Data Source Information

Soil Survey Area: Baker County, Florida
Survey Area Data: Version 11, Dec 13, 2013

Soil Survey Area: Brantley and Charlton Counties, Georgia
Survey Area Data: Version 7, Nov 22, 2013

Soil Survey Area: Ware County, Georgia
Survey Area Data: Version 8, Dec 14, 2013

Exhibit K

Department of Environmental Protection
Outstanding Florida Waters

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
BOB MARTINEZ CENTER
2600 BLAIRSTONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

RICK SCOTT
GOVERNOR

CARLOS LOPEZ-CANTERA
LT. GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

June 3, 2014

Ms. Jennifer Reed
Land Planning Coordinator
Florida Forestry Service
Florida Department of Agriculture & Consumer Services
The Conner Building
3125 Conner Boulevard - Room 237
Tallahassee, FL 32399-1650

RE: Land Use Plan for John M. Bethea State Forest

Dear Ms. Reed:

Thank you for your inquiry regarding the surface water quality classifications on and near John M. Bethea State Forest in Baker County. The northern portion of the forest is immediately adjacent to Okeefenokee National Wildlife Refuge, which has been designated as Outstanding Florida Waters (subparagraph 62-302.700(9)(b)21., Florida Administrative Code (FAC)). Any surface waters on the site are classified as Class III waters (subparagraph 62-302.400(16)(b)2., FAC), which is the statewide default classification.

If you have any questions or need additional information, please feel free to contact me at the letterhead address (mail station 6511), by phone at 850/245-8429, or via E-mail at Eric.Shaw@dep.state.fl.us.

Sincerely,

Eric R. Shaw
Environmental Manager
Standards Development Section

Exhibit L

Water Resources Map

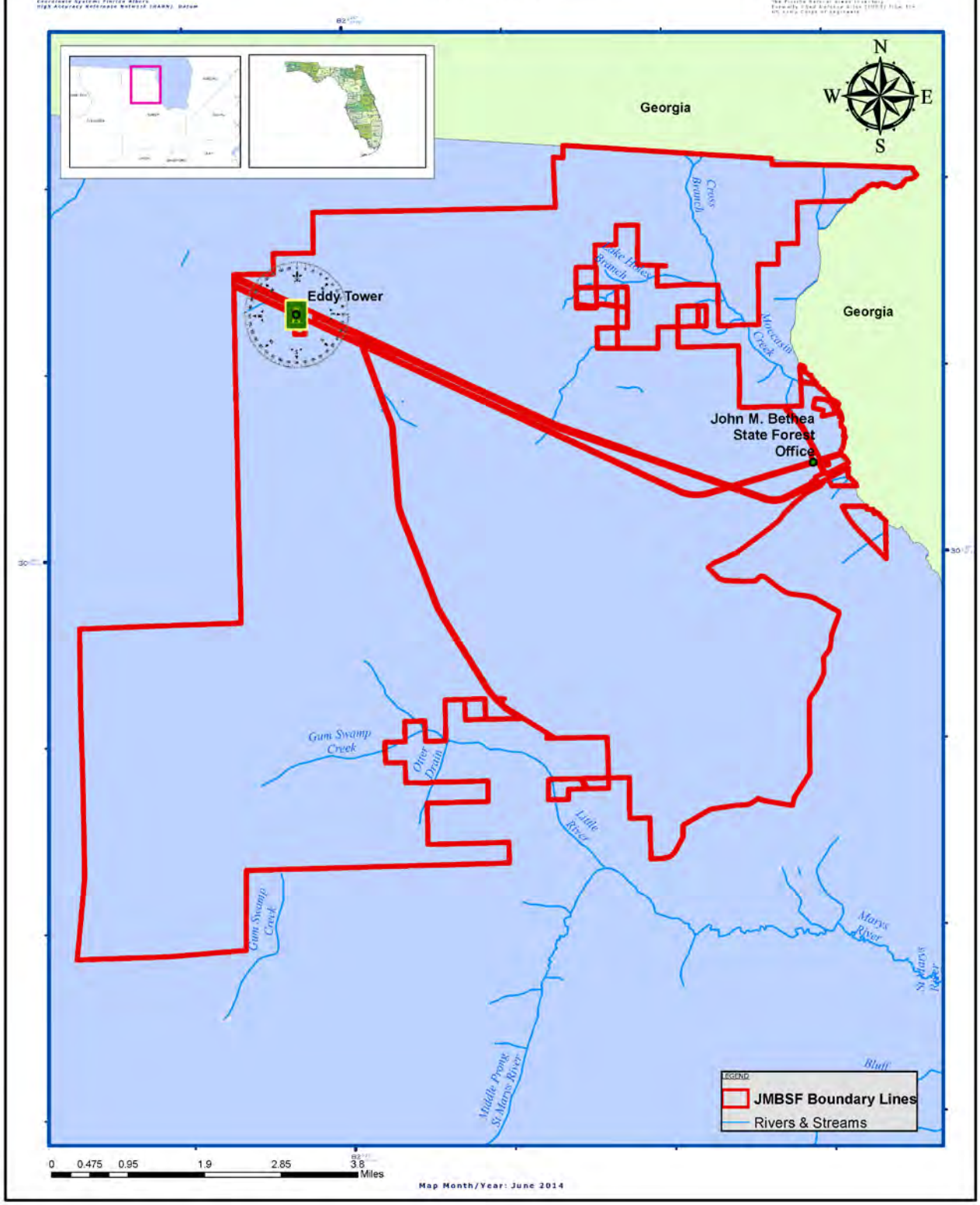

Florida Forest Service
John M. Bethea State Forest
Water Resources
Georgia
N
W
E
S
Eddy Tower
Georgia
John M. Bethea
State Forest
Office
Cross Branch
Lake Henry Branch
Moccasin Creek
Gum Swamp Creek
Otter Drain
Little River
Gum Swamp Creek
Marys River
St Marys River
Middle Prong St Marys River
Bluff
LEGEND
JMBSF Boundary Lines
Rivers & Streams
0 0.475 0.95 1.9 2.85 3.8
Miles
Map Month/Year: June 2014

Exhibit M

Florida Natural Areas Inventory Response

Florida Natural Areas Inventory

June 5, 2014

Jennifer Reed
FL Dept of Agriculture & Consumer Services
Florida Forest Service
Conner Bldg., 3125 Conner Boulevard
Tallahassee, FL 32399-1650

Dear Ms. Reed,

Thank you for requesting information from the Florida Natural Areas Inventory (FNAI). We have compiled the following information for your project area.

Project: John M. Bethea State Forest
Date Received: 5/29/2014
Location: Baker County

FNAI Element Occurrences

A search of our maps and database indicates that we currently have several element occurrences mapped in the vicinity of the study area (see enclosed map and element occurrence table). Please be advised that a lack of element occurrences in the FNAI database is not a sufficient indication of the absence of rare or endangered species on a site.

Federally Listed Species

Our data include records of federally listed species, particularly *Picoides borealis* (Red-cockaded Woodpecker), on or very near this site (see enclosed map and tables for details). This statement should not be interpreted as a legal determination of presence or absence of federally listed species on a property.

The FNAI Element Occurrences data layer includes rigorously documented occurrences of rare species and natural communities. For animals and plants, element occurrences generally refer to more than a casual sighting; they usually indicate a viable population of the species. Note that some element occurrence labels indicate the general vicinity of the occurrence. This may be due to lack of precision of the source data, or an element that covers an extended area (such as a wide-ranging species or large natural community). Note that some element occurrences represent historically documented observations which may no longer be extant. Extirpated element occurrences will be marked with an 'X' following the occurrence label on the enclosed map.

Several of the species and natural communities tracked by the Inventory are considered ***data sensitive****. Occurrence records for these elements contain information that we consider sensitive due to collection pressures, extreme rarity, or at the request of the source of the information. The Element Occurrence Record has been labeled "Data Sensitive." We request that you not publish or release specific locational data about these species or communities without consent from the Inventory. If you have any questions concerning this please do not hesitate to call.*

Biodiversity Matrix

In addition to element occurrences, other rare species and natural communities may be identified on or near the site based on habitat models and species range models. The Biodiversity Matrix Report compiles several data sources – including Element Occurrences, occurrence-based species habitat models, predictive range models, and natural community maps – to provide a broader list of documented, likely, and potential species on or near the site. These species could be taken into consideration in field surveys, land management, and land use decisions. Note that the Biodiversity Matrix Report lists species and communities by square-mile Matrix Unit, rather than by the site of interest, so the Documented list may vary from the Element Occurrence Table supplied with this report. Also, note that this list aggregates results from all matrix units that overlap the site, so the location of the elements are somewhat obscured.

FNAI occurrence-based habitat models indicate areas, which based on land cover type, offer suitable habitat for one or more rare species that is known to occur in the vicinity. Habitat models have been developed for approximately 300 of the rarest species tracked by the Inventory, including all federally listed species.

FNAI species predictive range models indicate areas that are within the known or predicted range of a species, based on climate variables, soils, vegetation, and/or slope. Species range models have been developed for approximately 340 species, including all federally listed species.

The FNAI Biodiversity Matrix Geodatabase compiles Documented, Likely, and Potential species and natural communities for each square mile Matrix Unit statewide.

Land Acquisition Projects

This site appears to be located within the Pinhook Swamp Florida Forever BOT Project, which is part of the State of Florida's Conservation and Recreation Lands land acquisition program. A description of this project is enclosed. For more information on this Florida Forever Project, contact the Florida Department of Environmental Protection, Division of State Lands.

Florida Forever Board of Trustees (BOT) projects are proposed and acquired through the Florida Department of Environmental Protection, Division of State Lands. The state has no specific land management authority over these lands until they are purchased.

The Inventory always recommends that professionals familiar with Florida's flora and fauna conduct a site-specific survey to determine the current presence or absence of rare, threatened, or endangered species.

Please visit www.fnai.org/trackinglist.cfm for county or statewide element occurrence distributions and links to more element information.

The database maintained by the Florida Natural Areas Inventory is the single most comprehensive source of information available on the locations of rare species and other significant ecological resources. However, the data are not always based on comprehensive or site-specific field surveys. Therefore this information should not be regarded as a final statement on the biological resources of the site being considered, nor should it be substituted for on-site surveys. Inventory data are designed for the purposes of conservation planning and scientific research, and are not intended for use as the primary criteria for regulatory decisions.

This report is made available at no charge due to funding from the Florida Department of Environmental Protection, Division of State Lands.

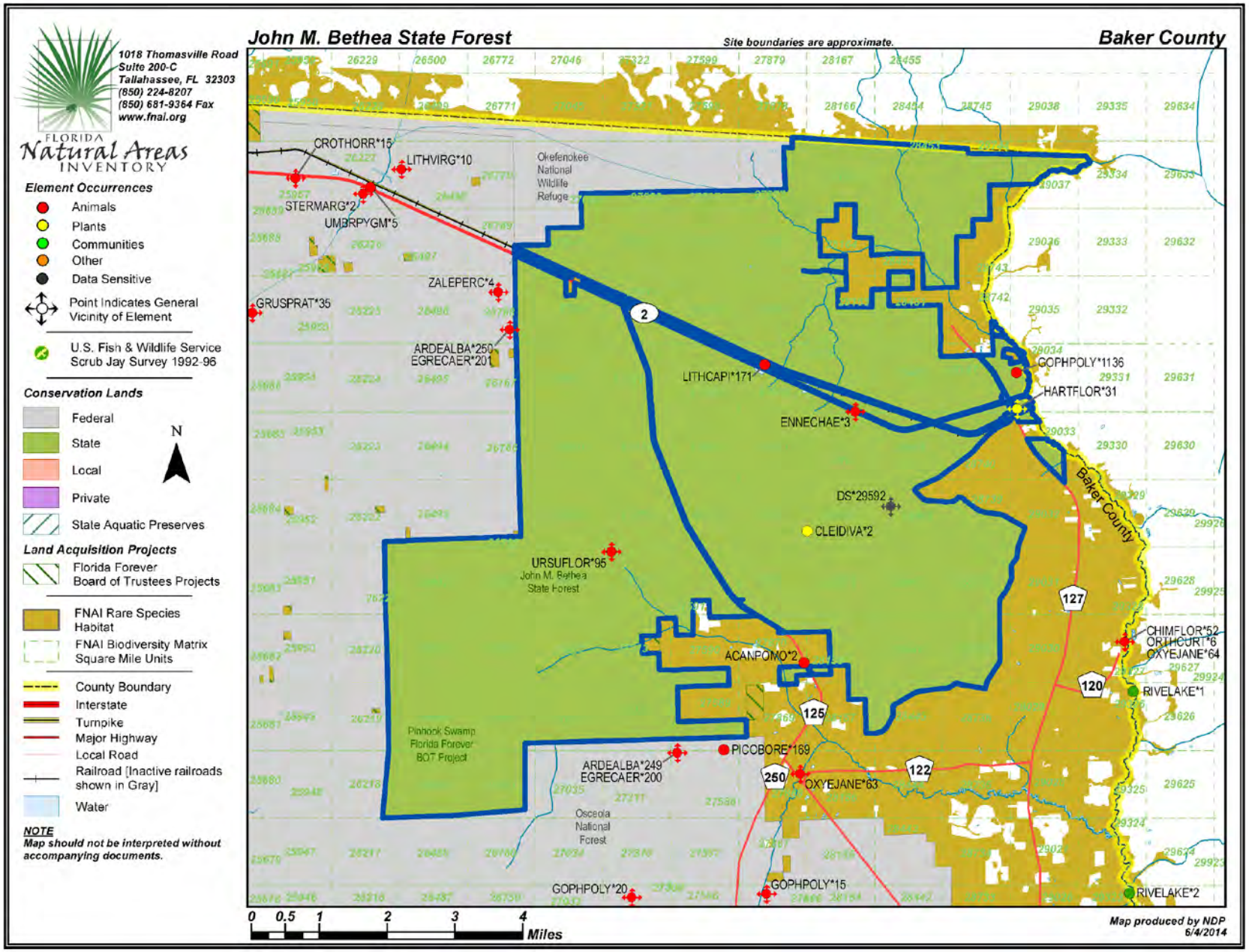
Thank you for your use of FNAI services. If I can be of further assistance, please contact me at (850) 224-8207 or at npasco@fnai.org.

Sincerely,

Nathan Pasco

Nathan Pasco
GIS / Data Services

Encl


John M. Bethea State Forest
Site boundaries are approximate.
Baker County
1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
(850) 224-8207
(850) 681-9364 Fax
www.fnai.org
FLORIDA Natural Areas INVENTORY
Element Occurrences
Animals
Plants
Communities
Other
Data Sensitive
Point Indicates General Vicinity of Element
U.S. Fish & Wildlife Service Scrub Jay Survey 1992-96
Conservation Lands
Federal
State
Local
Private
State Aquatic Preserves
Land Acquisition Projects
Florida Forever Board of Trustees Projects
FNAI Rare Species Habitat
FNAI Biodiversity Matrix Square Mile Units
County Boundary
Interstate
Turnpike
Major Highway
Local Road
Railroad [Inactive railroads shown in Gray]
Water
NOTE
Map should not be interpreted without accompanying documents.
N
CROTHORR*15
LITHVIRG*10
STERMARG*2
UMBRPYGM*5
Okefenokee National Wildlife Refuge
ZALEPERC*4
GRUSPRAT*35
ARDEALBA*250
EGRECAER*201
LITHCAPI*171
ENNECHAE*3
GOPHPOLY*1136
HARTFLOR*31
DS*29592
CLEIDIVA*2
URSUFLOR*95
John M. Bethea State Forest
ACANPOMO*2
CHIMFLOR*52
ORTHCURT*6
OXYEJANE*64
RIVELAKE*1
Pinhook Swamp Florida Forever BOT Project
PICOBORE*169
ARDEALBA*249
EGRECAER*200
OXYEJANE*63
Osceola National Forest
GOPHPOLY*20
GOPHPOLY*15
RIVELAKE*2
Baker County
2
127
120
125
122
250
0 0.5 1 2 3 4 Miles
Map produced by NDP
5/4/2014

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
(850) 224-8207
(850) 681-9364 Fax
www.fnai.org

FNAI ELEMENT OCCURRENCE REPORT on or near

John M. Bethea State Forest

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
ACANPOMO*2	*Acantharchus pomotis*	Mud Sunfish	G4G5	S3	N	N	1947-02-02	No general description given	1947-02-02: one specimen collected (UF-007503) (U90FSM01FLUS).
ARDEALBA*249	*Ardea alba*	Great Egret	G5	S4	N	N	1987-05-14	Lake, oldfield community, clearcuts north and east of site.	1987/05/14: D.E. Runde, GFC; count of GREG nests from frame 4. "Total" = B (also includes LBHE?).
ARDEALBA*250	*Ardea alba*	Great Egret	G5	S4	N	N	1987-05-14	1987-05-14: Cypress swamp, shrubs, with pine plantations to south and east (U97GFC02FLUS)	1987-05-14: D.E. Runde, GFC; Count of GREG nests and individual CAEG from frame 13. "Total" = C (also includes GBHE, LBHE?) (U97GFC02FLUS).
CLEIDIVA*2	*Cleistes divaricata*	Large Rosebud Orchid	G4	S1	N	LT	2004-06-16	2004-06-16: Pine plantation (historically mesic flatwoods) that recently had every third row of trees removed, causing great disturbance. Closed canopy of Pinus elliottii with dense but disturbed shrub layer including Serenoa repens, Ilex glabra, Vaccini	2004-06-16: 12 plants observed, all in leaf, scattered in 7 locations (see general comments for lat/long locations) in disturbed pine plantation (F04FNA09FLUS).
DS*29592	*Data Sensitive Element*	Data Sensitive	G5	S3?	N	N	2005-04-20	Data Sensitive	Data Sensitive
EGRECAER*200	*Egretta caerulea*	Little Blue Heron	G5	S4	N	SSC	1987-05-14	Lake, clearcuts north and east of site.	1987/05/14: D.E. Runde, GFC, observation. "Total" = B (also includes LBHE?). Vulture roost here in 1987.
EGRECAER*201	*Egretta caerulea*	Little Blue Heron	G5	S4	N	SSC	1988-05-19	cypress swamp, shrubs, with pine plantations to south and east.	1987/05/14: D.E. Runde, GFC, observation. Count of GREG nests and individual CAEG from frame 13. "Total" = C (also includes GBHE, LBHE?). 1988/05/19: P. D. Southall, GFC, observation. "Total" = D (includes CAEG, LBHE, ANHI, SMWHITE). Count made from aeri
ENNECHAE*3	*Enneacanthus chaetodon*	Blackbanded Sunfish	G3G4	S3	N	N	1968-03	borrow pit	1968-03: one specimen collected (UF-065438) (A77BUR02FLUS), but not collected by either Burgess or Gilbert.
GOPHPOLY*1136	*Gopherus polyphemus*	Gopher Tortoise	G3	S3	C	ST	2004-06-08	2004-06-08:Area has mostly been converted to pine plantation with artificial raised beds. Area also has alot of piles of dirt from earthmoving projects for a nearby railroad. Historically, the more xeric blufftops and adjacent flatwoods (xeric/mesic to m	2004-06-08:One adult Gopherus polyphemus found crossing road, in good health (PNDJEN04FLUS)

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
(850) 224-8207
(850) 681-9364 Fax
www.fnai.org

FNAI ELEMENT OCCURRENCE REPORT on or near

John M. Bethea State Forest

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
HARTFLOR*31	*Hartwrightia floridana*	Hartwrightia	G2	S2	N	LT	1929-10-13	Low pine land.	Flowering. Collected by Hugh O'Neill (#6057) 13 Oct., 1929; FLAS #24326.
LITHCAPI*171	*Lithobates capito*	Carolina Gopher Frog	G3	S3	N	SSC	2004-06-16	2004-06-16: Individuals calling from lowland near baygall/basin swamp along railroad track. Landscape consists mostly of large basin swamps with the uplands mostly converted to pine plantation. The uplands were mostly historically mesic flatwoods (F04FNA	2004-06-16: about 8 individuals heard after rain (F04FNA09FLUS).
OXYEJANE*63	*Oxyethira janella*	Little-entrance Oxyethiran Microcaddisfly	G5	S4S5	N	N	2007-06-01	2007-06-01: No description given other than that the locality was near a river (U09RAS01FLUS).	2007-06-01: Three specimens were collected using a 15 watt black light over an alcohol-filled white pan (U09RAS01FLUS, U08RAS01FLUS).
PICOBORE*169	*Picoides borealis*	Red-cockaded Woodpecker	G3	S2	LE	FE	1983-PRE	1983-pre: pine (U83UFS01FLUS).	1983-pre: one colony, ca 3 miles from next nearest known colony (U83UFS01FLUS).
URSUFLOR*95	*Ursus americanus floridanus*	Florida Black Bear	G5T2	S2	N	ST*	2012	Large area of pine plantation, mesic and wet flatwoods, and dome and basin swamps (U05SIM01FLUS).	2012: This occurrence with 200-313 (U05SIM01FLUS) is part of a larger population of 700-800 bears that includes Okefenokee Swamp National Wildlife Refuge in Georgia; This EO represents the Primary and Secondary Bear Ranges for the Osceola population. Pr
ZALEPERC*4	*Zale perculta*	Okefenokee Zale Moth	G2	S1	N	N	2001-02-24	2001-02-24: Cypress swamp with pines (A06KON01FLUS).	2001-02-24: Specimens were collected at a mercury vapor lamp sheet, a black light sheet and black light traps. This species was very common (A06KON01FLUS, PNDKON01FLUS).

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
(850) 224-8207
(850) 681-9364 Fax

FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

Biodiversity Matrix Report

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Documented					
Cleistes divaricata	Large Rosebud Orchid	G4	S1	N	LT
Clemmys guttata	Spotted Turtle	G5	S3?	N	N
Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST
Lithobates capito	Carolina Gopher Frog		S3	N	SSC
Zale perculta	Okefenokee Zale Moth	G2	S1	N	N
Documented-Historic					
Acantharchus pomotis	Mud Sunfish	G4G5	S3	N	N
Likely					
Mesic flatwoods		G4	S4	N	N
Mycteria americana	Wood Stork		S2	LE	FE
Picoides borealis	Red-cockaded Woodpecker	G3	S2	LE	FE
Ursus americanus floridanus	Florida Black Bear	G5T2	S2	N	ST*
Potential					
Ardea alba	Great Egret	G5	S4	N	N
Asclepias viridula	Southern Milkweed	G2	S2	N	LT
Asplenium heteroresiliens	Wagner's Spleenwort	GNA	S1	N	N
Asplenium plenum	Ruffled Spleenwort	G1Q	S1	N	N
Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	SSC
Balduina atropurpurea	Purple Honeycomb-head	G2	S1	N	LE
Brickellia cordifolia	Flyr's Brickell-bush	G2G3	S2	N	LE
Calopogon multiflorus	Many-flowered Grass-pink		S2S3	N	LE
Calydorea coelestina	Bartram's Ixia		S2S3	N	LE
Carex chapmanii	Chapman's Sedge	G3	S3	N	LT
Coreopsis integrifolia	Ciliate-leaf Tickseed	G1G2	S1	N	LE
Corynorhinus rafinesquii	Rafinesque's Big-eared Bat	G3G4	S2	N	N
Ctenium floridanum	Florida Toothache Grass	G2	S2	N	LE
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	FT
Egretta caerulea	Little Blue Heron	G5	S4	N	SSC
Enneacanthus chaetodon	Blackbanded Sunfish	G3G4	S3	N	N
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	ST
Gymnopogon chapmanianus	Chapman's Skeletongrass	G3	S3	N	N
Hartwrightia floridana	Hartwrightia	G2	S2	N	LT
Litsea aestivalis	Pondspice	G3?	S2	N	LE
Matelea floridana	Florida Spiny-pod	G2	S2	N	LE
Myotis austroriparius	Southeastern Bat	G3G4	S3	N	N
Notophthalmus perstriatus	Striped Newt	G2G3	S2S3	C	N
Peucaea aestivalis	Bachman's Sparrow	G3	S3	N	N
Pituophis melanoleucus mugitus	Florida Pine Snake	G4T3	S3	N	SSC
Pteroglossaspis ecristata	Giant Orchid	G2G3	S2	N	LT
Salix floridana	Florida Willow	G2	S2	N	LE
Sideroxylon alachuense	Silver Buckthorn	G1	S1	N	LE

Definitions:
Documented - Rare species and natural communities documented on or near this site.
Documented-Historic - Rare species and natural communities documented, but not observed/reported within the last twenty years.
Likely - Rare species and natural communities likely to occur on this site based on suitable habitat and/or known occurrences in the vicinity.
Potential - This site lies within the known or predicted range of the species listed.

Elements and Element Occurrences

An **element** is any exemplary or rare component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature.

An **element occurrence (EO)** is an area of land and/or water in which a species or natural community is, or was, present. An EO should have practical conservation value for the Element as evidenced by potential continued (or historical) presence and/or regular recurrence at a given location.

Element Ranking and Legal Status

Using a ranking system developed by NatureServe and the Natural Heritage Program Network, the Florida Natural Areas Inventory assigns two ranks for each element. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Element ranks are based on many factors, the most important ones being estimated number of Element Occurrences (EOs), estimated abundance (number of individuals for species; area for natural communities), geographic range, estimated number of adequately protected EOs, relative threat of destruction, and ecological fragility.

FNAI GLOBAL ELEMENT RANK

G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
G2 = Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
G3 = Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
G4 = Apparently secure globally (may be rare in parts of range).
G5 = Demonstrably secure globally.
GH = Of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker).
GX = Believed to be extinct throughout range.
GXC = Extirpated from the wild but still known from captivity or cultivation.
G#? = Tentative rank (e.g., G2?).
G#G# = Range of rank; insufficient data to assign specific global rank (e.g., G2G3).
G#T# = Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1).
G#Q = Rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q).
G#T#Q = Same as above, but validity as subspecies or variety is questioned.
GU = Unrankable; due to a lack of information no rank or range can be assigned (e.g., GUT2).
GNA = Ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).
GNR = Element not yet ranked (temporary).
GNRTNR = Neither the element nor the taxonomic subgroup has yet been ranked.

FNAI STATE ELEMENT RANK

S1 = Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
S2 = Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
S3 = Either very rare and local in Florida (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
S4 = Apparently secure in Florida (may be rare in parts of range).
S5 = Demonstrably secure in Florida.
SH = Of historical occurrence in Florida, possibly extirpated, but may be rediscovered (e.g., ivory-billed woodpecker).
SX = Believed to be extirpated throughout Florida.
SU = Unrankable; due to a lack of information no rank or range can be assigned.
SNA = State ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).
SNR = Element not yet ranked (temporary).

FEDERAL LEGAL STATUS

Legal status information provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant federal agency.

Definitions derived from U.S. Endangered Species Act of 1973, Sec. 3. Note that the federal status given by FNAI refers only to Florida populations and that federal status may differ elsewhere.

C = Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
LE = Endangered: species in danger of extinction throughout all or a significant portion of its range.
LE, LT = Species currently listed endangered in a portion of its range but only listed as threatened in other areas
LE, PDL = Species currently listed endangered but has been proposed for delisting.
LE, PT = Species currently listed endangered but has been proposed for listing as threatened.
LE, XN = Species currently listed endangered but tracked population is a non-essential experimental population.
LT = Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
SAT = Treated as threatened due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.
SC = Not currently listed, but considered a "species of concern" to USFWS.

STATE LEGAL STATUS

Provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant state agency.

Animals: Definitions derived from "Florida's Endangered Species and Species of Special Concern, Official Lists" published by Florida Fish and Wildlife Conservation Commission, 1 August 1997, and subsequent updates.

FE = Listed as Endangered Species at the Federal level by the U. S. Fish and Wildlife Service
FT = Listed as Threatened Species at the Federal level by the U. S. Fish and Wildlife Service
F(XN) = Federal listed as an experimental population in Florida
FT(S/A) = Federal Threatened due to similarity of appearance
ST = State population listed as Threatened by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future. (ST* for Ursus americanus floridanus (Florida black bear) indicates that this status does not apply in Baker and Columbia counties and in the Apalachicola National Forest. ST* for Neovison vison pop.1 (Southern mink, South Florida population) indicates that this status applies to the Everglades population only.)
SSC = Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species. (SSC* indicates that a species has SSC status only in selected portions of its range in Florida. SSC* for Pandion haliaetus (Osprey) indicates that this status applies in Monroe county only.)
N = Not currently listed, nor currently being considered for listing.

Plants: Definitions derived from Sections 581.011 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001. FNAI does not track all state-regulated plant species; for a complete list of state-regulated plant species, call Florida Division of Plant Industry, 352-372-3505 or see: http://www.doacs.state.fl.us/pi/.

LE = Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.
LT = Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered.
N = Not currently listed, nor currently being considered for listing.

Element Occurrence Ranking

FNAI ranks of quality of the element occurrence in terms of its viability (EORANK). Viability is estimated using a combination of factors that contribute to continued survival of the element at the location. Among these are the size of the EO, general condition of the EO at the site, and the conditions of the landscape surrounding the EO (e.g. an immediate threat to an EO by local development pressure could lower an EO rank).

A = Excellent estimated viability
A? = Possibly excellent estimated viability
AB = Excellent or good estimated viability
AC = Excellent, good, or fair estimated viability
B = Good estimated viability
B? = Possibly good estimated viability
BC = Good or fair estimated viability
BD = Good, fair, or poor estimated viability
C = Fair estimated viability
C? = Possibly fair estimated viability
CD = Fair or poor estimated viability
D = Poor estimated viability
D? = Possibly poor estimated viability
E = Verified extant (viability not assessed)
F = Failed to find
H = Historical
NR = Not ranked, a placeholder when an EO is not (yet) ranked.
U = Unrankable
X = Extirpated

*For additional detail on the above ranks see: http://www.natureserve.org/explorer/eorankguide.htm

FNAI also uses the following EO ranks:

H? = Possibly historical
F? = Possibly failed to find
X? = Possibly extirpated

The following offers further explanation of the H and X ranks as they are used by FNAI:

The rank of H is used when there is a lack of recent field information verifying the continued existence of an EO, such as (a) when an EO is based only on historical collections data; or (b) when an EO was ranked A, B, C, D, or E at one time and is later, without field survey work, considered to be possibly extirpated due to general habitat loss or degradation of the environment in the area. This definition of the H rank is dependent on an interpretation of what constitutes "recent" field information. Generally, if there is no known survey of an EO within the last 20 to 40 years, it should be assigned an H rank. While these time frames represent suggested maximum limits, the actual time period for historical EOs may vary according to the biology of the element and the specific landscape context of each occurrence (including anthropogenic alteration of the environment). Thus, an H rank may be assigned to an EO before the maximum time frames have lapsed. Occurrences that have not been surveyed for periods exceeding these time frames should not be ranked A, B, C, or D. The higher maximum limit for plants and communities (i.e., ranging from 20 to 40 years) is based upon the assumption that occurrences of these elements generally have the potential to persist at a given location for longer periods of time. This greater potential is a reflection of plant biology and community dynamics. However, landscape factors must also be considered. Thus, areas with more anthropogenic impacts on the environment (e.g., development) will be at the lower end of the range, and less-impacted areas will be at the higher end.

The rank of X is assigned to EOs for which there is documented destruction of habitat or environment, or persuasive evidence of eradication based on adequate survey (i.e., thorough or repeated survey efforts by one or more experienced observers at times and under conditions appropriate for the Element at that location).

Exhibit N

Florida Fish and Wildlife Conservation Commission Response

Florida Fish and Wildlife Conservation Commission

Commissioners
Kathy Barco
Chairman
Jacksonville

Kenneth W. Wright
Vice Chairman
Winter Park

Ronald M. Bergeron
Fort Lauderdale

Richard A. Corbett
Tampa

Aliese P. "Liesa" Priddy
Immokalee

Charles W. Roberts III
Tallahassee

Brian S. Yablonski
Tallahassee

Executive Staff
Nick Wiley
Executive Director

Greg Holder
Assistant Executive Director

Karen Ventimiglia
Chief of Staff

Fish and Wildlife Research Institute
Gil McRae
Director

(727) 896-8626
(727) 823-0166 FAX

FWRI
Information Sciences and Management
(850) 488-0588
(850) 410-5289 (FAX)

Managing fish and wildlife resources for their long-term well-being and the benefit of people.

Fish and Wildlife Research Institute
620 South Meridian Street
Tallahassee, Florida
32399-1600
Voice: (850) 410-0656

Hearing/speech-impaired:
(800) 955-8771 (T)
(800) 955-8770 (V)

MyFWC.com/Research

June 6, 2014

Ms. Jennifer Reed
Land Planning Coordinator
Department of Agriculture and Consumers Services
Florida Forest Service
3125 Conner Boulevard
Tallahassee, FL 32399-1650

Dear Ms. Reed:

This letter is in response to your request for listed species occurrence records and critical habitats for your project (John M. Bethea State Forest) located in Baker County, Florida. Records from The Florida Fish and Wildlife Conservation Commission's database indicate that listed species occurrence data are located within project area. Enclosed are 8.5 x 11 maps showing listed species locations, SHCA for Cooper's hawk, black bear and swallow-tailed kite, Prioritized SHCA's, species richness, priority wetlands for listed species, and land cover for the project site and surrounding area.

This letter and attachments should not be considered as a review or an assessment of the impact upon threatened or endangered species of the project site. It provides FWC's most current data regarding the location of listed species and their associated habitats.

Our SHCA recommendations are intended to be used as a guide. Land development and ownership in Florida is ever-changing and priority areas identified as SHCA might already have been significantly altered due to development or acquired into public ownership. Onsite surveys, literature reviews, and coordination with FWC biologists remain essential steps in documenting the presence or absence of rare and imperiled species and habitats within the project area.

Our fish and wildlife location data represents only those occurrences recorded by FWC staff and other affiliated researchers. It is important to understand that our database does not necessarily contain records of all listed species that may occur in a given area. Also, data on certain species, such as gopher tortoises, are not entered into our database on a site-specific basis. **Therefore, one should not assume that an absence of occurrences in our database indicates that species of significance do not occur in the area.**

The Florida Natural Areas Inventory (FNAI) maintains a separate database of listed plant and wildlife species, please contact FNAI directly for specific information on the location of element occurrences within the project area.

Because FNAI is funded to provide information to public agencies only, you may be required to pay a fee for this information. County-wide listed species information can be located at their website (http://www.fnai.org).

Please credit the Florida Fish and Wildlife Conservation Commission in any publication or presentation of these data. If you have any questions or further requests, please contact me at (850) 488-0588 or gisrequests@myfwc.com.

Sincerely,

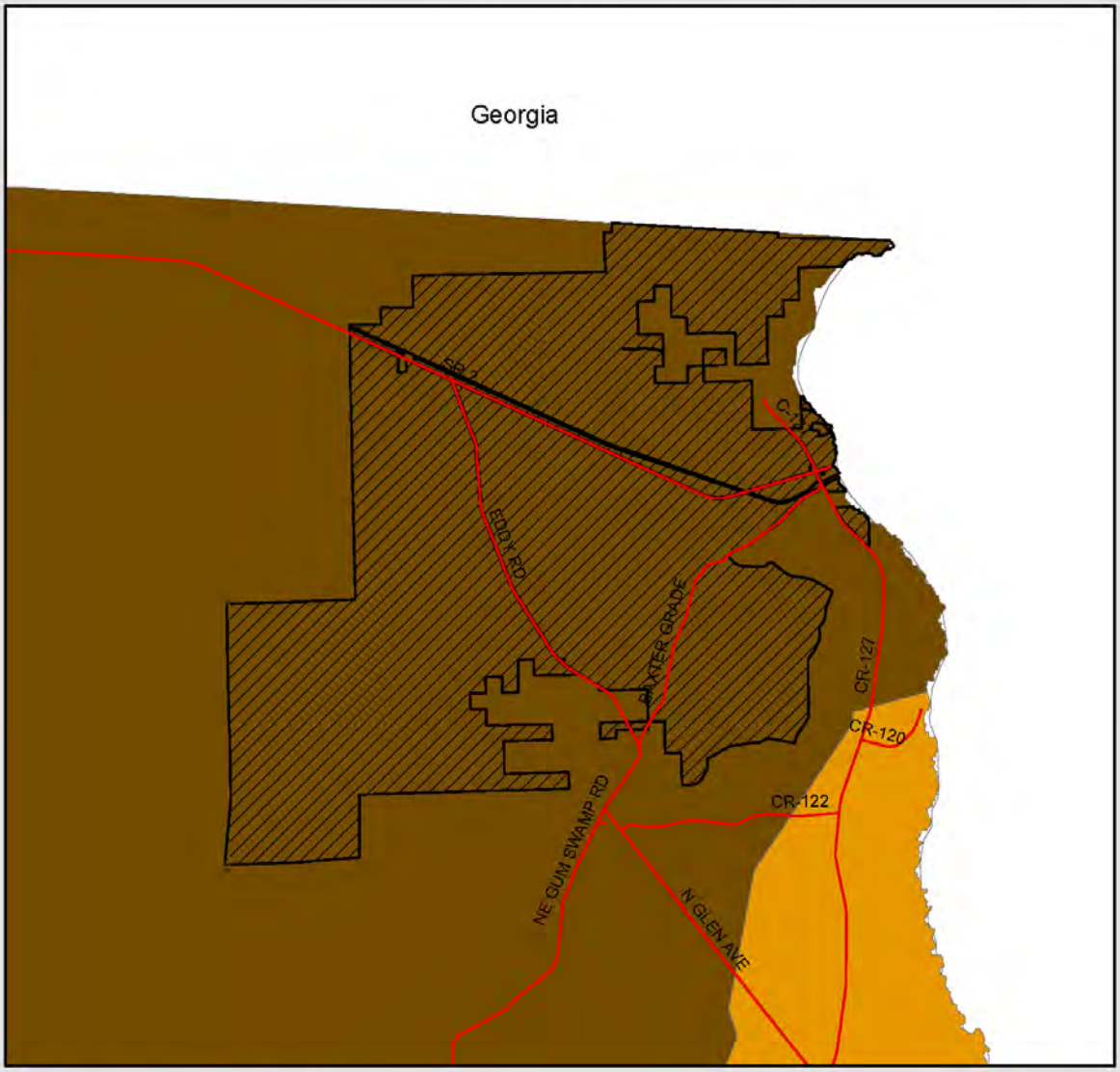
Jan Stearns

Jan Stearns
Staff Assistant

js
2014_6005
Enclosures

Black Bear Range

John M. Bethea State Forest



Bear Range 2008

RangeType

- Primary
- Secondary
- County Boundary
- Project Site

Miles

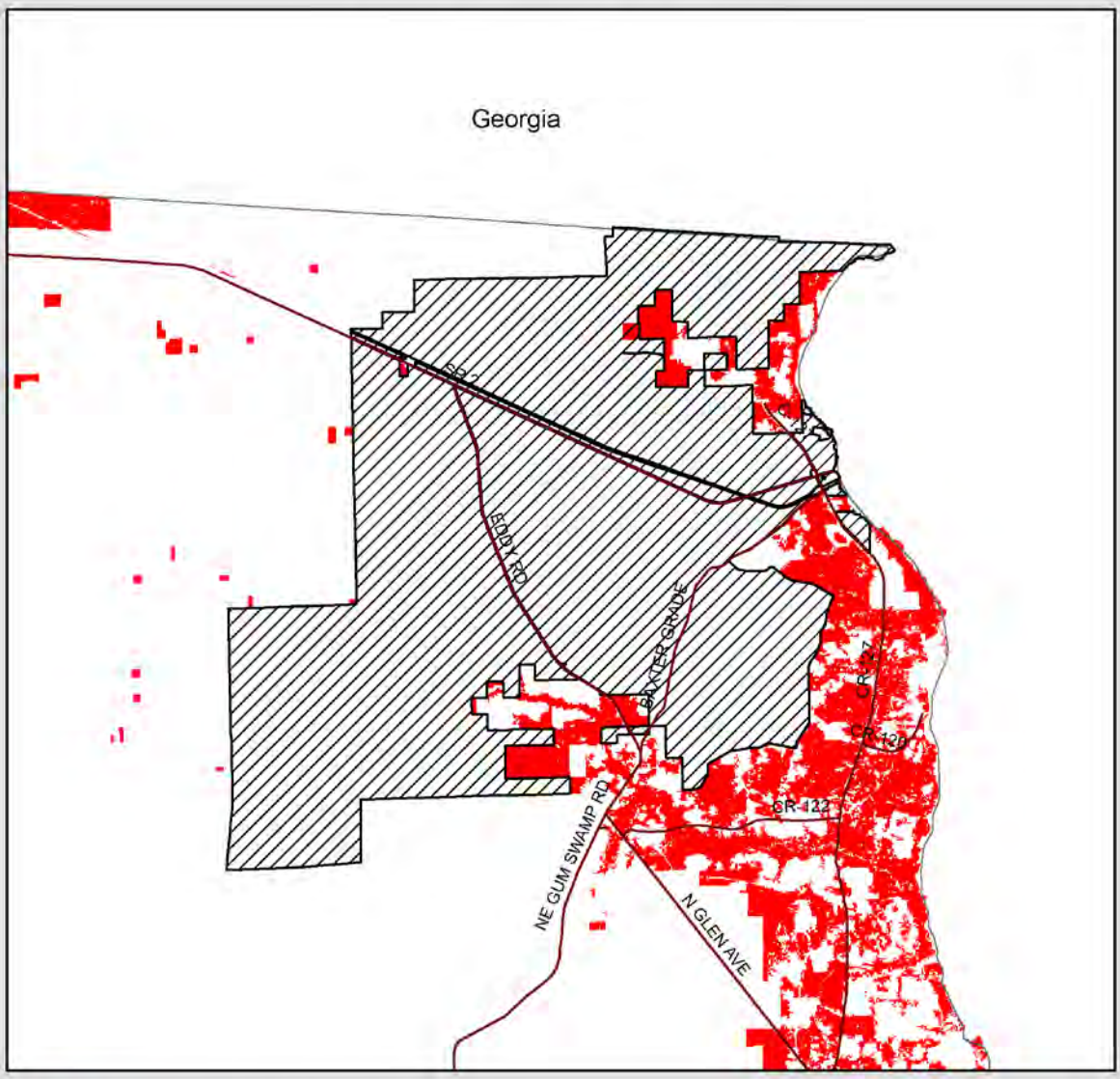
0 1 2 3

N

2014_6005

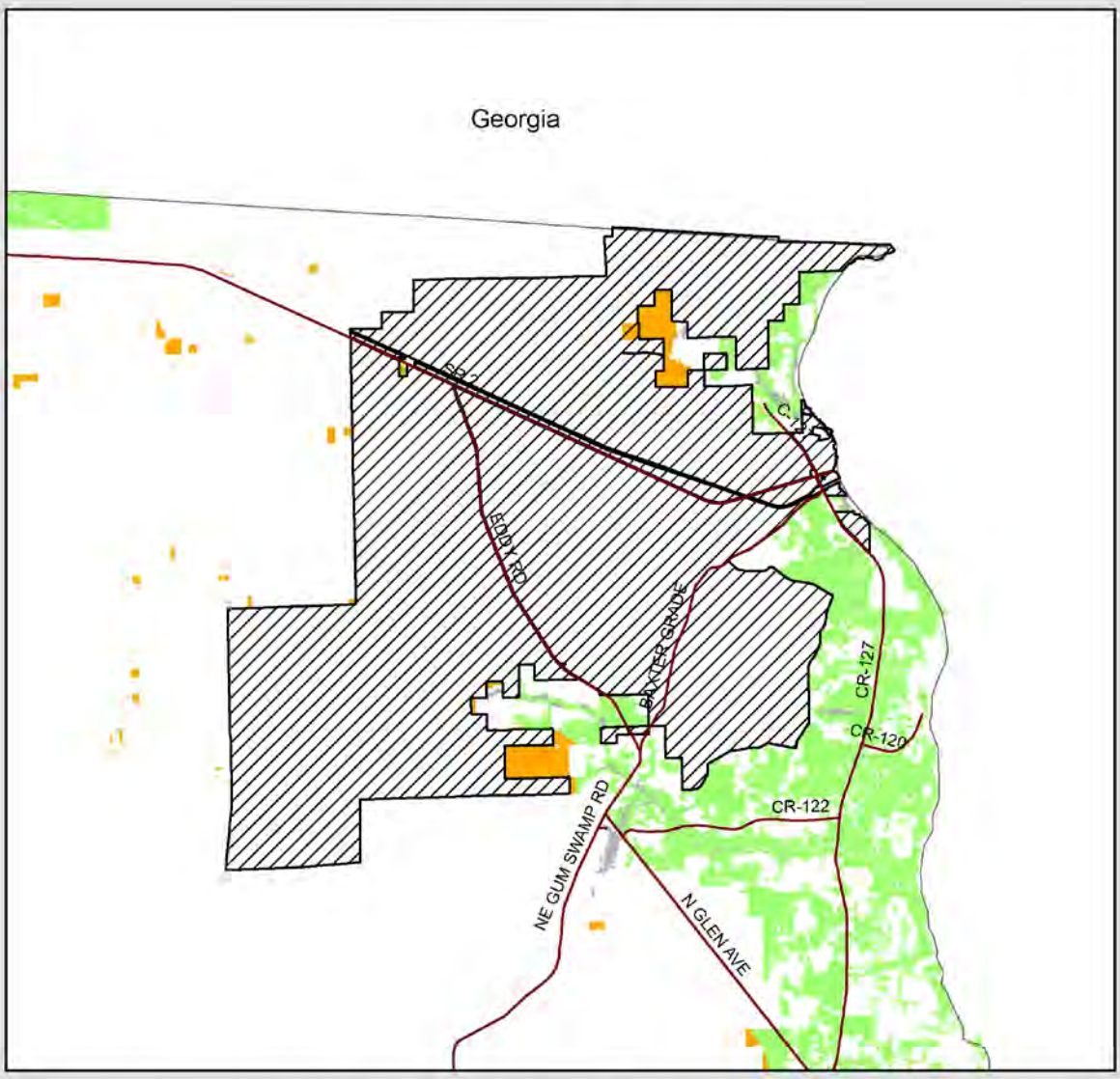
Strategic Habitat Conservation Areas

John M. Bethea State Forest



Prioritized SHCA's

John M. Bethea State Forest



Prioritized SHCA's
- Priority 1
- Priority 2
- Priority 3
- Priority 4
- Priority 5

County Boundary
Project Site

Miles
0 1 2 3

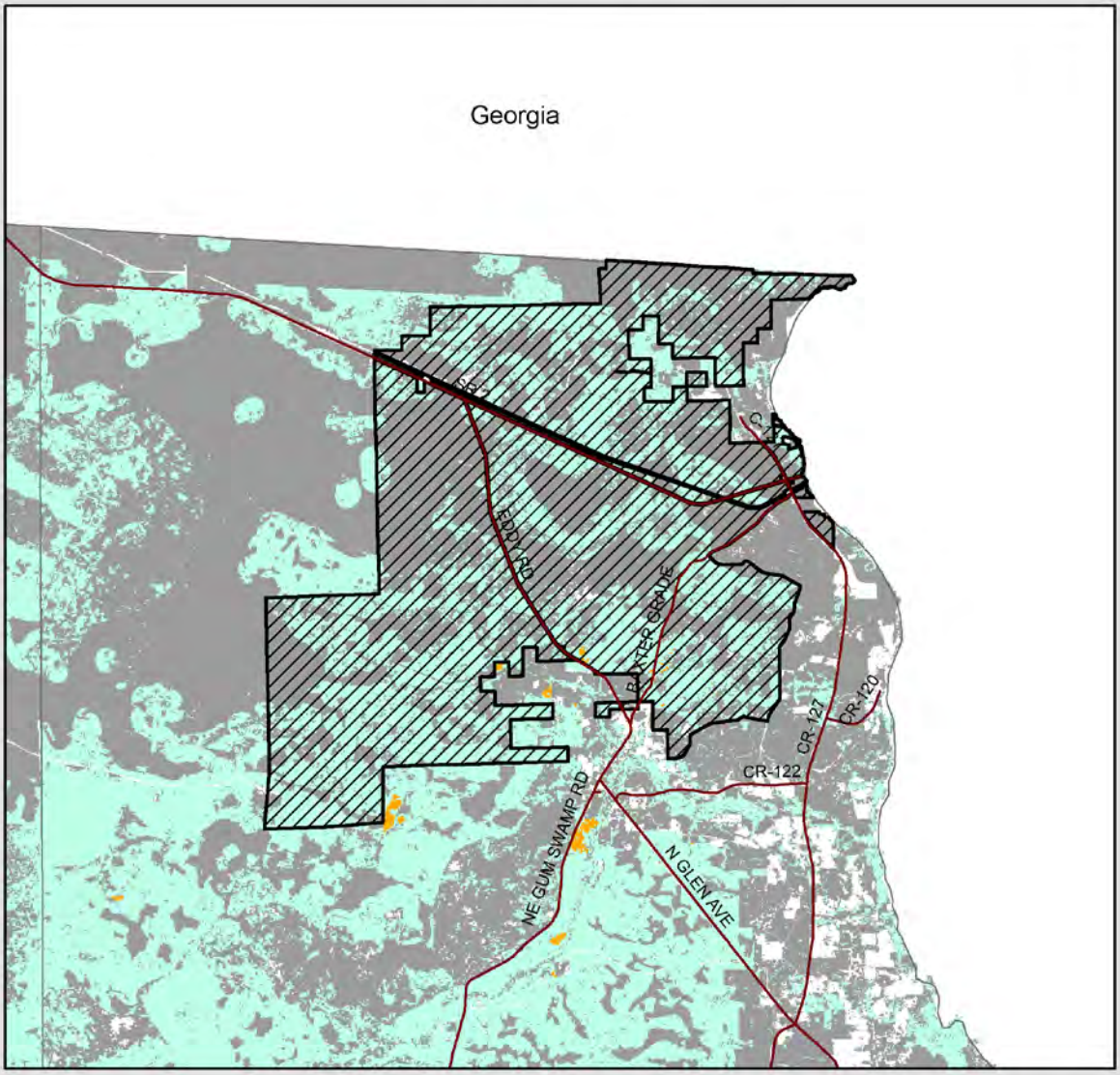
N

The prioritized SHCA map identifies 5 classes of SHCA based upon Heritage ranking criteria developed by The Nature Conservancy, the Natural Heritage Program Network, and the Florida Natural Areas Inventory. There are 2 possible ranks used to prioritize a species' SHCA: 1) the global rank based on a species worldwide status, and 2) the state rank based upon the species status in Florida. The state and global ranks are based upon many factors such as known occurrence locations, estimated abundance, range, amount of habitat currently protected, perceived levels of threats towards the species, and ecological fragility.

2014_6005

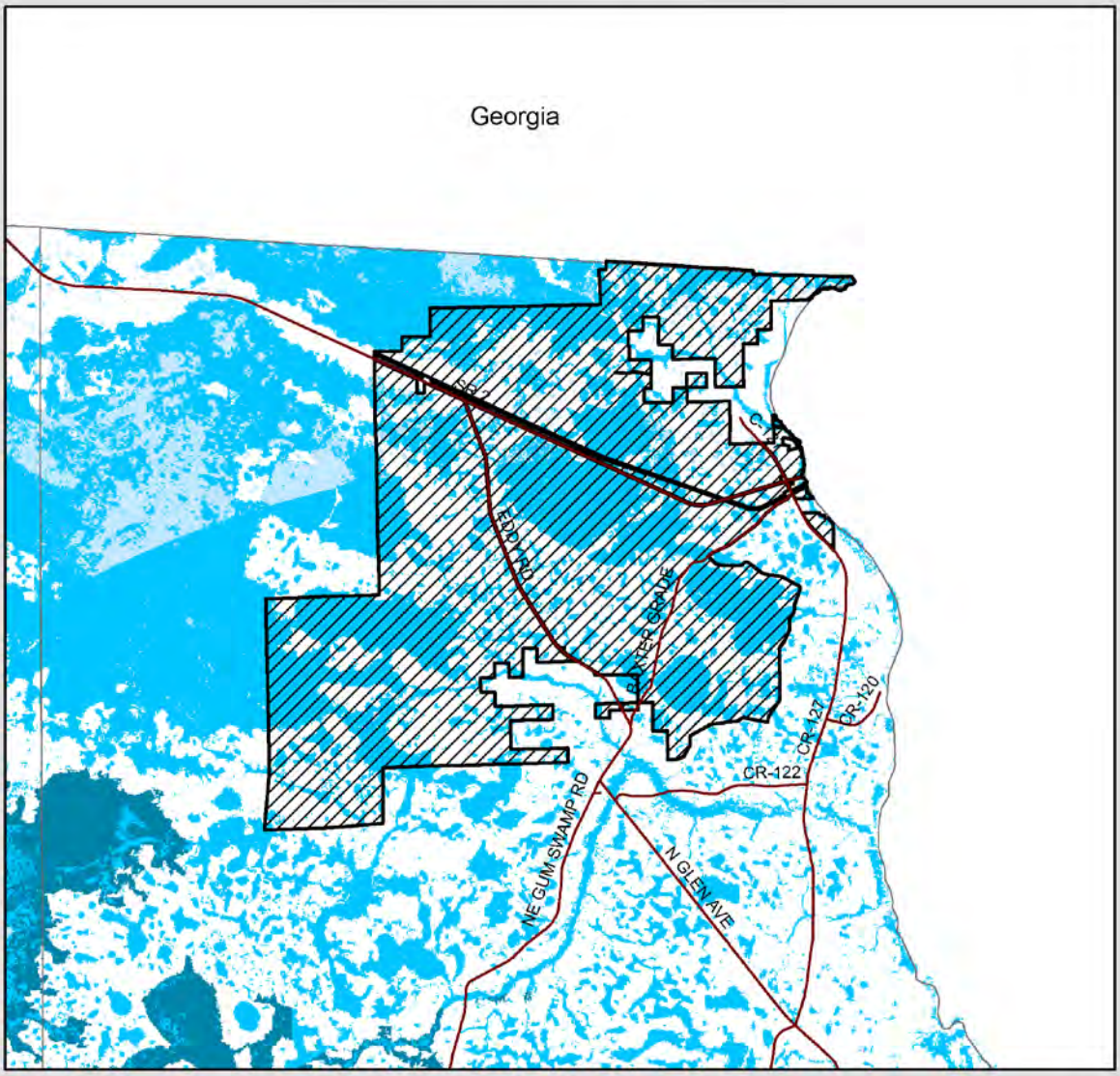
Species Richness

John M. Bethea State Forest



Priority Wetlands

John M. Bethea State Forest



Priority Wetlands
- 1-3 Species, Wetlands habitat
- 4-6 Species, Wetlands habitat
- 7-9 Species, Wetlands habitat
- 10-11 Species, Wetlands habitat

County Boundary
Project Site

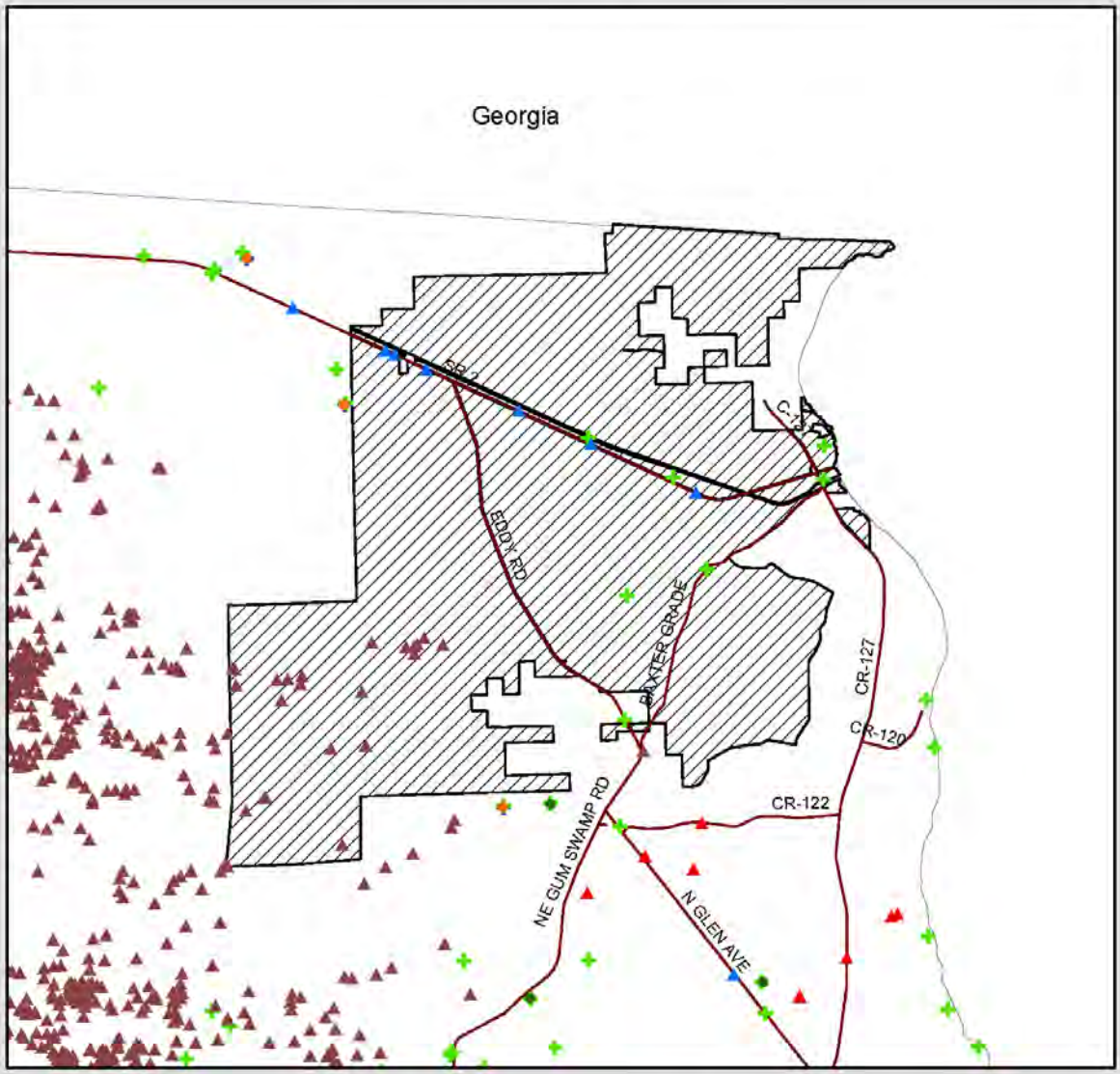
Miles
0 1 2 3 4

N

2014_6005

Species Occurrences

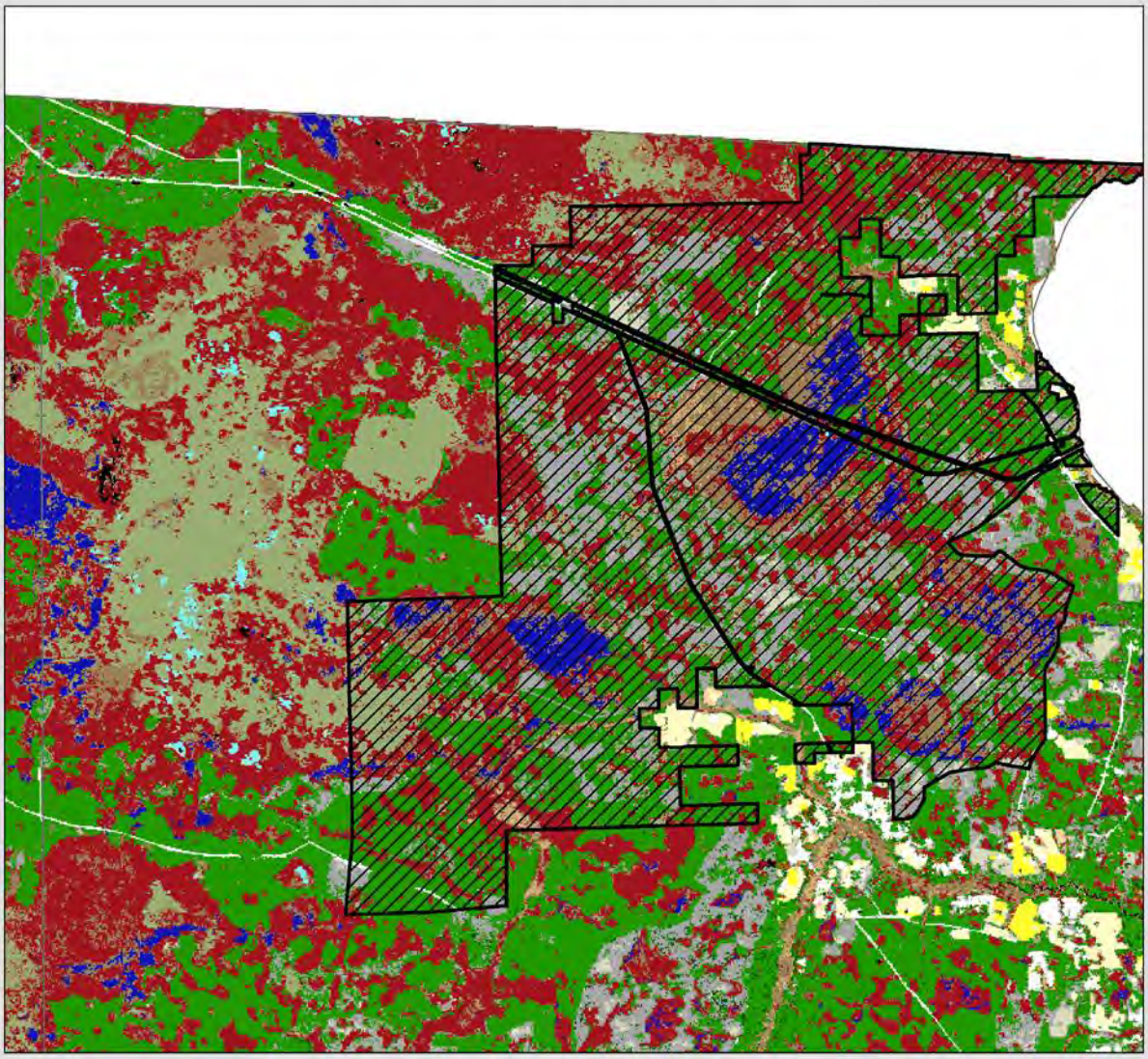
John M. Bethea State Forest



2014_6005

Florida Land Cover - 2003

John M. Bethea State Forest



Project Site

Major Roads

County Boundary

Coastal Strand
Sand/Beach
Xeric Oak Scrub
Sand Pine Scrub
Sandhill
Dry Prairie
Mixed Pine-Hardwood Forest
Hardwood Hammocks and Forest
Pinelands
Cabbage Palm-Live Oak Hammock
Tropical Hardwood Hammock
Freshwater Marsh and Wet Prairie
Sawgrass Marsh

Cattail Marsh
Shrub Swamp
Bay Swamp
Cypress Swamp
Cypress/Pine/Cabbage Palm
Mixed Wetland Forest
Hardwood Swamp
Hydric Hammock
Bottomland Hardwood Forest
Salt Marsh
Mangrove Swamp
Scrub Mangrove

Tidal Flat
Open Water
Shrub and Brushland
Grassland
Bare Soil/Clearcut
Improved Pasture
Unimproved Pasture
Other Agriculture
Citrus
Exotic Plants
High and Low Impact Urban
Extractive

Miles
0 0.5 1 2

N

2014_6005

Exhibit O

Fire History

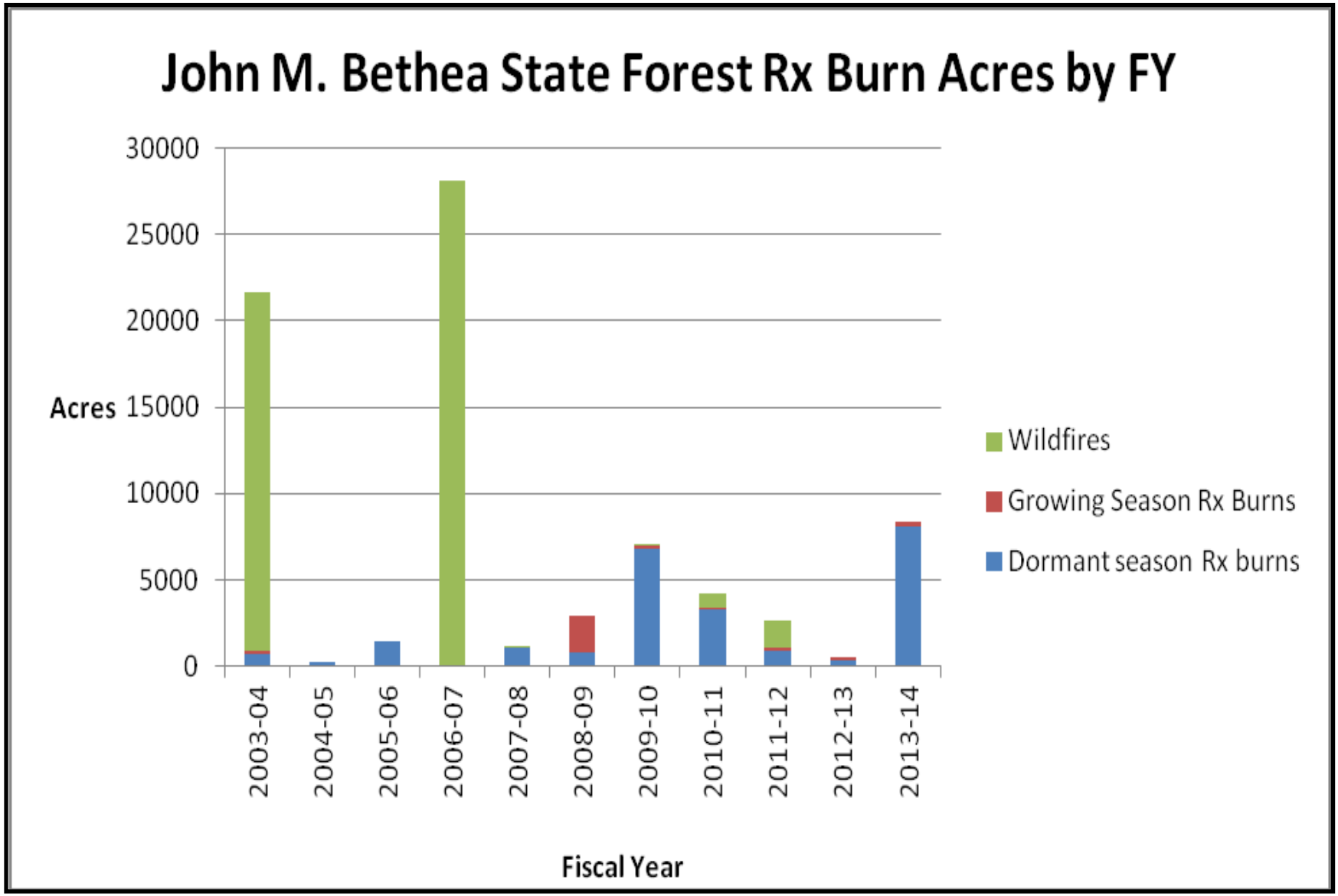

John M. Bethea State Forest Rx Burn Acres by FY
30000
25000
20000
15000
10000
5000
0
Acres
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
Fiscal Year
Wildfires
Growing Season Rx Burns
Dormant season Rx burns

Exhibit P

Non-Native, Invasive Species
Plant Map

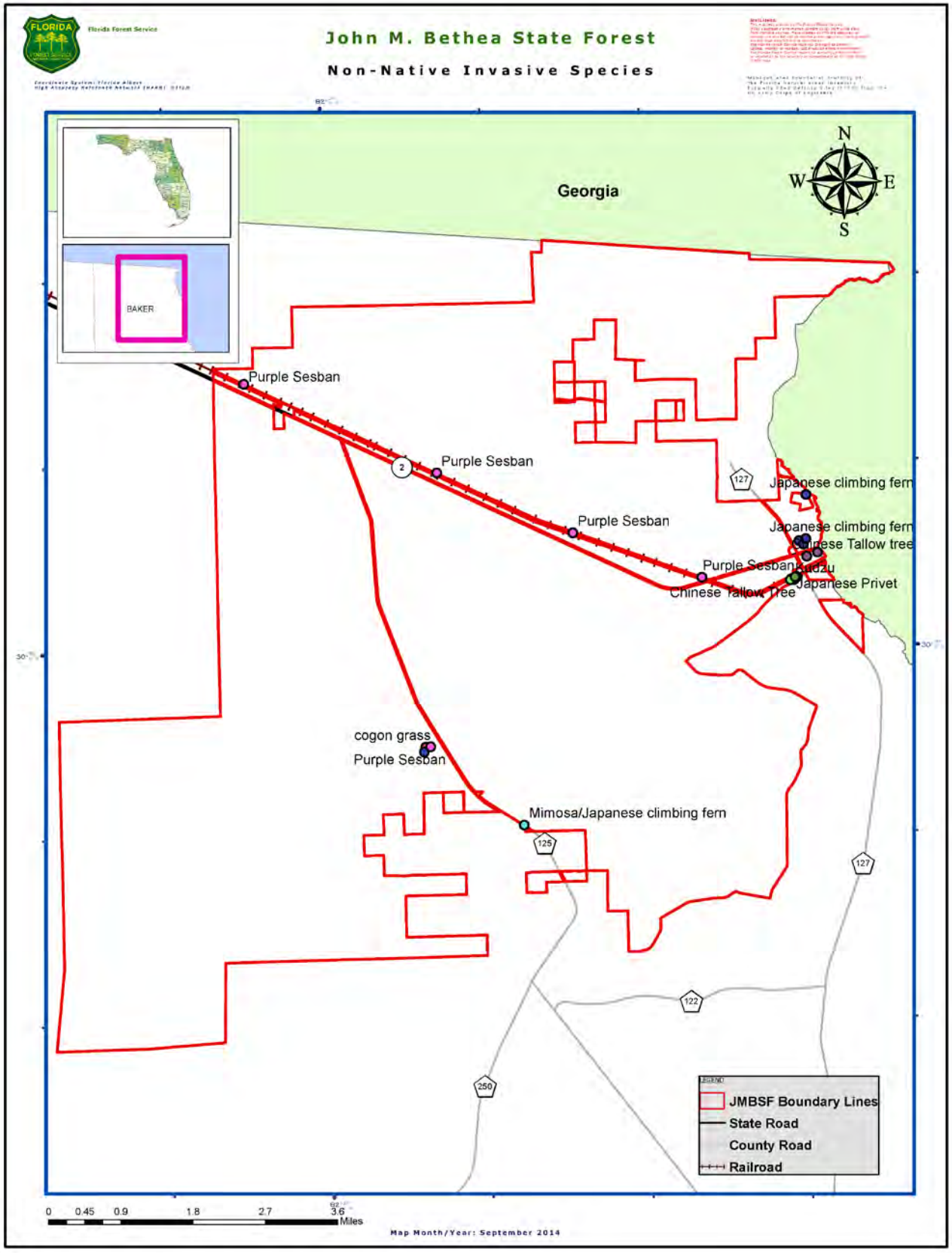
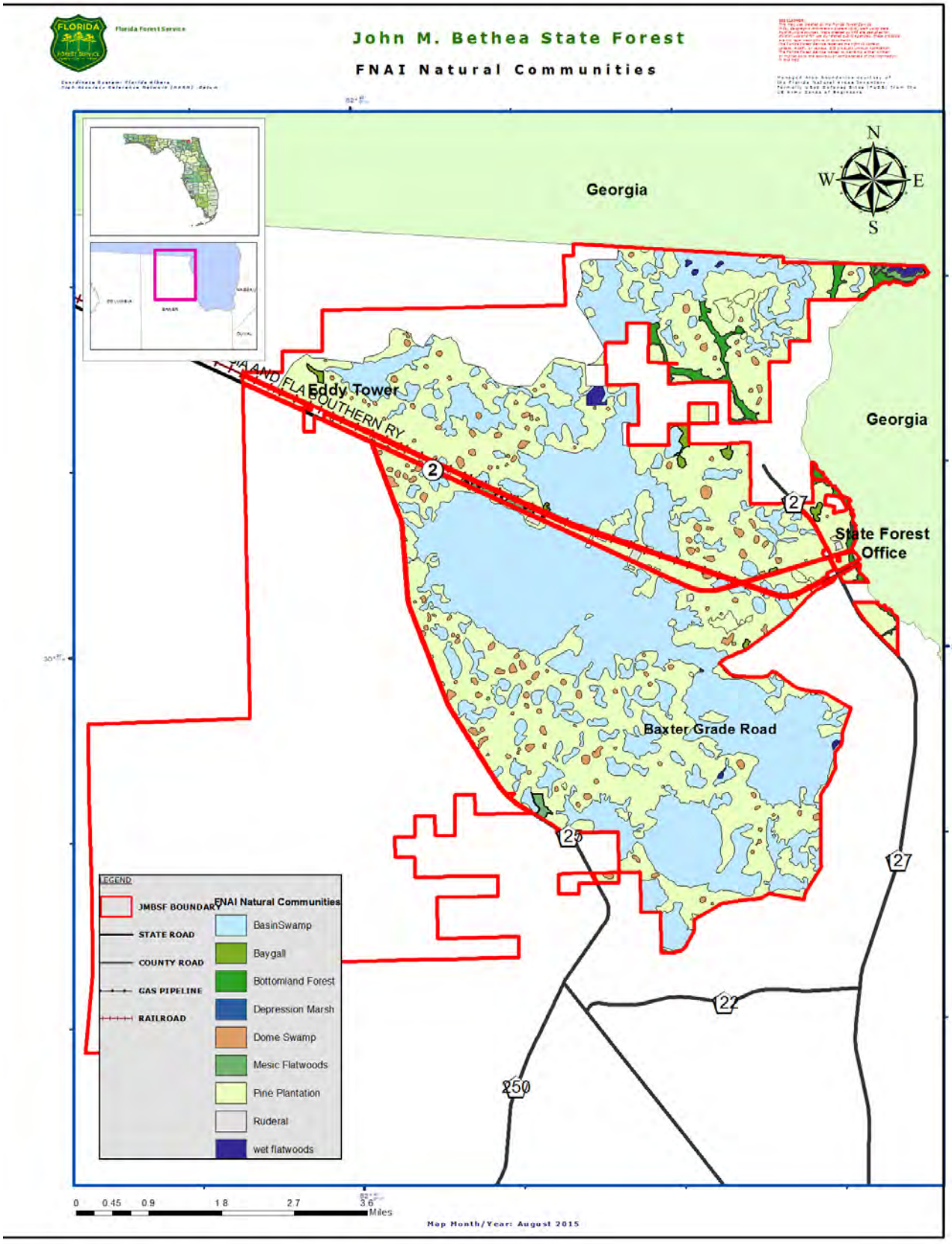

Florida Forest Service
John M. Bethea State Forest
Non-Native Invasive Species
Georgia
N
W
E
S
BAKER
Purple Sesban
Purple Sesban
Purple Sesban
Purple Sesban
Kudzu
Chinese Tallow Tree
Japanese climbing fern
Japanese climbing fern
Chinese Tallow tree
Japanese Privet
cogon grass
Purple Sesban
Mimosa/Japanese climbing fern
2
127
125
127
122
250
LEGEND
JMBSF Boundary Lines
State Road
County Road
Railroad
0 0.45 0.9 1.8 2.7 3.6
Miles
Map Month/Year: September 2014

Exhibit Q

Current Natural Communities


Florida Forest Service
John M. Bethea State Forest
FNAI Natural Communities
Georgia
N
W
E
S
Eddy Tower
SOUTHERN RY
Georgia
2
27
State Forest Office
Baxter Grade Road
25
27
22
250
LEGEND
JMBSF BOUNDARY
STATE ROAD
COUNTY ROAD
GAS PIPELINE
RAILROAD
FNAI Natural Communities
BasinSwamp
Baygall
Bottomland Forest
Depression Marsh
Dome Swamp
Mesic Flatwoods
Pine Plantation
Ruderal
wet flatwoods
0 0.45 0.9 1.8 2.7 3.6 Miles
Map Month/Year: August 2015

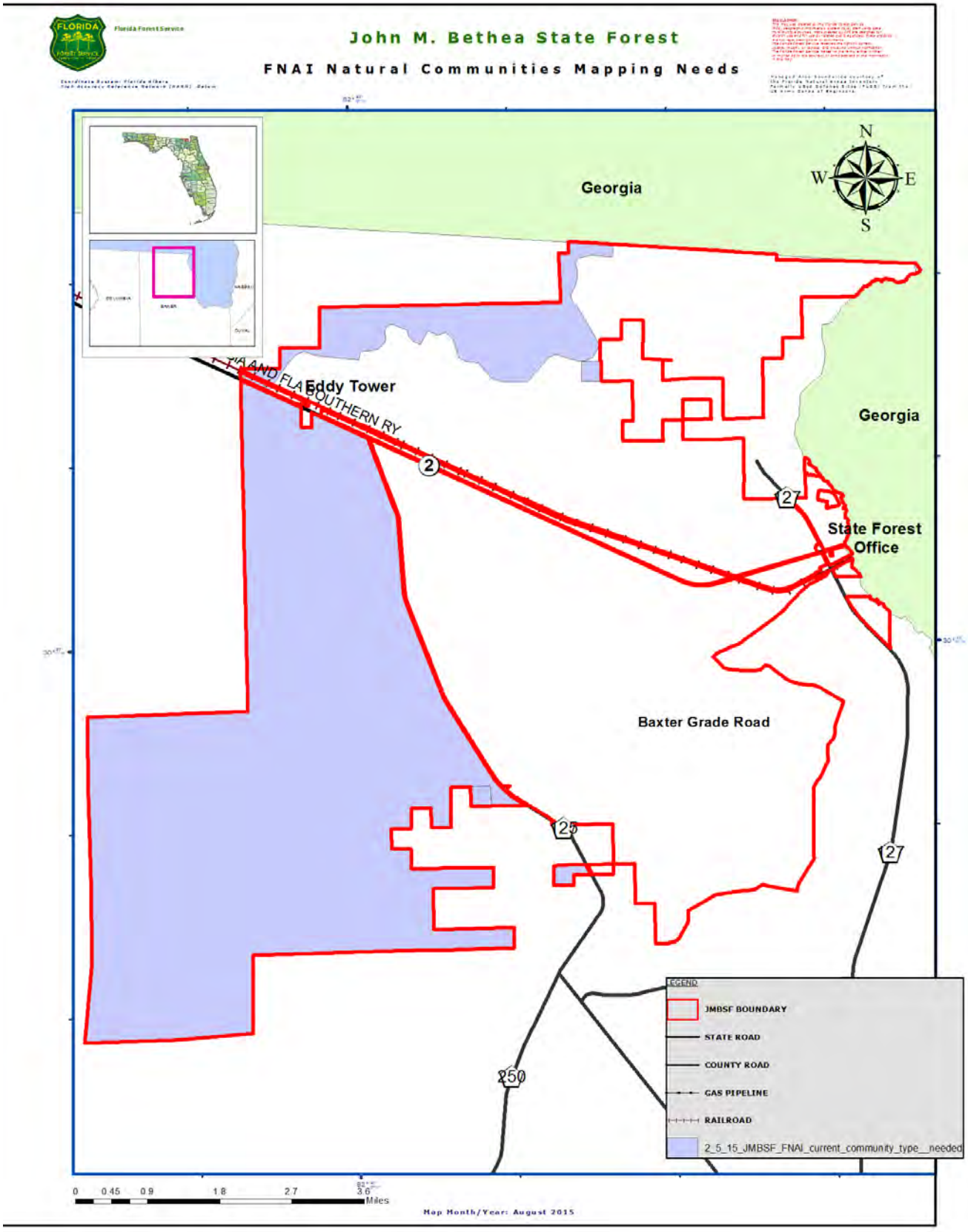

Florida Forest Service
John M. Bethea State Forest
FNAI Natural Communities Mapping Needs
Georgia
N
W
E
S
Eddy Tower
SOUTHERN RY
Georgia
2
27
State Forest Office
Baxter Grade Road
25
27
250
LEGEND
JMBSF BOUNDARY
STATE ROAD
COUNTY ROAD
GAS PIPELINE
RAILROAD
2_5_15_JMBSF_FNAI_current_community_type__needed
0 0.45 0.9 1.8 2.7 3.6
Miles
Map Month/Year: August 2015

Exhibit R

Historic Natural Communities

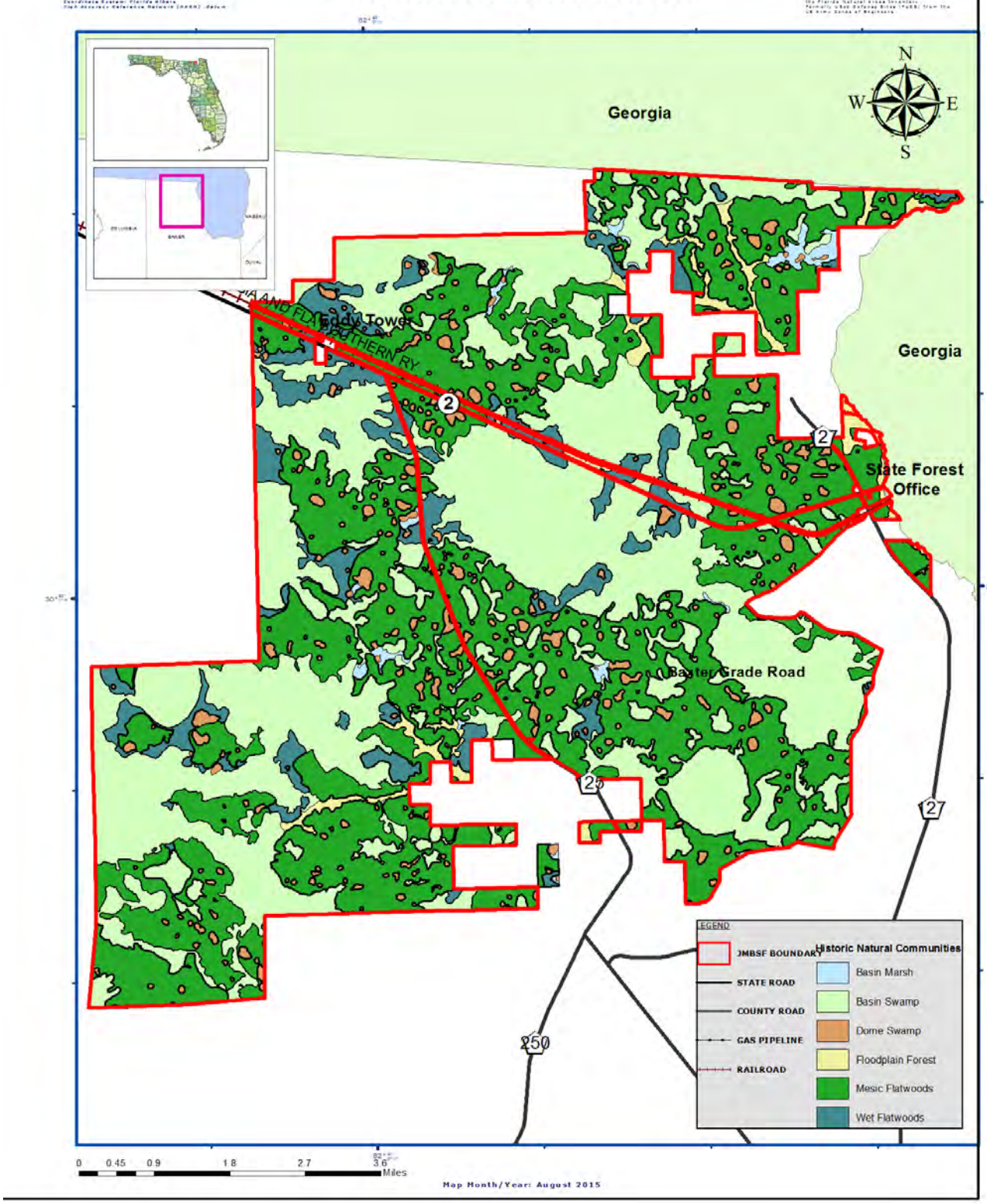

Florida Forest Service
John M. Bethea State Forest
Historic Natural Communities
Georgia
N
W
E
S
Teddy Towe
Georgia
State Forest Office
Baxter Grade Road
2
27
25
250
LEGEND
JMBSF BOUNDARY
STATE ROAD
COUNTY ROAD
GAS PIPELINE
RAILROAD
Historic Natural Communities
Basin Marsh
Basin Swamp
Dome Swamp
Floodplain Forest
Mesic Flatwoods
Wet Flatwoods
0 0.45 0.9 1.8 2.7 3.6
Miles
Map Month/Year: August 2015

Exhibit S

Management Prospectus

Pinhook Swamp

Baker and Columbia Counties

Critical Natural Lands

Purpose for State Acquisition

Pinhook Swamp: The pine flatwoods and swamps between the Osceola National Forest and the Okefenokee National Wildlife Refuge have been logged, but are otherwise undisturbed. The Pinhook Swamp project will protect and restore a natural area linking those two conservation lands and the Suwannee River, providing a huge unpopulated tract of land for such wildlife as the Florida black bear and sandhill crane; maintaining the water flows from this area to the Okefenokee Swamp, Suwannee River, and St. Mary's River; and giving the public a large, near-wilderness tract in which to enjoy various recreational activities, from simple nature appreciation to active hunting and fishing.

Suwannee Buffers (Deep Creek Site): The Suwannee River, for all its beauty, flows through pine plantations and farms for much of its course, and only its high limestone banks are in close to a natural state—and they are prime sites for residential development. The Deep Creek Site will protect two natural areas along the river or its tributaries, protecting the highest waterfall in the peninsula and the highest bluffs on the river, enhancing the water quality of the river and its tributaries; protecting northern plants that grow along the river and rare fish that live in the river; and giving the public scenic areas to enjoy for years to come. The Florida National Scenic Trail, a cross-Florida hiking and non-motorized trail, is also planned to cross this project. The trail is a congressionally designated national scenic trail

Pinhook Swamp
FNAI Elements

Florida Black Bear	G5T2/S2
Florida Sandhill Crane	G5T2T3/S2S3
Gopher Tortoise	G3/S3
Swallow-tailed Kite	G5/S2
Okefenokee Zale Moth	G2/S1
Large Rosebud Orchid	G4/S1
Many-lined Salamander	G5/S1
Gopher Frog	G3/S3
Carpenter Frog	G5/S2
Timber Rattlesnake	G4/S3
Blackbanded Sunfish	G4/S3
Spotted Turtle	G5/S3?

17 rare species are associated with the project

Managers

Pinhook Swamp: United States Forest Service (USFS) and the Florida Forest Service/FFS (aka Division of Forestry/DOF), Department of Agriculture and Consumer Services. Division of Recreation and Parks (DRP), Florida Department of Environmental Protection (southern Deep Creek); the FFS (northern Deep Creek).

General Description

Pinhook Swamp: The project consists of a large tract of mostly wet flatwoods, floodplain swamp, and floodplain forest between Osceola National Forest and Okefenokee Swamp National Wildlife Refuge. It provides a linkage between these managed areas as well as increased protection for this wetlands/flatwoods ecosystem, which is important for the long-term conservation of the state-threatened Florida black bear and other animals. Pinhook Swamp also provides excellent habitat for other wetland-dependent species such as the state-threatened Florida sandhill crane. The Swamp is connected to the Suwannee River, St. Mary's River and the Okefenokee Swamp. The archaeological and historic value of the project is low to moderate. The greatest threats to the area are intensive silviculture and mining.

The Deep Creek Drainage Tract protects buffer areas of four tributaries of the Suwannee River and much of the watershed of Deep Creek and serves as a corridor between the Osceola National Forest, Big Shoals State Park, and Suwannee River Water Management District lands along the River.

Placed on List	**1992**
Project Area (GIS Acres)	**183,991**
Acres Acquired (GIS)	**126,890***
at a Cost of	**$65,183,376**
Acres Remaining (GIS)	**60,420**
w/Estimated (Tax Assessed) Value of	**$16,469,070**

*Includes acreage acquired by the Suwannee River Water Management District

Pinhook Swamp

PINHOOK SWAMP: OVERVIEW

BAKER AND COLUMBIA COUNTIES

Map 1
A. Pinhook Swamp Site (western part)
B. Deep Creek Drainage Tract Site

Map 2
A. Pinhook Swamp Site (eastern part)

0 5 10 20
Miles

OCTOBER 2005

Public Use
The Pinhook Swamp is designated as a forest with such uses as fishing, hunting, canoeing, camping and hiking.

The Deep Creek site will be designated for use as a state park and a state forest, with such public uses as fishing, boating, hunting, camping, hiking and environmental education.

Acquisition Planning
The large Rayonier tract connecting the Osceola National Forest to the Okefenokee National Wildlife Refuge has been acquired by the state. It will be used as the basis for a land-and-minerals exchange (projected to close in 2003) with the United States Department of Agriculture (USDA) Forest Service.

Pinhook Swamp: Phase I (essential) consists of large tracts adjacent to Okefenokee National Wildlife Refuge and Osceola National Forest—J.W. Langdale Woodlands, Inc. and Jefferson Smurfit Corp./Carnegie US Steel Pension Funds. Phase II is the "Impassable Bay" tract—ITT Rayonier/Sam Summers (acquired by USFS through The Nature Conservancy (TNC) and all remaining owners.

On 7/16/1996, the LAMAC added 18,100 acres to the project boundary. Additionally, the LAMAC approved the addition of federal mineral rights under state-owned lands to the Pinhook project for exchange purposes.

On 8/22/2000, the Acquisition and Restoration Council added 25,000 acres to the Pinhook Swamp project

At the 4/6/2001, Council meeting, the Suwannee Buffers, Deep Creek Site was combined with the Pinhook Swamp Project.

On 10/24/2002 the Council added 4,585 acres to the project boundaries.

On 6/4/2004 the Council added 31,225 acres in Baker County, previously assumed to be included, as part of a 2000 boundary amendment, in the boundaries of the Pinhook Swamp project.

The BOT acquired 8,311 acres in August 2005 through five conservation easements.

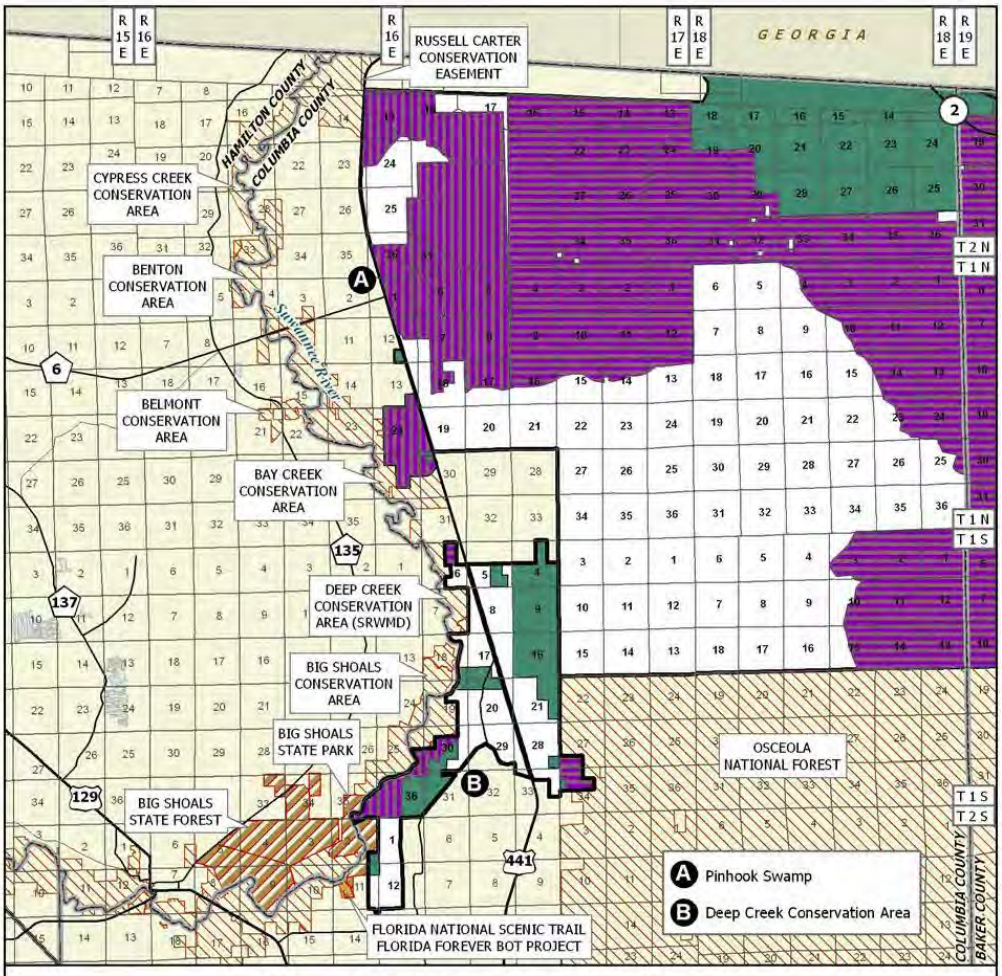
Coordination
Pinhook Swamp is a shared acquisition with the USFS. TNC is an intermediary in the purchase of some tracts for the federal government.The Deep Creek site is on the Suwannee River Water Management District (SRWMD) five-year plan for land acquisition. St. Johns River Water Management District (SJRWMD) is also considered a partner.

Management Policy Statement
Pinhook Swamp: The primary goals of management of the Pinhook Swamp project are: to conserve and protect significant habitat for native species or endangered and threatened species; to conserve, protect, manage, or restore important ecosystems, landscapes, and forests, in order to enhance or protect significant surface water, coastal, recreational, timber, fish or wildlife resources which local or state regulatory programs cannot adequately protect; and to provide areas, including recreational trails, for natural-resource-based recreation.

Suwannee Buffers (Deep Creek): The primary goals of management of this part of the project are: to conserve and protect environmentally unique and irreplaceable lands that contain native, relatively unaltered flora and fauna representing a natural area unique to, or scarce within, a region of this state or a larger geographic area; to conserve, protect, manage, or restore important ecosystems, landscapes, and forests, in order to enhance or protect significant surface water, coastal, recreational, timber, fish or wildlife resources which local or state regulatory programs cannot adequately protect; and to provide areas, including recreational trails, for natural-resource-based recreation.

Management Prospectus
Pinhook Swamp:
Qualifications for state designation The Pinhook Swamp is a large area of timbered flatwoods and swamps between the Osceola National Forest and the Okefenoke National Wildlife Refuge. Its large size, strategic location, and forest and wildlife resources qualify it as a state forest and state wildlife management area.

Pinhook Swamp



PINHOOK SWAMP: MAP 1 OF 2

BAKER AND COLUMBIA COUNTIES

- Florida Forever BOT Project Boundary
- Acquired for Conservation (Fee Simple)
- Acquired for Conservation (Less-Than-Fee)
- Essential Parcel(s) Remaining
- Other Florida Forever BOT Projects
- State Owned Lands
- Other Conservation Lands

0 1 2 4 Miles

SEPTEMBER 2009

Managers (Monitor) The DOF and the United States Department of Agriculture, Forest Service are the recommended Managers.

Conditions affecting intensity of management Pinhook is a low-need (moderate need) tract.

Timetable for implementing management and provisions for security and protection of infrastructure A portion of the site would immediately fall under the National Forests in Florida's Land and Resource Management Plan (Forest Plan) and a portion under state protection. Management activities will focus on site security, resource inventory and management, plus any necessary prescribed fire management.

Revenue-generating potential In cooperation with the Florida Fish and Wildlife Conservation Commission (FWC), this area may one day provide revenues from quota hunts. The Forest Service and DOF will soon be working with FWC to obtain a projected revenue. State and National Forest user fees are other sources of revenue.

Cooperators in management activities The Florida Fish and Wildlife Conservation Commission and the U.S. Fish & Wildlife Service, which manages the Okefenokee National Wildlife Refuge adjacent to Pinhook's northern boundary, will be cooperators in managing the area.

Suwannee Buffers:

Qualifications for state designation The southern part of the Deep Creek Drainage tract has unique resources that qualify it as a unit of the state park system. The project's size and diversity also makes it highly desirable for use and management as a state forest.

Manager The DRP is recommended as Manager of Deep Creek. The FFS is recommended as Manager of the northern three-quarters of the Deep Creek Drainage tract.

Conditions affecting intensity of management

The southern portion of the Deep Creek Drainage tract is a high-need management area including public recreational use and development compatible with resource management. On the areas to be managed by the FFS there are no known major disturbances that will require extraordinary attention, so the level of management intensity is expected to be typical for a state forest.

Timetable for implementing management and provisions for security and protection of infrastructure

Within the first year after acquisition of the areas to be managed by the DRP, management activities will concentrate on site security, natural and cultural resource protection, and efforts toward the development of a plan for long-term public use and resource management.

The DOF will provide public access for low-intensity, non-facilities-related outdoor recreation. Initial activities will include securing the site, providing public and fire management accesses, inventorying resources, and removing trash. The DOF will provide access to the public while protecting sensitive resources. The project's natural resources and threatened and endangered plants and animals will be inventoried to provide the basis for a management plan.

Long-range plans of the DOF will generally be directed toward restoring disturbed areas to their original conditions, as far as possible, as well as protecting threatened and endangered species. An all-season burning program will use, whenever possible, existing roads, black lines, foam lines and natural breaks to contain fires. Timber management will mostly involve improvement thinning and regeneration harvests. Plantations will be thinned and, where appropriate, reforested with species found in natural ecosystems. Stands will not have a targeted rotation age. Infrastructure will primarily be located in disturbed areas and will be the minimum required for management and public access. The FFS will promote environmental education.

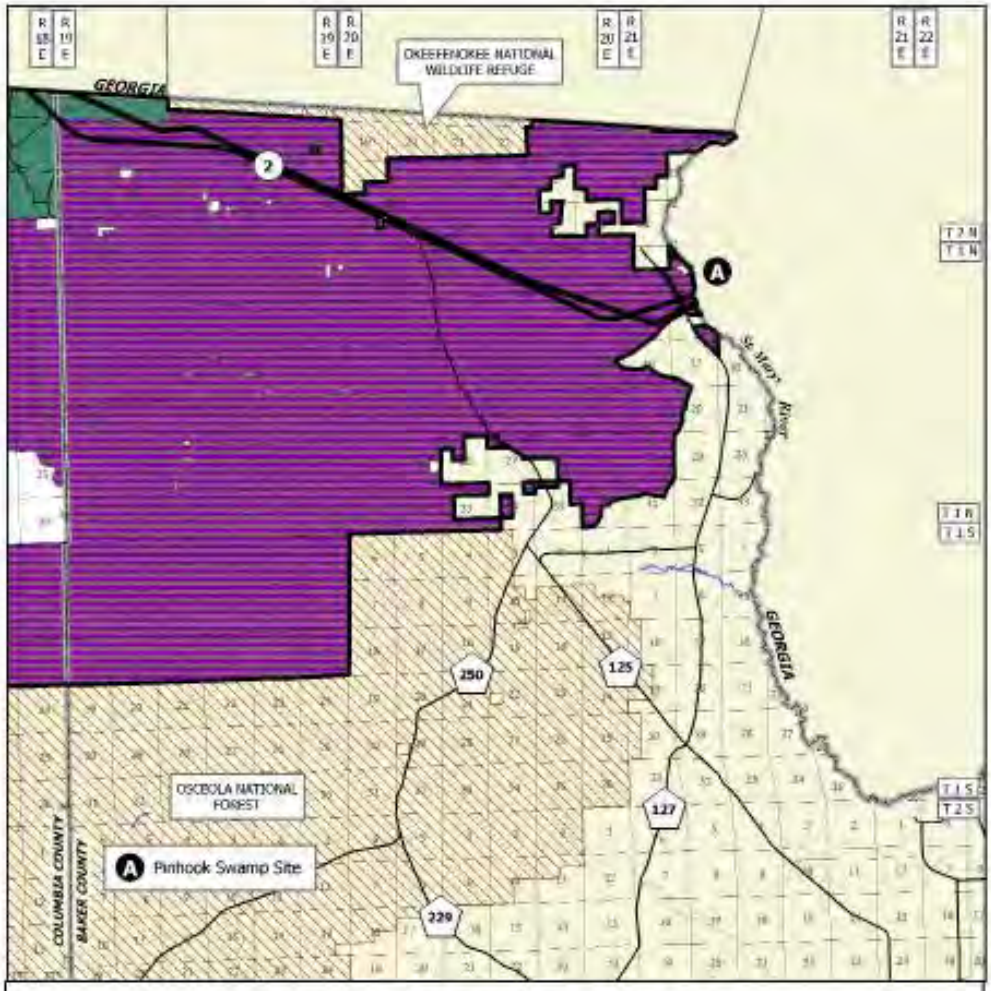
Estimate of revenue-generating potential The DRP expects no significant revenue to be generated initially. After acquisition, it will probably be several years before any significant public facilities are developed. The amount of any future revenue generated would depend on the nature and extent of public use and facilities.

The FFS will sell timber as needed to improve or maintain desirable ecosystem conditions. These sales will provide a variable source of revenue, but the revenue-generating potential for this project is expected to be low.

Cooperators in management activities No local governments or others are recommended for management of these project areas.

(continued)

Pinhook Swamp



Management Cost Summary/DRP		
Category	Startup	Recurring
Source of Funds	CARL	CARL
Salary	$22,167	$22,167
OPS	$14,560	$14,560
Expense	$11,400	$11,400
OCO	$55,000	$1,000
FCO	$85,000	$0
TOTAL	$188,127	$49,127

Management Cost Summary/FFS		
Category	Startup	Recurring
Source of Funds	CARL	CARL
Salary	$28,140	$28,140
OPS	$0	$0
Expense	$13,000	$5,000
OCO	$81,100	$2,000
FCO	$0	$0
TOTAL	$122,140	$35,140

Updated 2/3/2012

Exhibit T

2009 Land Management Review
2014 Land Management Review

Name of Site: John M. Bethea State Forest **County:** Baker County

Managed by: Department of Agriculture and Consumer Services
Division of Forestry **Acres:** 37,801 Acres

Review Date: 3/25-26/09

Review Team Determination

Managed in accordance with acquisition purpose? Yes = 5, No = 0

★★★★★

Management practices, including public access, in compliance with the management plan? Yes = 5, No = 0

★★★★★

Categories	Management Plan Review	Field Review
Natural Communities	0.96	3.00
Listed Species	0.40	1.90
Natural Resource Survey	0.61	2.96
Cultural Resources	1.00	3.78
Prescribed Fire	0.80	3.60
Restoration	0.67	3.08
Exotic Species	0.90	3.40
Hydrology	1.00	3.72
Surface Water Monitoring	0.50	2.90
Resource Protection	1.00	3.40
Adjacent Property Concerns	1.00	3.20
Public Access & Education	0.98	3.23
Management Resources	N/A	3.40
Managed Area Uses	1.00	N/A
Buildings, Equipment, Staff & Funding	N/A	3.70

Consensus Commendations to the Managing Agency

The following commendations resulted from discussion and vote of the review team members.

1. The team commends the DOF on their development of an innovative, strategic prescribed fire plan that incorporates four fire corridors to be placed on a two-year burn return interval, and outlines personnel management strategy to meet the burning needs of the forest. (VOTE: 4+, 0-)

2. The team commends the DOF for their participation and outreach in the FireWise community program to be included both public and private landowners. (VOTE: 4+, 0-)

3. The team commends the DOF for their efforts to restore mesic flatwoods, including planting longleaf pine, hydrologic restoration that includes removal of beds and restoration, and more frequent fire return interval. (VOTE: 4+, 0-)

4. The team commends the DOF staff for the recent improvements of the prescribed fire program, including the use of aerial burns. (VOTE: 4+, 0-)

5. The team commends the staff for the efforts to prevent the introduction of invasive exotic plants by inspection of equipment prior to site entry for land management activities. (VOTE: 4+, 0-)

6 The team commends the DOF staff on development of the post-Bugaboo Hydrologic Restoration Plan. (VOTE: 4+, 0-)

7. The team commends the DOF staff for the innovative approach to reestablishing longleaf pine, including by underplanting longleaf in slash pine stands. (VOTE: 4+, 0-)

Consensus Recommendations to the Managing Agency

The following recommendations resulted from a discussion and vote of review team members. The management plan must include responses to the recommendations identified below.

1. The team encourages DOF to work with area partners and others to inventory animal species, and with FWC to develop a wildlife management plan. We recommend that DOF develop and maintain a list of animal species observed on site by staff and others. (VOTE: 4+, 0-)

Managing Agency Response: The Forest Manager has initiated wildlife observation sheets that all staff keep in forest vehicles. The sheets are tabulated monthly. The Forest Manager plans to schedule a future meeting with the Regional FWC biologists to review the needs for wildlife surveys and plans.

2. The team recommends that DOF work with area universities, FNAI or others to develop a fleuristic inventory of the site. (VOTE: 4+, 0-)

Managing Agency Response: The Forest Manager will consult with the DOF Forest Ecologists to identify sources for floristic research.

3. The team acknowledges the long history of industrial silviculture on the site and subsequent diminishment of native groundcover. The team recommends DOF develop a method for evaluation of groundcover prior to site preparation to determine presence of remnant sensitive native species, and reevaluate site preparation techniques to reduce soil disturbance and impacts as native groundcover and herpetofauna. (VOTE: 4+, 0-)

Managing Agency Response: The Forest Manager will assess the groundcover prior to site-prep recommendations and depending on the quality of the existing groundcover, will modify site-prep treatments accordingly.

4. The team recommends that DOF develop a more detailed desired future conditions criteria for native groundcover species composition in the mesic and wet flatwoods. (VOTE: 4+, 0-)

Managing Agency Response: The Forest Manager will work toward identifying what would have been the native groundcover for the area, and as the information is acquired, we will refine the desired future conditions.

5. The team recommends that DOF implement the approach as suggested in the silvicultural management plan, to identify areas where two or three rotations of prescribed fire in lieu of more intensive site preparation techniques will be used prior to planting pine trees. (VOTE: 4+, 0-)

Managing Agency Response: The Forest Manager will identify a few sites to treat with multiple fires prior to planting to assess the groundcover response.

Checklist Findings

The following items received high scores on the review team checklist, which indicates that management actions exceeded expectations.

- Basin Swamp and Floodplain Forest Natural Communities
- Fire Effects Monitoring and Invasive Species Survey/Monitoring
- Cultural Resources
- Prescribed Fire Management, Area Being Burned and Frequency
- Restoration of Bedded Slash Pine Plantations to Longleaf Pine
- Non-native, Invasive and Problem Species Management, Control of Plants
- Hydrologic/Geologic Function, including Hydro-Alteration
- Resource Protection, Boundary Survey
- Public Access and Education, Roads and Habitat Management Activities Education
- Management of Waste, Buildings and Equipment

The following items received low scores on the review team checklist, which indicates that management actions noted during the Field Review (FR) were not considered sufficient (less than 2.5 score on average), or that the text noted in the Management Plan Review (PR) does not sufficiently address this issue (less than .5 score on average.). The management plan must include responses to the checklist items identified below:

1. Discussion in the management plan regarding Mesic Flatwoods. (FR)
Managing Agency Response: Due to the previous industrial use of the forest, the Mesic Flatwoods will take time to recover to a maintenance condition. The Forest Manager has and will continue to reintroduce the forest canopy and additional growing season fire to improve ground cover quality.

2. Discussion in the management plan regarding Listed Animal and Plant Inventory. (PR)(FR)
Managing Agency Response: Refer to response to recommendation 1 and 2.

3. Discussion in the management plan regarding Listed species or Habitat monitoring and other Non-Game species or Habitat monitoring. (PR)(FR)
Managing Agency Response: Refer to response to recommendation 1 and 2.

4. Discussion in the management plan regarding Ground Cover Restoration. (PR)(FR)
Managing Agency Response: Refer to response to recommendation 4.

5. Discussion in the management plan regarding surface water quality. (PR)
Managing Agency Response: The Forest Manager will contact the DOF Forest Hydrology Section for guidance in addressing the need for surface water quality and monitoring. The information will then be addressed in the next management plan.

2014 Land Management Review Team Report for John M. Bethea State Forest

Table of Contents

1. Introduction

Section 259.036, F.S. requires a periodic on-site review of conservation and recreation lands titled in the name of the Board of Trustees to determine (1) whether the lands are being managed for the purposes for which they were acquired and (2) whether they are being managed in accordance with their land management plan adopted pursuant to s. 259.032, F.S. In case where the managed areas exceed 1,000 acres in size, such a review must be scheduled at least every five years. In conducting this review, a statutorily constructed review team "shall evaluate the extent to which the existing management plan provides sufficient protection to threatened or endangered species, unique or important natural or physical features, geological or hydrological functions or archaeological features. The review shall also evaluate the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices, including public access, are in compliance with the adopted management plan."

The land management review teams are coordinated by the Division of State Lands and consist of representatives from the Division of Recreation and Parks (DEP), the Florida Forest Service (DACS), the Fish and Wildlife Conservation Commission, the local government in which the property is located, the DEP District in which the parcel is located, the local soil and water conservation district, a conservation organization member, and a local private land manager.

Each Land Management Review Report is divided into three sections. Section 1 provides the details of the property being reviewed as well as the overall results of the report. Section 2 provides details of the Field Review, in which the Review Team inspects the results of management actions on the site. Section 3 provides details of the Land Management Plan Review, in which the team determines the extent to which the Management Plan provides for and documents adequate natural and recreational resource protection.

Finally, each report may also contain an Appendix that lists individual team member comments. This is a compilation of feedback, concerns or other thoughts raised by individual team members, but not necessarily indicative of the final consensus reached by the Land Management Review Team.

1.1. Property Reviewed in this Report

Name of Site: John M. Bethea State Forest

Managed by: Florida Forest Service

Acres: 37,736 **County:** Baker

Purpose(s) for Acquisition: to restore, maintain and protect in perpetuity all native ecosystems; to integrate compatible human use; and to insure long-term viability of populations and species considered rare.

Acquisition Program(s): CARL / Save Our Rivers **Original Acquisition Date:** April 2001

Area Reviewed: Entire Property **Last Management Plan Approval Date:** 12/3/04

Review Date: 10/30/14

Agency Manager and Key Staff Present:

- Lee Barnwell, Manager
- Andy Lamborn, Manager (new)
- Sam Leneave, Forestry Ctr Manager
- Glenn Davis, Operations Administrator

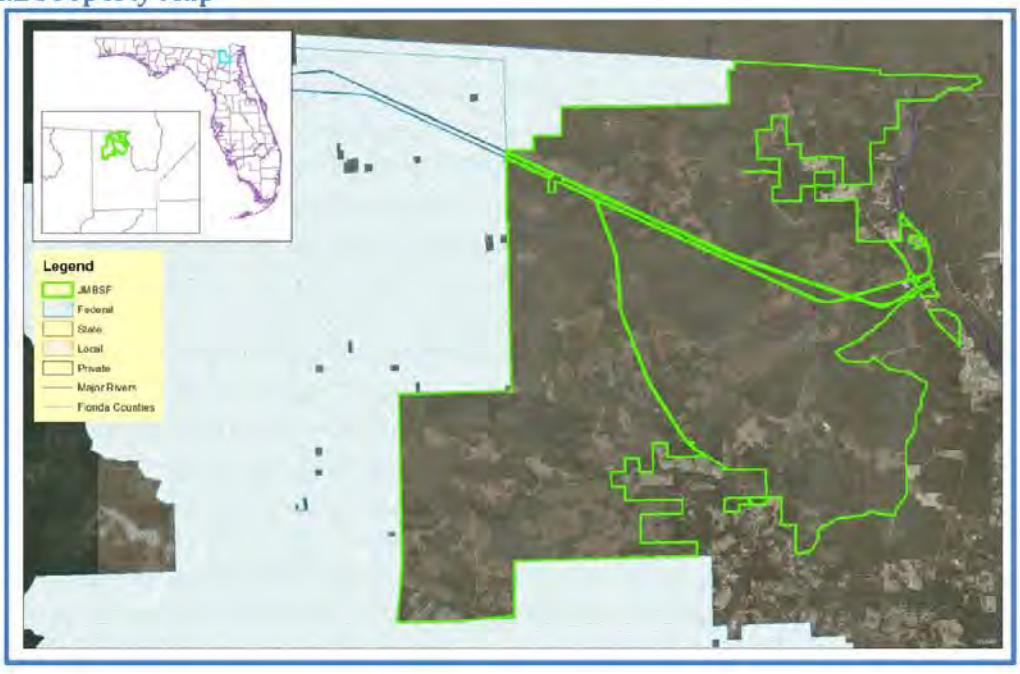
Review Team Members Present (voting)

- DRP: Rick Owen
- FWC: Scotland Tally
- FFS: Bill Korn
- DEP:
- SWCD:
- Local gov't:
- Conservation organization: Walter Bryant
- Private land manager: Donald Murphy

Other Non-Team Members Present (attending)

- Keith Singleton, DEP/DSL
- Tyler Mostellar, SJRWMD
- Aric Larson, DEP/DSL
- Mike Wisenbaker, DHR

1.2 Property Map



1.3. Overview of Land Management Review Results

Is the property managed in accordance with the purposes for which it was acquired?

Yes = 5, No = 0

Are the management practices, including public access, in compliance with the management plan?

Yes = 5, No = 0

Table 1 shows the average scores received for each applicable category of review. *Field Review* scores refer to the adequacy of management actions in the field, while *Management Plan Review* scores refer to adequacy of discussion of these topics in the management plan. Scores range from 1 to 5 with 5 signifying excellence. For a more detailed key to the scores, please see *Appendix A*.

Table 1: Results at a glance.

Major Land Management Categories	Field Review	Management Plan Review
Natural Communities / Forest Management	3.90	3.43
Prescribed Fire / Habitat Restoration	3.53	3.27
Hydrology	3.10	2.33
Imperiled Species	3.00	2.30
Exotic / Invasive Species	3.60	2.65
Cultural Resources	3.30	3.10
Public Access / Education / Law Enforcement	3.73	3.01
Infrastructure / Equipment / Staffing	3.74	N/A

Color Code (See Appendix A for detail)

Excellent	Above Average	Below Average	Poor

1.3.1 Consensus Commendations for the Managing Agency

The following commendations resulted from discussion and vote of the review team members:

1. The team commends the FFS for the aggressive prescribed fire program. (5+, 0-)

2. The team commends the FFS for conversion to longleaf pine as needed and efforts to prescribe burn many of these planted sites which have resulted in a nice recovery of native groundcover. (5+, 0-)

3. The team commends the FFS for efforts to locate, identify, and treat invasive plants. (5+, 0-)

4. The team commends the FFS staff for aggressive Firewise actions meant to combat continued wildfires that threaten restoration efforts. (5+, 0-)

5. The team commends the FFS staff for maintaining the roads to a high level for public access. (5+, 0-)

1.3.2. Consensus Recommendations to the Managing Agency

The following recommendations resulted from a discussion and vote of review team members. The next management plan update should include information about how these recommendations have been addressed:

1. The team recommends that FFS identify priority imperiled species on JMBSF and develop / implement monitoring strategies. (5+, 0-)

   Managing Agency Response: *Agree. Forest manager will coordinate with FFS State Forest Ecologist to develop appropriate priorities and protocols for surveying/monitoring imperiled species on this forest. The extent and success of these efforts will be dependent on availability of specific contract funding, assistance from FWC biologists, and/or the support of non-profit or volunteer organizations.*

2. The team recommends that FFS identify depressions in the mesic flatwoods that may have been ephemeral ponds / marshes. (5+, 0-)

   Managing Agency Response: *Agree. The Forest Manager will assess depressions on the forest prior to site prep for planting. Planting areas may be modified to keep heavy equipment and trees out of identified depressions.*

3. The team recommends that FFS consider adding a biologist at the District level to coordinate resource protection. (4+, 1-)

   Managing Agency Response: *Disagree. At this time, biologist support will be coordinated through the FFS State Forest Ecologist. Should opportunities develop for additional staffing, FFS will assess personnel needs at that time.*

4. The team recommends that FFS cooperate with county and coordinate in the maintenance of Eddy Road corridors. (5+, 0-)

   Managing Agency Response: *Agree. Forest manager will contact county manager and county road department to discuss developing a memorandum of understanding between FFS and Baker County to maintain Eddy Grade corridors.*

5. The team recommends that FFS have an inventory of plant and animal species prepared by working with area partners and researchers, including FWC wildlife experts. (5+, 0-)

   Managing Agency Response: *Agree. Forest manager will coordinate with FFS State Forest Ecologist to develop appropriate priorities and protocols to inventory plant and animal species on the forest.*

6. The team recommends that FFS work with FNAI and researchers to develop an updated natural community assessment for the next management plan update. (5+, 0-)

Managing Agency Response: *Agree. The Forest manager will consult with FFS Forest Ecologist to seek funding for an updated natural community assessment.*

7. The team recommends that FFS develop a method of evaluation of groundcover composition and wetland types to determine the presence of remnant sensitive native species

   Managing Agency Response: *Agree. The Forest Manager will coordinate with FFS State Forest Ecologist to develop appropriate priorities and protocols for evaluating groundcover on the forest. The extent and success of these efforts will be dependent on availability of specific contract funding, assistance from FWC biologists, and/or the support of non-profit or volunteer organizations.*

2. Field Review Details

2.1 Field Review Checklist Findings

The following items received high scores on the review team checklist, which indicates that management actions exceeded expectations.

1. **Natural Communities, specifically alluvial forest**:
2. **Natural Resources Survey/Monitoring Resources, specifically fire effects monitoring**:
3. **Prescribed Fire, specifically area being burned and quality**:
4. **Forest Management, specifically timber inventory, reforestation/afforestation and site preparation**:
5. **Resource Protection, specifically boundary survey and signage**:
6. **Public Access and Education, specifically roads and parking**:
7. **Management Resources, specifically waste disposal, sanitary facilities and buildings**:

2.2. Items Requiring Improvement Actions in the Field

The following items received low scores on the review team checklist, which indicates that management actions noted during the Field Review were not considered sufficient (less than 3.0 score on average). Please note that overall good scores do not preclude specific recommendations by the review team requiring remediation. **The management plan update should include information on how these items have been addressed**:

1. **The maintenance condition of the Natural Communities, specifically mesic flatwoods and wet flatwoods, received below average scores. The review team is asked to evaluate, based on their perspective, what percent of the natural community is in maintenance condition. The**

scores range from 1 to 5, with 1 being 0-20% in maintenance condition, 2 being 21-40%, 3 being 41-60%, 4 being 61-80% and 5 being 81-100%.

Managing Agency Response: *Agree. Due to the previous industrial use of the forest, the mesic flatwoods and wet flatwoods will take time to recover to a maintenance condition. It is reassuring to note that reforestation and burning efforts since the 2009 LMR saw the mesic flatwoods team score improve from 1.40 to 2.40 – which translates into approximately a 20 percent increase in "maintenance" condition. The forest manager has and will continue to reforest with longleaf pine on appropriate sites, and continue using prescribed fire to improve ground cover quality to further increase the ecological maintenance condition of these two community types.*

2. **Natural Resources 5urvey, specifically listed species or their habitat, received a below average score. The review team is asked to evaluate, based on information provided by the managing agency, whether survey and monitoring of the resources or their habitats are sufficient.**

   Managing Agency Response*: Agree. See response to Team Recommendation #1.*

3. **Resource Management, Prescribed Fire, specifically frequency, received a below average score. The review team is asked to evaluate, based on information provided by the managing agency, to what degree prescribed fire is accomplished according to the objectives for prescribed fire management. The scores range from 1 to 5, with 1 being 0-20% accomplished, 2 being 21-40%, 3 being 41-60%, 4 being 61-80% and 5 being 81-100%.**

   Managing Agency Response: *Disagree. FFS and the local forest manager have burned 20,442 acres in the last five years and LMR team members confirmed this achievement in giving "area burned" a collective score of 4.20 or 80-100 percent of our desired objective. Staff estimates 11,000 acres of ± 18,800 burnable acres (58%) is currently considered to be within the desired fire frequency. These burn numbers warrant a higher checklist score. FFS staff has made great headway in increasing fire frequencies throughout the forest. These efforts will continue to increase the total acreage within fire rotation.*

4. **Ground Water Monitoring, specifically ground water quantity, received a below average score. The review team is asked to evaluate, based on information provided by the managing agency, whether consideration of past and present hydrologic and geologic functions are sufficient.**

   Managing Agency Response: *Disagree. St. Johns Water Management has a ground water monitoring well at Eddy Tower. Not sure what further monitoring is being suggested here and there are no Reviewer Comments that shed any light on this topic.*

5. **Environmental Education & Outreach, specifically invasive species and habitat management activities, received below average scores. The review team is asked to evaluate, based on information provided by the managing agency, whether environmental education & outreach are sufficient.**

Managing Agency Response: *Disagree. Four of five reviewers found our level of educational outreach acceptable – given the low visitation and remote location of this forest.*

6. **Management Resources, specifically staff, received a below average score. The review team is asked to evaluate, based on information provided by the managing agency, whether management resources are sufficient.**

   Managing Agency Response: *Agree. The local forest manager has stated a desire to increase the technical forestry staff to address a heavy workload associated with forest inventory, timber sales and other resource monitoring activities.*

2.3. Field Review Checklist and Scores

Field Review Item	Reference #	Anonymous Team Members								Average
		1	2	3	4	5	6	7	8	
Natural Communities (I.A)										
Mesic Flatwoods	I.A.1	3	2	3	2	2				2.40
Basin Swamp	I.A.2	3	4	3	3	4				3.40
Dome Swamp	I.A.3	3	4	4	3	4				3.60
Wet Flatwoods	I.A.4	4	2	3	2	3				2.80
Alluvial Forest	I.A.5	5		4	5	5				4.75
Shrub Bog	I.A.6	4		3	5	3				3.75
									Natural Communities Average Score	3.45
Listed Species: Protection & Preservation (I.B)										
Animals	I.B.1	3	3	2	4	3				3.00
Plants	I.B.2	3	3	2	4	3				3.00
									Listed Species Average Score	3.00
Natural Resources Survey/Management Resources (I.C)										
Listed species or their habitat monitoring	I.C.2	3	2	1	2	1				1.80
Fire effects monitoring	I.C.4	4	4	3	5	4				4.00
Other habitat management effects monitoring	I.C.5	3	3	2	4	4				3.20
Invasive species survey / monitoring	I.C.6	4	4	2	4	3				3.40
Cultural Resources (Archeological & Historic sites) (II.A, II.B)										
Cultural Res. Survey	II.A	4	3	3	3	3				3.20
Protection and preservation	II.B	4	4	3	3	3				3.40
									Cultural Resources Average Score	3.30
Resource Management, Prescribed Fire (III.A)										
Area Being Burned (no. acres)	III.A1	5	2	5	4	5				4.20
Frequency	III.A.2	2	2	2	2	3				2.20
Quality	III.A.3	5	3	5	4	4				4.20
									Resource Management, Prescribed Fire Average Score	3.53

Restoration (III.B)										
Forest Management (III.C)										
Timber Inventory	III.C.1	5	5	3	5	5				4.60
Timber Harvesting	III.C.2	5	3	3	4	4				3.80
Reforestation/Afforestation	III.C.3	5	5	5	5	5				5.00
Site Preparation	III.C.4	4	3		5	4				4.00
									Forest Management Average Score	4.35
Non-Native, Invasive & Problem Species (III.D)										
Prevention										
prevention – plants	III.D.1.a	3	3	3	5	4				3.60
prevention – animals	III.D.1.b	4	3	3	4	4				3.60
Control										
control – plants	III.D.2.a	4	3	3	4	4				3.60
control – animals	III.D.2.b	4	3	3	4	4				3.60
									Non-Native, Invasive & Problem Species Average Score	3.60
Hydrologic/Geologic function Hydro-Alteration (III.E.1)										
Roads/culverts	III.E.1.a	4	4	3	4	4				3.80
Ditches	III.E.1.b	3	1	3	4	4				3.00
									Hydrologic/Geologic function, Hydro-Alteration Average Score	3.40
Ground Water Monitoring (III.E.2)										
Ground water quality	III.E.2.a	3	2	3	3	4				3.00
Ground water quantity	III.E.2.b	3	2	3	2	4				2.80
									Ground Water Monitoring Average Score	2.90
Surface Water Monitoring (III.E.3)										
Surface water quality	III.E.3.a	3	3	3	2	4				3.00
Surface water quantity	III.F.3.b	3	3	3	2	4				3.00
									Surface Water Monitoring Average Score	3.00
Resource Protection (III.F)										
Boundary survey	III.F.1	4	4	4	4	5				4.20
Gates & fencing	III.F.2	3	4	3	4	5				3.80
Signage	III.F.3	4	4	4	4	5				4.20
Law enforcement presence	III.F.4	3	4	3	4	3				3.40
									Resource Protection Average Score	3.90
Adjacent Property Concerns (III.G)										
Land Use										
Inholdings/additions	III.G.2	4	2	3						3.00
Public Access & Education (IV.1, IV.2, IV.3, IV.4, IV.5)										
Public Access										
Roads	IV.1.a	5	4	5	4	5				4.60
Parking	IV.1.b	5	4	5	5	5				4.80
Environmental Education & Outreach										
Wildlife	IV.2.a	3	3	3	4	2				3.00
Invasive Species	IV.2.b	3	3	3	4	1				2.80
Habitat Management Activities	IV.2.c	3	3	3	4	1				2.80

Interpretive facilities and signs	IV.3	3	3	3	4	2				3.00
Recreational Opportunities	IV.4	4	4	3	4	4				3.80
Management of Visitor Impacts	IV.5	4	3	3	4	4				3.60
									Public Access & Education Average Score	3.55
Management Resources (V.1, V.2, V.3. V.4)										
Maintenance										
Waste disposal	V.1.a	4	3	4	5	5				4.20
Sanitary facilities	V.1.b	4	3		5	5				4.25
Infrastructure										
Buildings	V.2.a	5		5	5	5				5.00
Equipment	V.2.b	3	2	3	4	3				3.00
Staff	V.3	2	3	4	3	2				2.80
Funding	V.4	3	4	3	3	3				3.20
									Management Resources Average Score	3.74

Color Code:	Excellent	Above Average	Below Average	Poor	See Appendix A for detail
		Missing Vote	Insufficient Information		

3. Land Management Plan Review Details

3.1 Items Requiring Improvements in the Management Plan

The following items received low scores on the review team checklist, which indicates that the text noted in the Management Plan Review does not sufficiently address this issue (less than 3.0 score on average.). Please note that overall good scores do not preclude specific recommendations by the review team requiring remediation. The next management plan update should address the checklist items identified below:

1. **Natural Communities, specifically alluvial forest and shrub bog, received below average scores. This is an indication that the management plan does not sufficiently address current or desired condition and/or future management actions to protect or restore.**

   Managing Agency Response: *Alluvial forest and shrub bog are recently identified natural communities that will be added to the updated management plan.*

2. **Listed Species, specifically animals and plants, received below average scores. This is an indication that the management plan does not sufficiently address protection and preservation of listed species.**

   Managing Agency Response: *The next management plan update will provide information on listed species issues and any management needs.*

3. **Natural Resources Survey and Monitoring Resources, specifically listed species or their habitat monitoring and other habitat management effects monitoring, received below average scores.**

This is an indication that the management plan does not sufficiently address survey or monitoring.

Managing Agency Response: *The next management plan update will provide information on these monitoring activities and data collection surveys.*

4. **Non-native, Invasive & Problem Species, specifically prevention and control of plants and animals, received below average scores. This is an indication that the management plan does not sufficiently address prevention of invasive species.**

   Managing Agency Response: *The next management plan update will provide information non-native invasive species control. The forest manager will* continue *working to control the spread of non-native invasive species.*

5. **Hydrologic/Geologic function, Hydro-Alteration, specifically ditches, received a below average score. This is an indication that the management plan does not sufficiently address hydrologic and geologic function.**

   Managing Agency Response: *The next management plan update will provide information on hydrologic function issues and any management needs related to ditches on the property.*

6. **Ground Water Monitoring, specifically ground water quality and quantity, received a below average score. This is an indication that the management plan does not sufficiently address ground water quality and quantity.**

   Managing Agency Response: *The next management plan update will provide information on ground water monitoring.*

7. **Surface Water Monitoring, specifically surface water quality and quantity, received a below average score. This is an indication that the management plan does not sufficiently address surface water quality monitoring.**

   Managing Agency Response: *The next management plan update will provide information on surface water monitoring.*

8. **Adjacent Property Concerns, specifically inholdings/additions and discussion of potential surplus land determination, received below average scores. This is an indication that the management plan does not sufficiently address inholdings/additions and surplus lands.**

   Managing Agency Response: *The next management plan update will address inholdings and addition land needs. The plan will also provide an assessment and determination of any potential surplus lands.*

9. **Environmental Education & Outreach, specifically for wildlife, invasive species, habitat management activities and interpretive facilities and signs, received below average scores.**

This is an indication that the management plan does not sufficiently address Environmental Education & Outreach.

Managing Agency Response: *FFS is confident the current management plan sufficiently addresses environmental education and outreach – given the remote location of the forest. The primary recreational users on the forest are hunters. As the forest manager has a problem with educational kiosks being be vandalized – any new signs and sign locations must be able to be monitored by a small forest staff. The next management plan will include a discussion and assessment of current and future kiosk improvements.*

3.2 Management Plan Review Checklist and Scores

Plan Review Item	Reference #	Anonymous Team Members								Average
		1	2	3	4	5	6	7	8	
Natural Communities (I.A)										
Mesic Flatwoods	I.A.1	3	5	3	4	3				3.60
Basin Swamp	I.A.2	3	5	3	4	3				3.60
Dome Swamp	I.A.3	3	5	3	4	3				3.60
Wet Flatwoods	I.A.4	4	5	3	3	3				3.60
Alluvial Forest	I.A.5	4	1	1	5	3				2.80
Shrub Bog	I.A.6	2	1	1	2	1				1.40
									Natural Communities Average Score	3.10
Listed species: Protection & Preservation (I.B)										
Animals	I.B.1	3	2	2	2	2				2.20
Plants	I.B.2	3	2	2	2	3				2.40
									Listed Species Average Score	2.30
Natural Resources Survey/Management Resources (I.C)										
Listed species or their habitat monitoring	I.C.2	3	2	2	2	2				2.20
Fire effects monitoring	I.C.4	3	3	2	4	4				3.20
Other habitat management effects monitoring	I.C.5	2	3	2	4	3				2.80
Invasive species survey / monitoring	I.C.6	3	4	2	4	3				3.20
Cultural Resources (Archeological & Historic sites) (II.A,II.B)										
Cultural Res. Survey	II.A	3	3	2	5	3				3.20
Protection and preservation	II.B	3	3	2	4	3				3.00
									Cultural Resources Average Score	3.10
Resource Management, Prescribed Fire (III.A)										
Area Being Burned (no. acres)	III.A.1	3	5	2	5	2				3.40
Frequency	III.A.2	3	5	2	2	3				3.00
Quality	III.A.3	3	5	2	5	2				3.40
									Resource Management, Prescribed Fire Average Score	3.27
Restoration (III.B)										

Forest Management (III.C)										
Timber Inventory	III.C.1	3		2	5	5				3.75
Timber Harvesting	III.C.2	3		2	4	5				3.50
Reforestation/Afforestation	III.C.3	3		2	5	5				3.75
Site Preparation	III.C.4	3			4	5				4.00
									Forest Management Average Score	3.75
Non-Native, Invasive & Problem Species (III.D)										
Prevention										
prevention – plants	III.E.1.a	2	3	2	2	3				2.40
prevention – animals	III.E.1.b	3	3	2	2	3				2.60
Control										
control – plants	III.E.2.a	3	3	2	3	3				2.80
control – animals	III.E.2.b	3	3	2	3	3				2.80
									Non-Native, Invasive & Problem Species Average Score	2.65
Hydrologic/Geologic function, Hydro-Alteration (III.E.1)										
Roads/culverts	III.F.1.a	3	4	2	4	2				3.00
Ditches	III.F.1.b	3	4	2	3	2				2.80
									Hydrologic/Geologic function, Hydro-Alteration Average Score	2.90
Ground Water Monitoring (III.E.2)										
Ground water quality	III.F.2.a	3	2	2	2	2				2.20
Ground water quantity	III.F.2.b	3	2	2	1	2				2.00
									Ground Water Monitoring Average Score	2.10
Surface Water Monitoring (III.E.3)										
Surface water quality	III.F.3.a	3	2	2	1	2				2.00
Surface water quantity	III.F.3.b	3	2	2	1	2				2.00
									Surface Water Monitoring Average Score	2.00
Resource Protection (III.F)										
Boundary survey	III.G.1	3	3	2	4	3				3.00
Gates & fencing	III.G.2	3	3	2	4	3				3.00
Signage	III.G.3	3	4	2	4	3				3.20
Law enforcement presence	III.G.4	2	4	2	4	3				3.00
									Resource Protection Average Score	3.05
Adjacent Property Concerns (III.G)										
Land Use										
Inholdings/additions	III.H.2	2	2	2	4	3				2.60
Discussion of Potential Surplus Land Determination	III.H.3	3	1	1	1	2				1.60
Surplus Lands Identified?	III.H.4	3	5	4	4	5				4.20
Public Access & Education (IV.1, IV.2, IV.3, IV.4, IV.5)										
Public Access										
Roads	IV.1.a	3	4	2	5	3				3.40
Parking	IV.1.b	3	4	2	5	3				3.40
Environmental Education & Outreach										
Wildlife	IV.2.a		3	2	3	2				2.50
Invasive Species	IV.2.b		3	2	3	2				2.50

Habitat Management Activities	IV.2.c		4	2	3	2				2.75
Interpretive facilities and signs	IV.3		3	2	4	2				2.75
Recreational Opportunities	IV.4		4	2	5	3				3.50
Management of Visitor Impacts	IV.5		3	2	4	3				3.00
									Public Access & Education Average Score	2.98
Managed Area Uses (VI.A, VI.B)										
Existing Uses										
Apiary Lease	VI.A.1	5	4		5	5				4.75
Silviculture	VI.A.3	5	4	5	5	5				4.80
Hunting	VI.A.4	5	4	5	5	5				4.80
Hiking	VI.A.5	5	4	5	5	5				4.80
Primitive Camping	VI.A.6	5	4	5	5	5				4.80
Wildlife Viewing	VI.A.7	5	4	5	5	5				4.80
Equestrian Use	VI.A.8	5	4	5	5	5				4.80
Canoe/Kayaking	VI.A.9	5	4	5	5	5				4.80
Proposed Uses										

Color Code: Excellent | Above Average | Below Average | Poor

Missing Vote | Insufficient Information

See Appendix A for detail

Appendix A: Scoring System Detail

Explanation of Consensus Commendations:

Often, the exceptional condition of some of the property's attributes impress review team members. In those instances, team members are encouraged to offer positive feedback to the managing agency in the form of a commendation. The teams develop commendations generally by standard consensus processes or by majority vote if they cannot obtain a true consensus.

Explanation of Consensus Recommendations:

Subsection 259.036(2), F.S., specifically states that the managing entity shall consider the findings and recommendations of the land management review. We ask team members to provide general recommendations for improving the management or public access and use of the property. The teams discuss these recommendations and develop consensus recommendations as described above. We provide these recommendations to the managing agency to consider when finalizing the required ten-year management plan update. We encourage the manager to respond directly to these recommendations and include their responses in the final report when received in a timely manner.

Explanation of Field Review Checklist and Scores, and Management Plan Review Checklist and Scores:

We provide team members with a checklist to fill out during the evaluation workshop phase of the Land Management Review. The checklist is the uniform tool used to evaluate both the management actions and condition of the managed area, and the sufficiency of the management plan elements. During the evaluation workshop, team members individually provide scores on each issue on the checklist, from their individual perspective. Team members also base their evaluations on information provided by the managing agency staff as well as other team member discussions. Staff averages these scores to evaluate the overall conditions on the ground, and how the management plan addresses the issues. Team members must score each management issue 1 to 5: 1 being the management practices are clearly insufficient, and 5 being that the management practices are excellent. Members may choose to abstain if they have inadequate expertise or information to make a cardinal numeric choice, as indicated by an "X" on the checklist scores, or they may not provide a vote for other unknown reasons, as indicated by a blank. If a majority of members failed to vote on any issue, that issue is determined to be irrelevant to management of that property or it was inadequately reviewed by the team to make an intelligent choice. In either case staff eliminated the issue from the report to the manager.

Average scores are interpreted as follows:

Scores 4.0 to 5.0 are *Excellent*

Scores 3.0 to 3.99 are *Above Average*

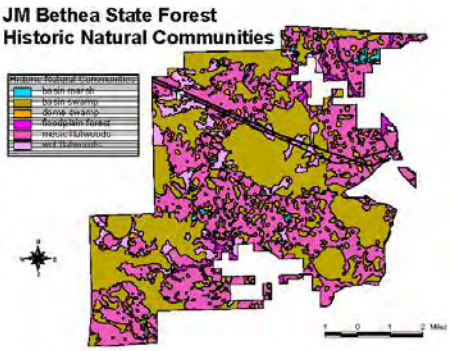
Scores 2.0 to 2.99 are *Below Average*

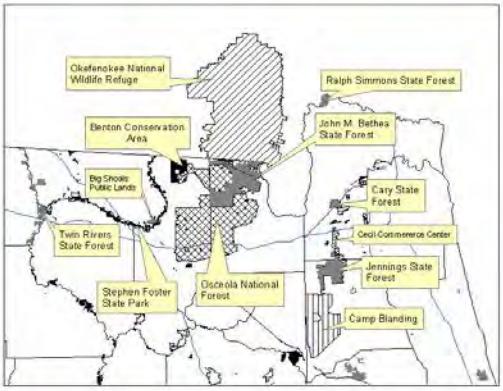
Scores 1.0 to 1.99 are considered *Poor*

Exhibit U

John M. Bethea State Forest
Restoration Plan

RESTORATION AT JOHN M. BETHEA STATE FOREST

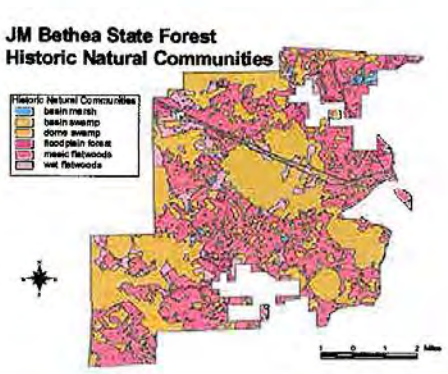


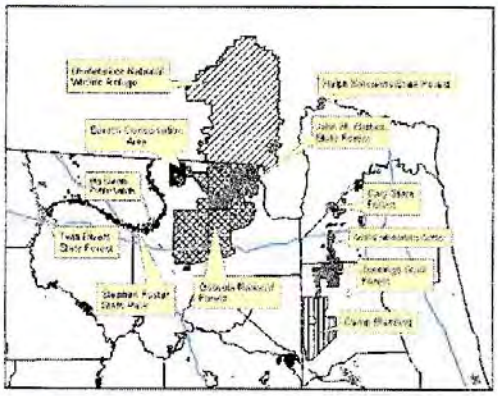


Prepared by the
Florida Division of Forestry
January 21, 2009

Approved _____

RESTORATION AT JOHN M. BETHEA STATE FOREST





Prepared by the
Florida Division of Forestry
January 21, 2009

Approved _____

Land Acquisition History

The John M. Bethea State Forest (JMBSF) was acquired by the State of Florida in April, 2001. The original acquisition consisted of 34,244.7 acres of JMBSF purchased with CARL program funding, and 21,873.6 acres purchased with CARL and SOR funding. After portions of the original acquisition were traded to the federal government, the JMBSF consisted of 37,736 acres.

The main objectives for the acquisition of the property and the primary goals of the Division of Forestry (DOF) in managing the tract are:

- To conserve and protect environmentally unique and irreplaceable lands that contain native, relatively unaltered flora and fauna representing a natural area unique to, or scarce within, a region of this state or a larger geographical area.
- To conserve and protect native species habitat or endangered or threatened species.
- To conserve, protect, manage, or restore important ecosystems, landscapes, and forests, if the protection and conservation of such lands is necessary to enhance or protect significant surface water, ground water, coastal, recreational, and timber resources, or to protect fish or wildlife resources which cannot otherwise be accomplished through local and state regulatory programs.
- To provide areas, including recreational trails, for natural resource-based recreation.
- To preserve archaeological or historical sites.

The forest is also part of an important corridor between two larger federal land bases, the Osceola National Forest to the south and west, and the Okefenokee National Wildlife Refuge to the north, which is important for the movement of black bear and other wildlife.

Historical Natural Communities

An assessment of the historic natural communities at JMBSF was completed by the Florida Natural Areas Inventory (FNAI) in 2005 (see map on cover). This assessment was based on interpretation of 1943 aerial photographs, a timber-type map for Baker County from the 1930's, and ground-truthing by the staff of FNAI. The assessment suggests that JMBSF was historically a complex of mesic and wet flatwoods interspersed with basin swamps and marshes and scattered dome swamps. The 1943 aerials show open-canopied flatwoods savannas, woodlands and prairies crossed with a network of trails. Wetland areas appear to be open-canopied woodlands and forests, along with marshes and prairies. Presumably, the area had a history of selective logging and open range grazing prior to the time of these photographs. The timber-type map shows that the flatwoods were longleaf-dominated savannas, with a few stands of slash pine and loblolly pine. Larger stands of slash pine were located west of the current state forest boundary in Pinhook Swamp and Impassable Bay. The larger basin swamps were labeled as cypress-gum forests, or "bays". Forests of hardwoods and slash pine occupied portions of these larger basin swamps and some of the smaller to medium sized basin and dome swamps. Many of the wet areas were labeled as a mix of hardwoods and slash pine. Agricultural lands were identified along the Middle Prong and St. Mary's River.

Land Use History

The past uses of JMBSF include timber management, naval stores production, agriculture, hunting, and fishing. In the early 1900's as many as 10,000 people reportedly lived in the Baxter area in and around the northern portion of the state forest. The land uses during this early time included naval stores production, logging and sawmill operations, agriculture and grazing. A small sawmill that operated in the 1940's was located on an inholding near Baxter.

In the early 1950's, Hunt Oil Co. owned the property, which was later sold to Continental Can Corporation. The property was then acquired by KMI, an English-owned conglomerate, who sold off some of the surrounding properties. The majority of the lands that are now state forest were kept by the Continental Can Corporation and sold to the US Steel Corporation in the early 1980's. Continental Can Corporation then leased the property back from US Steel. Jefferson Smurfit took over the Continental Can Corporation lease in the late 1980's and then bought the property from US Steel in the mid 1990's. In the late 1990's Stone Container and Jefferson Smurfit merged to become Smurfit-Stone. Rayonier purchased the property from Smurfit-Stone in 1999. Prior to state acquisition most of this land was leased to hunt clubs.

At the time of the original acquisition by the state, approximately forty-four percent was plantations of southern pine species. Eleven percent of the total forest acreage was considered to be of natural pines. Cutover mesic flatwoods acreage was about 4% of the total forest acreage. The remaining acreage on the forest was comprised of native hardwoods. Within these acres the primary hardwood community type was basin swamp, dome swamp, and bottomland forest, the bulk of which occurred in the floodplain area of the St. Mary's River.

The JMBSF is a modified landscape transformed by large timber companies into a fiber production area primarily for local paper mills. The methods used to transform these lands were to bed (raise the soil in long mounds), in some places deeply, and plant slash or loblolly pine on the beds and wait for the first pulpwood removal.

Wildfire History

This area has experienced catastrophic wildfires many times in the past 20 years. A review of recent fire history demonstrates that fire management should be the central focus of any management strategy developed for the JMBSF. Wetland dominated landscapes such as this are notorious for a heavy buildup of waxy vegetation, especially gallberry, that occurs with the elimination of native, grass-dominated ground cover and the absence of regular prescribed fire. Recent large scale wildfires include the Friendly Fire in 1999, the Blackjack Island Fire in 2002, the Impassible I Fire in 2004 and the Bugaboo Fire in 2007. During the 1999 and 2002 large wildfires, a practice called stripping was used in a pre-suppression effort to slow down the advancing wildfire from entering swamp fuels. This practice entailed using dozers and fire plows to plow every third row in a pine plantation in advance of the fires' path. During the Blackjack Island fire, 1,228 acres were treated on the eastern side of the forest and 1,163 acres

were treated on the western parcel. This plowing has further modified the ground cover and surface water flows in these areas and has been done twice in a 3 year time frame. One of the objectives under this plan is to mitigate the effects of stripping these areas and work towards restoring more fire tolerant species such as longleaf pine and understory grasses in these areas adjacent to the Okefenokee Swamp. In 2007, lightning ignited two fires on Bugaboo Island approximately 18 miles north of the John Bethea State Forest in the Okeefenokee Swamp. Initial attempts at suppression were unsuccessful and the fires burned together and began exhibiting extreme fire behavior. The second day the fire made a southerly run of approximately 15 miles, threatening to cross the state line onto the John Bethea State Forest. The Bugaboo Fire crossed into Florida on the third day at 0700. All attempts to suppress the fire were ineffective as it moved south towards the town of Taylor. Fire behavior remained extreme through the day and well into the evening making it extremely difficult to protect threatened structures in and around Taylor. On May 10th the fire made another major run to the southwest, this time threatening Lake City, Florida. Fire behavior on this day could be described as plume dominated, with high rates of spread and flame lengths measuring in the 100 to 200 foot range. At about 1900 -2000 hours, the fire hit an area recently prescribed burned by the USFS. This area effectively slowed the progress of the fire allowing firefighters to establish control lines and stop the fire.

Restoration and Management

Restoration and management at JMBSF is a long-term proposition that will require an adaptive management approach. Precise restoration targets cannot be brought into sharp focus at this point, but may include communities that do not precisely match the presumed composition, structure or function of historical conditions. In addition, restoration and management at JMBSF must also address the need to develop a landscape that will be resistant to wildfires or will promote an increased ability to control the wildfires that are expected to impact upon this landscape in the future. Furthermore, DOF considers the ability of this forest to generate revenue through sound silvicultural management to be essential to its land management program.

There is little information and experience in the restoration of such an altered, wetland-dominated landscape such as this one. This plan will guide activities in the coming year as an action plan. Activities described in this plan for subsequent years will be adapted based on experience and analysis of previous years' efforts, as well as on any new information that may become available from other restoration projects and research. This restoration plan has four major components that address prescribed fire, hydrological restoration, wetland restoration and silviculture. The restoration of prescribed fire and hydroperiod are considered key elements to restoring and managing this landscape.

Fire Management Plan

The JMBSF has had a low prescribed fire record, averaging just over 500 acres per year for the six years since acquisition. The matrix of the forest is low flat woods or wetlands, which means that in many years the terrain is wet and difficult to burn. During dry years great care must be taken not to kill the pine overstory due to fuel accumulations or to have escapes

from prescribed burns. One of the major problems in starting a prescribed burning program in this area is that no prescribed fire has been used in the past 20 years prior to state acquisition. Most pine plantations have never been prescribed burned. During dry years, the previous timber industry owners often site prepared areas that would normally be too wet to plant. This practice resulted in areas along the edges of the basin swamps and dome swamps acquiring a thick understory of plant species normally only found in wetland vegetative classes. When these pine plantations with this wetland understory are prescribed burned, the results can be extremely difficult to control. The prescribed fire can burn with intensity similar to a wildfire. In these areas around margins of wetlands, extreme care must be exercised in order to contain the prescribed burn, which reduces the number of acres that can be safely burned in a single day. In addition to the problem with typical wetland fuels in the pine plantation edges, a significant challenge is dealing with the young trees in areas with high fuel loading. In many cases the gallberry is three to five feet tall, with the bottom branches of the trees in the same area as the top of the shrubs. The lack of prescribed fire has also allowed gallberry root mats to develop, which impede the establishment of longleaf and grasses after timber harvest. The use of herbicide helps in planting success but the high water table makes longleaf difficult to establish in many years.

Fire exclusion in these wetland areas by previous landowners has left many of these wetlands with extremely high fuel loadings. When prescribed burning adjacent to these areas, the possibility of fire-brands falling into these high fuel loaded wetlands often slows the number of acres that can be burned in a day. One of the future goals for these wetland margin areas is to allow the margins to burn with the associated mesic flatwoods prescribed burn. In the years since the state forest was acquired, drought conditions have made this goal unachievable except in the case of embedded dome swamps. With the return of wetter conditions, this practice of burning these wetland types with the adjacent mesic flatwoods should be achievable.

The goals of the Fire Management Plan (see Attachment) are to develop a "Firewise" State Forest, providing opportunities for a defensible forest during dry years with the ultimate outcome of minimizing damage from catastrophic wildfires; and, to establish the fire return interval necessary to maintain the health and vitality of the ecosystems within the forest boundaries. At JMBSF, the use of all available methods, including prescribed burning and mechanical and chemical vegetation control, are considered in the Plan.

The ultimate prescribed burning goal is to achieve a fire return interval of between two and four years. Using the acreages of historical natural communities as mapped by FNAI, this would mean burning 5,000 to 10,000 acres annually. As a practical matter, the average annual prescribed burn acreage will be increased initially to 5,000 to 8,000 acres. Prescribed burning plans will consider whether the age class and species of existing timber stands can tolerate prescribed fire. In the near future, annual prescribed burning plans that encompass up to 10,000 acres will be necessary in order to adapt to years and conditions that are most favorable for prescribed burning. In order to achieve these kinds of objectives, the potential for night burning will be evaluated and prescribed burning parameter guidelines specific to JMBSF and Baker County will be developed. Prescribed burning at JMBSF will also be expanded to include more aerial burning and burning during the growing season. Strengthening

partnerships with federal and private neighbors through cooperative projects is addressed by the Plan.

There are clear interactions between silvicultural practices and prescribed burning at JMBSF; these interactions will require some adjustments to standards set for normal state forest management. These exceptions may include reduced stocking densities, increased row spacing, creation of unplanted buffers and open areas that can be used as food plots, wildlife openings or locations for ground cover restoration, and re-orientation of rows to run perpendicular to the predominant direction of wildfires. Existing dense plantations must be thinned as a high priority, using both row thinning methods and select thinning. Each method has its own advantages and disadvantages, which must be weighed on a stand by stand basis. Row thinning is easier to supervise and quicker in a silvicultural sense but selective thinning results in the uniform reduction of the canopy across the entire stand, thus reducing the potential for major crown fires.

The Fire Management Plan also calls for greater coordination with Baker County on road maintenance and upgrading the forest road network to increase the width of primary and secondary roads to 30 feet, ensuring clear and permanent road identification, and the creation of turn around spots sufficient to accommodate fire-fighting equipment on dead-end roads. As the Plan evolves further, it will identify established anchor points for making stands against wildfire threats, developing trigger points for strategic and tactical decisions within or in proximity to the forest, and address personnel management strategies and resource requirement lists for fire events.

Hydrological Restoration Plan

Following the May 2007 Bugaboo Wildfire, the DOF deployed an experienced Hydrological Evaluation and Assessment Team in July, 2007, to examine existing roads, firelines and water control and drainage structures on JMBSF to determine their influence on the hydrology of the forest. The Team developed a Hydrological Restoration Plan (see Attachment) with the objectives of identifying priority "at risk" areas and recommending management practices that would restore both the hydrology and hydroperiod within the area affected by the Bugaboo Wildfire. The intent of this plan was to provide information and offer guidance in the rehydration of parts of the JMBSF that were impacted by previous land management activities in an effort to mitigate wildfire effects, especially in areas that have been made drier. The Team recommended that the JMBSF undergo a more thorough assessment involving elevation mapping and hydrological modeling, especially in areas bordering private properties adjacent to JMBSF.

The Hydrological Restoration Plan calls for road and structure maintenance on the primary roads as a priority for the forest management team at JMBSF, especially while salvage logging is ongoing. The Plan prioritizes actions in four quadrants of the state forest. These actions will include reinforcing low water crossings, repairing or replacing culverts, and reshaping road beds. Many of the existing culverts and low-water crossings on the primary roads should be elevated to slow the flow of surface water exiting the forest. The Plan also calls for rehabbing and reworking pushed firelines to restore sheet flow and reworking

roadways that are trapping, channeling and re-directing surface drainage. New firelines that tie into road ditches, existing firelines, waterbodies or wetlands should be blocked with soil plugs above the discharge point but outside of any Streamside Management Zone or wetland edge. Older firelines and drainage ditches should be plugged to prevent accelerated flow out of the system or wetland drainage. Any expanded fireline that is left intact as a fire safety lane should be maintained in such a way that surface flow during the wet seasons is maintained as naturally as possible.

Wetland/Upland Ecosystem Restoration

An approximately two square mile area in the forest is being evaluated as a focus area for restoration of ecological structure, function and composition. The DOF is seeking partnerships with other agencies, such as the Institute of Food and Agricultural Sciences with the University of Florida, in order to conduct adaptive management and research projects whose results can be exported to the ecological restoration of other areas of the forest. Development of these partnerships is an effort to leverage grant funding for applied management and research projects that address the complexity of restoration issues in a highly modified, wet landscape. The projects being discussed are restoration of Basin Marshes, Dome Swamps, and upland ground cover in their vicinity.

The historical Natural Communities map generated by the Florida Natural Areas Inventory for JMBSF identified 18 Basin Marsh occurrences for a total of about 299 acres. These ranged in size from 2.5 to 115.7 acres. Basin Marshes are ephemeral wetlands that provide important habitat for wildlife, especially amphibians and reptiles. The ecological function of these wetlands is closely tied to the condition of the surrounding wet and mesic flatwoods. An open pine canopy with a frequently burned ground cover of wiregrass and other grasses and forbs surrounding these Basin Marshes is especially important for the amphibians that depend on the wetlands to complete their life cycles. The Basin Marshes at JMBSF range in condition from small remnants overgrown with trees and shrubs to those that have been bedded and planted with off-site pine species. Some of the latter are hardly recognizable as wetlands.

These ecological restoration projects will involve the removal of off-site planted pines and encroaching hardwoods from the basins identified in the 1943 aerials. Some of these wetlands were bedded, so it may be necessary to apply intensive treatments such as harrowing to level the beds and other mechanical means to restore slopes and contours of the basins. Any ditches or fire lines that lead into the marsh will be harrowed or restored to grade. Restoration of ground cover in the surrounding wet and mesic flatwoods will focus on these communities within one-half mile of the basin marsh. Treatments may involve removal of off-site pines where these were not consumed by the wildfire. Identification of a seed source for wetter site ground cover will be necessary. Restoration may eventually involve both planting of wiregrass plugs and reseeding of scarified sites.

The historical natural communities map identified 393 Dome Swamp occurrences for a total of about 1,483 acres. These ranged in size from 0.5 to 26.2 acres. Cypress trees were harvested from these before acquisition by the state. Many were surrounded by fire lines. As a

result, some have no cypress and are a dense thicket of vines and hardwood shrub and tree species. Others have remnant cypress and slash pines over the dense thicket. Restoration of these may involve rehabilitation of the ecotonal fire lines and ditches, mechanical treatment to reduce hardwood cover, prescribed burning, and replanting cypress. Some of these actions may be contrary to Silvicultural BMPs and may not be possible or may require the granting of exemptions from BMPs.

Silviculture Plan

Since 2004, approximately 1,160 acres of timber have been harvested, not counting salvage sales from the significant wildfires. For the health of the stands and reduction of fuels, many acres are still in need of thinning. JMBSF personnel have developed a harvest plan for the remaining merchantable stands; implementation of this plan is on schedule.

The Bugaboo Fire burned approximately 28,000 acres of JMBSF and severely damaged about 6,500 acres of pine plantations, resulting in a significant loss to the timber resource on the Forest. The Silviculture Plan includes goals and objectives for thinning, site preparation and reforestation for the affected stands. The primary goals are to thin overly dense stands that were not burned and to reforest those areas formerly in pine production that were adversely affect by the recent wildfire in order to establish a Firewise State Forest that will better withstand the next wildfire event. Reforestation will be implemented by planting longleaf and slash pine where these are most appropriate, given their historical distribution and current site conditions. Site preparation prescriptions will be a combination of prescribed burning, mechanical and chemical treatments where appropriate.

Reforestation will take into consideration all aspects of hydrological restoration, which may result in the loss of some planted areas. Decisions whether to plant longleaf pine, slash pine or cypress can be dependent on the future hydrological objectives. Thus, reforestation must be adaptive and the Plan contained herein will be used as a living document.

Reforestation for 2007-08 concentrated on those stands that were planted during the 2005, 2006 and 2007 winters and were <1 to 3 years of age; that were treated with herbicide in the 2006 spring; and, that were burned over during Bugaboo in the 2007 spring. No additional site preparation treatments are recommended for the majority of this acreage. Rows were reoriented perpendicular to the general direction of wildfire movement in strategic areas to facilitate wildfire suppression. To facilitate increased survival rates, the 1,873 acres planted in 2007-08 were post-plant band-sprayed with Arsenal over the top of the seedlings. About 88% of these areas was planted with longleaf pine.

About 87% of the 1,607 acres scheduled for planting in 2008-09 will planted to longleaf, and will include stands that were clearcut during the Bugaboo Fire salvage. Site preparation consists of spot raking and piling of logging debris, single drum chopping and broadcast application of herbicides to control gallberry and other herbaceous vegetation.

About 82% of the 1,261 acres scheduled for reforestation in 2009-10 will be planted to longleaf and will include stands currently about 4 to 8 years of age that were severely damaged

by the wildfire. Mechanical site preparation will be used to lay down residual snags and to control woody vegetation. A follow-up treatment of appropriate herbicide may be used to further control competing vegetation.

About 93% of the 971 acres scheduled for reforestation in 2010-11 will be planted to longleaf and will include stands currently about 9 to 13 years of age that that retain an insufficient density of trees due to the severe wildfire damage. Mechanical site preparation will be used to lay down residual snags and surviving trees and to control woody vegetation. A follow-up treatment of appropriate herbicide may be used to further control competing vegetation.

Two years after planting, longleaf pine stands will be evaluated for dormant season prescribed fire suitability and, if appropriate, will be prescribe burned when they reach 2 to 3 years of age. Subsequent prescribed fires should be conducted once the pines reach sapling stage and thereafter with a return interval of no more than three years.

Six to eight years after planting, slash pine stands will be evaluated for dormant season prescribed fire suitability and, if appropriate will be prescribe burned when they reach 8 to 10 years of age. Subsequent prescribed fires should be conducted once the pines reach sapling stage and thereafter with a return interval of no more than 5 years.

Evaluation

A meeting will be held at JMBSF headquarters during 2009 to evaluate progress made during the first two years of restoration and to develop or modify plans for the coming year. All Action Items listed in this plan will be addressed. Those that have not been accomplished will be scheduled as Action Items in specific coming years. This meeting will consist of key staff from JMBSF, the Suwannee Forestry Center, the Forest Management Bureau and the Forest Resource Planning and Support Services Bureau.

Reforestation efforts will be judged based on the current State Forest Handbook criteria. Given the unusual restoration circumstances at JMBSF, it may be necessary to evaluate whether these are appropriate for restoration. Prescribed burns will also be subjected to post-burn evaluations as described in the State Forest Handbook.

John M. Bethea State Forest
Fire Management Plan

In the past eight years, the area now known as the John M. Bethea State Forest has seen several catastrophic wildfires burn onto and through the Forest. The Forest borders multiple large swamps (Pinhook, Impassable Bay and the Okeefenokee) which are major fire corridors in dry years. These swamps present significant fire control problems for the managing agencies and private landowners bordering the forest. Suppression efforts in these swamps are limited for several reasons, such as agency rules, equipment accessibility, fuel loading and fire behavior during these events.

As we develop a plan to re-establish our forest it must be accepted that time will be needed to fully realize the results of our efforts. Prior to State acquisition of this property it was managed with the primary focus of producing timber. This management practice has significantly altered the forest from what it is believed to have been many years ago. The result of this manipulation is a very homogeneous forest that will require intensive management and planning to achieve the desired future condition.

It has become readily apparent that a standard cookie cutter approach will not produce acceptable results in any program area of this forest. Therefore, we have established several committees to create plans and evaluate results that will allow this forest to withstand future fire onslaughts and thrive in this environment. This will require creative thinking and compromise throughout the organization over time.

A review of recent fire history demonstrates that fire management should be the central focus of any management strategy developed for the JMBSF. Without a centrally focused fire management plan, which is congruent with all other program areas, no single program area will be successful. *Understanding this is pivotal for successful development of future plans on the John Bethea State Forest.*

Goals -

a. Develop a "Firewise" State Forest, providing opportunities for a defensible forest during dry years with the ultimate outcome of minimizing damage from catastrophic wildfires.
b. Establish the fire return interval necessary to maintain the health and vitality of the ecosystems within the forest boundaries.

As we begin to develop the fire management plan, it is important to review the acquisition objectives for the property.

Fuels Management – This is crucial to meeting the overall goals of the fire management plan. History has shown managing fuels through prescribed fire, herbicide or mechanical means provides a greater probability of success during suppression actions and fire damage is greatly reduced overall. On JMBSF, we will need to apply all of these methods to manage fuel loading across the landscape with the overall intent of returning fire frequency to the appropriate level of two to four years.

Prescribed Burning – A fire return interval of two to four years seems to be ideal in most areas of the forest. However, there are many areas (primarily heavy gallberry sites) that will need a fire return of less than four years to maintain fuel loads at an acceptable level. Adjusting this interval at the stand level is expected but this is a good overall target for most of the forest. Establishing this as our return interval ("ideal") will require burning an average of 5,000 to 10,000 acres annually. Although this is a reasonable goal, it will be difficult to achieve during the initial years of implementation for several reasons. We discuss these reasons and our plan to mitigate them throughout this section.

Burning methods –

- Previous fuel loads dictated the majority of burning be accomplished through the standard method of hand ignition during daylight hours. This is labor intensive and generally slow burning method. The recent Bugaboo fire coupled with increased longleaf planting will allow for a more aggressive approach in the burning program, potentially increasing our total burn acreage. The fuel accumulations on the east side of the forest remain, presenting challenges when burning in these stands. These areas will be evaluated for potential night burning opportunities, as well as other initial fuel treatments, such as mowing, as a means to reduce fuel loads to acceptable levels, allowing for more aggressive burning.

- Ideally, the burning program will transition from the standard burning practice to more aerial burning as fuel loads are reduced and we become proficient with this more complex type of burning. This will be accomplished through training and planned cooperation with adjacent federal agencies.

- Develop and propose some specific burning parameter guidelines to submit for pre-approval through Forest Protection to minimize delays and increase burning opportunities overall.

Seasonal timing

- Due to historical fuel loads and containment concerns, growing season burning has not been accomplished. The fuel load reductions resulting from the Bugaboo Fire and additional longleaf plantations have created more opportunities to conduct growing season burns. Transitioning acreage, where appropriate, to growing season burns will increase the overall timeframe to meet the annual burning goals. Initially, this transition will provide the best opportunity to meet the ideal burn acreages.

Strengthen Partnerships

- Continue to strengthen relationships developed with our neighbors, US Forest Service, US Fish & Wildlife, Rayonier and Langdale, through additional cooperative projects. These projects should include but not be limited to, road and bridge projects, boundary maintenance and burning across forest boundaries where it is mutually beneficial.

Training

- The continued development adjacent to the forest, increasing aerial and night burning projects, and multi-agency burns will result in more complex burn projects in the future. Training decreases the learning curve, facilitating the development of more confident and competent prescribed burners. Identify personnel across the Suwannee Forestry Center for advanced training in the planning, preparation, and execution of increasingly complex burn projects. Courses should include Inter-Agency Prescribed Fire, Complex Prescribed Fire and PLDO training at a minimum. A mentoring program should be established with sister State forests that currently have an established aerial ignition program, such as Tate's Hell and Withlacoochee State Forests. This will provide additional insight and experience for planning and safely conducting complex aerial burns.

Mechanical Treatments

- This practice should be conducted on sites where burning is currently impractical due to fuel loads or timber stand types. Mid rotation slash pine stands should be evaluated for this treatment due to long fire return interval and the risk of unacceptable mortality that could be caused by burning too early. Schedule mowed areas for burning within one to two years post treatment, eliminating artificial duff buildup. As an alternative, breaking these stands into smaller blocks and using backing fire should be considered.

Herbicide Applications

- Though herbicide application may be the least desirable fuel treatment, consideration for a site-specific application where ground cover is predominately gallberry is necessary. Additionally, younger Slash Pine stands should be evaluated for herbicide application to control vegetation prior to implementing a feasible burning rotation.

Silviculture - This section provides general guidelines which if followed will assist in creating a "Firewise" forest in the future.

Reforestation- The Division has standard reforestation guidelines to follow when replanting on a state forest. These guidelines are generally consistent with accepted forestry practices providing a sound baseline to produce a valuable timber stand over time. These guidelines work very well in most places and have a proven record of accomplishment. However, the JMBSF is a unique situation that may require thoughtful application of reforestation guidelines and perhaps modification to the guidelines in some areas in order to protect the valuable timber already established, as well as on reforested acres.

Tree species selection

- As reforestation begins, every consideration should be given to planting longleaf when possible. This will provide early opportunities to re-introduce fire in the stand without allowing shrub vegetation to be reestablished. Additionally, the fire tolerant nature of this species will help to reduce timber damage when a wildfire does burn through the stand.

- Slash Pine is a less desirable selection due to difficulties with re-establishing fire in these stands, generally 10-13 years in wet flatwood sites. In these stands, early rotation mowing and/or herbicide applications may be necessary to facilitate fire return without unacceptable mortality from wildfire or prescribed burning.

Row spacing

- The standard row spacing should be at a 12 foot minimum, with 13 – 14 feet being ideal. This will optimize tractor operation during suppression activities while minimizing root damage caused by the fireline plow. However, this additional spacing creates problems when attempting to utilize existing beds during reforestation efforts.

- Leave 10 to 15 feet minimum (both sides) between the stand and any roads in the planting area. This increased width will provide greater opportunities for success during counterfire, burnout and holding operations conducted in suppression efforts. The increased grasses on the roadside will decrease the amount of time needed to establish a good baseline during prescribed fire operations, allowing for a safer burn and more efficient use of available resources.

Open Areas

- Establish open areas periodically by not planting a row or two within larger interior stands and next to pre-established anchor points. Create open strips within a ½ mile of all boundaries, specifically those adjacent to fire corridors (major swamps). Orientation of these strips will be determined prior to planting and harvesting operations. These open areas may be used as food plots, wildlife corridors/openings and fire breaks during suppression activities. Proper maintenance for these strips will be harrowing prior to fire season or prescribed burn operations and mowing as needed to minimize shrub encroachment and enhance native wildlife browse.

- Evaluate the feasibility of creating 30 – 50 foot open areas around all major bays such as Pinhook and Impassable, effectively establishing a swamp edge break around historical fire corridors. Any established breaks in these areas will be harrowed flat not to create any further hydrological issues.

Row Orientation

- Row orientation in reforested areas should be perpendicular to major fire corridors. For example north and south of SR 2 and the railroad track pines need to be planted generally east and west within ½ mile on both sides. This particular location will be one of the major anchor points created on the forest. Further discussion regarding anchor point development is in the Wildfire Operations section.

Timber Harvesting

- Thinning is perhaps the most important method to increase the probability of success during suppression activities and to prevent the loss of timber and ecological resources due to wildfires. At least in the beginning of this plan, preference and emphasis will be given to third-row thinning especially in stands of a younger age class. The reason is that this method will allow the thinning of a greater number of acres and is less dependent on manpower availability. Thinning using selection methods in older stands will be tested during the first few years of the plan to determine the feasibility of this approach (see Silviculture Plan). These methods can thus be carefully evaluated and monitored to determine if they create more breaks within the stand when compared to a row thin, if they create better access throughout the stand, and if the uniform canopy reduction can reduce the potential for major crown fire runs. These potential advantages can

then be evaluated to determine whether a balance can be reached with the ability to achieve long-term silvicultural goals and costs of conducting selection thinnings. Reducing the probability of extreme fire behavior and increasing overall firefighter safety, especially when traveling across the rows as compared to within the rows, are primary objectives for all these thinning operations.

- Historically, thinned stands have decreased mortality rates after a wildfire burns through when compared to unthinned stands. The thinning operations that are currently in progress will help to control vegetation, re-establish fire return intervals and reduce potential losses during future wildfire events. Thinned stands will be placed on the burning rotation and burned within two years of thinning being completed.

Road Considerations

Primary Road Network

- Work with Baker County officials to develop better maintenance schedules and possibly pursue potential grant funding to enhance the major county grades bisecting the forest.

Secondary Road Network

- Increase width of all secondary roads by 10 feet on each side, with the standard being a minimum of 30 feet, tree line to tree line.

- Ensure road network is correctly and permanently marked and develop a marking scheme identifying all dead end roads.

- Create turn around spots along all dead end roads; distance between turnarounds will be based on road length.

- Completing these items will increase safety of firefighting personnel, reduce response times, provide clearer direction for outside personnel assisting during major wildfires and increase burnout and holding options. Additionally these enhancements will create additional breaks for use during prescribed fire operations, creating opportunities for more efficient use of available resources.

- Evaluate industry standard map books to determine applicability, scale and detail needed for state forest management.

Wildfire Planning Considerations - Fires over the last ten years have provided opportunities to hone our firefighting skills. We have developed outstanding working relationships with cooperators in the area, readily assisting each other during trying times. We have safely battled major wildfires with multiple agencies, private landowners, and industry personnel all with different experience levels, equipment, and fire fighting strategies. We have become well versed in establishing and maintaining this type of network, minimizing potential conflicts when the big fire breaks. Firefighters in this area are as good initial attack firefighters as you will find anywhere in the state and country. An area needing some fine-tuning is the transition from initial attack to extended and reinforced attack. The development of a fire management plan will assist with this transition and provide the framework for decision making during future fire events.

Established Baselines – These baselines will be established along major roads bisecting the forest, effectively breaking the forest into zones or quadrants. These quadrants can then be used to assist in determining trigger points (predetermined action based on current or expected events) for future wildfires. The first ½ mile on each side will be intensively managed to provide the greatest potential of success in controlling any major wildfire. These areas will incorporate many if not all of the ideas mentioned throughout the plan, to include decreasing the fire return interval to two years.

- These areas have been selected by Resource and Operations personnel with intimate knowledge of fire history, behavior, suppression tactics and resource planning knowledge.

- Maintenance work on these areas will be identified in the forest's annual action plan and conducted primarily by Operations personnel.

- Location considerations were included but were not limited to major roads, interior forest roads that traverse the entire forest, major breaks or open areas developed around major fire corridors.

i. ***Trigger Point Development***

- Develop course of action based on fire location, expected fire weather, fire behavior, and resources available for each anchor point on the forest. This should be used as a guide when making strategic and tactical decisions within or in proximity to the forest.

j. ***Resource Utilization***

- Develop tiered personnel management strategy assigning specific roles and responsibilities to assigned personnel, implemented during any major operations such as wildfire or large prescribed fire.

- Develop resource requirement lists for fire events; consider holding, burnout operations and suppression activities. Completing some minor modifications and this could easily transfer to the burning program.

- Relocate Su 52/53 from Taylor to the Pinhook Fire Station at the JMBSF headquarters.

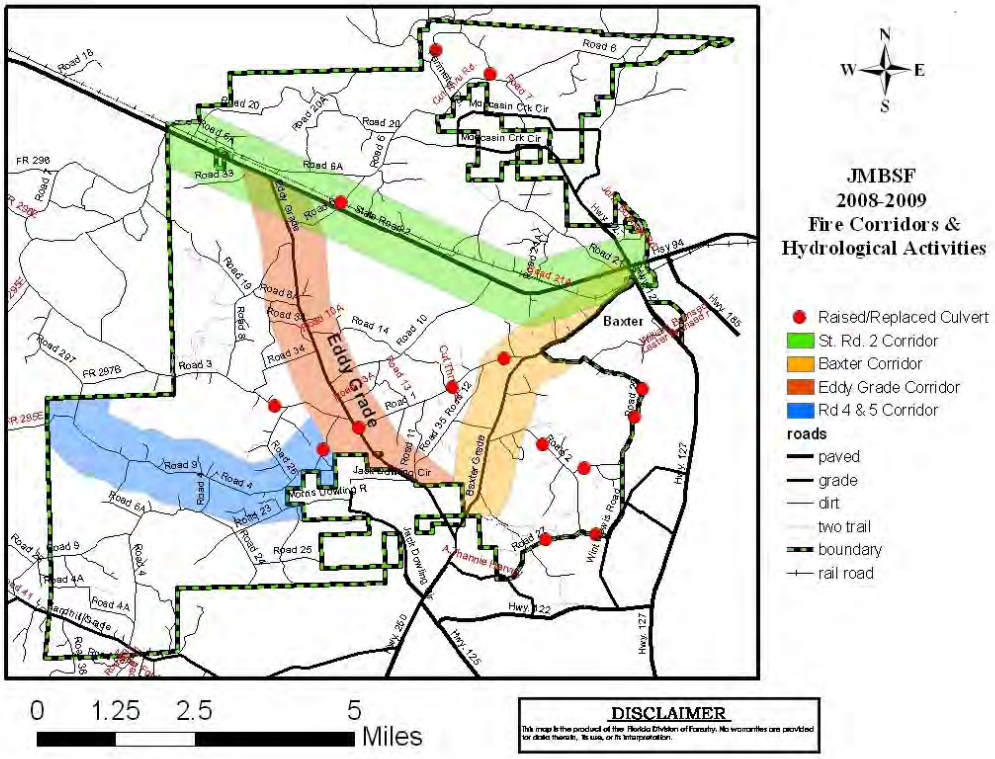
Discussion Items:

1. Identify stands which should be considered in rotation and prioritize these stands for future burning. Development of priorities should consider stand location (proximity to major swamps and boundary), stand type and burn history. We do not need to lose what is currently in rotation!

2. Increased burn acreage and maintenance issues created by development of open areas etc…throughout our forest will strain the limits of our current workforce. Look at staffing requirements, current structure and personnel management issues. Develop courses of action based on current and ideal staffing. Consider all options for increasing burn opportunities.

3. Improve weather monitoring system or better utilize available systems.

John M. Bethea State Forest
Fire Management Plan



Action Items:

1. Relocate Su 52/53 from Taylor to the Pinhook Fire Station at the JMBSF headquarters. Complete.

2. Identify stands which should be considered in rotation and prioritize these stands for future burning. Complete.

3. Identify personnel in the Suwanee Forestry Center for advanced training in the planning, preparation and execution of aerial burning and in complex prescribed burning projects. Complete, still need to execute some of the training.

4. Identify stands on the east (unburned) side of the forest with
    a. Potential for night burning. Identification complete, burning has commenced.
    b. Potential for other fuel treatments.

5. Identify stands suitable for growing season burning. In Progress

6. Hold a meeting with potential partner agencies to discuss fire management strategies, cooperative projects, restoration, road and bridge projects, boundary maintenance and burning across forest boundaries. In Progress, working with USFWS and GOAL.

7. Conduct both row thinning and selective thinning and compare the efficacy and efficiency of the methods. In Progress, all stands in thinning window will be complete by close of FY08-09.

8. Refine map of potential open (nonreforested) areas along major roads and in the vicinity of boundaries. Fully develop a baseline open area along at least one of the major road corridors in the forest. In Progress.

9. Increase width of select secondary roads by 10 feet on each side; if initial results are promising, develop plan for accomplishing this on a wider group of secondary roads. In Progress.

10. Develop road marking scheme that identifies dead end roads. In Progress.

11. Create turn-around spots on dead end roads that can accommodate DOF equipment. In Progress.

12. Evaluate industry standard map books to determine applicability, scale and detail needed for state forest management. In Progress.

13. Improve weather monitoring system or better utilize available systems. In Progress.

14. Evaluate mid-rotation slash pine stands for the potential use of mechanical fuel reduction treatments such as mowing and chopping prior to prescribed burning.

15. Evaluate slash pine stands for the potential of use of herbicides to control vegetation prior to implementing prescribed burning.

16. Evaluate the feasibility of creating 30 to 50 foot open areas that are harrowed around major bays, such as Pinhook and Impassable.

17. Meet with Baker County officials to develop better maintenance schedules and possibly pursue grant funding to enhance the major county grades bisecting the forest.

18. Develop a fire management plan that addresses the transition from initial attack to extended and reinforced attack, and provides a framework for decision making during future events.

19. Develop course of action based on fire location, expected fire weather, fire behavior, and resources available for each anchor point on the forest to be used as guide (trigger points) when making strategic and tactical decisions.

20. Develop tiered personnel management strategy assigning specific roles and responsibilities to assigned personnel, implemented during any major operations such as wildfire or large prescribed fire.

21. Develop resource requirement lists for fire events; consider holding, burnout operations and suppression activities.

John M. Bethea State Forest
Post-2007 Bugaboo Fire Hydrological Restoration Plan

INTRODUCTION

In May 2007 the wildfire event known as the "Bugaboo Fire" burned over 120,000 acres in northeast Florida, including over 29,000 acres of the John M. Bethea State Forest (JMBSF) in Baker County. While the fire consumed over 70% of the standing timber in the forest exposing the forest floor to direct impact from rainfall; fire suppression efforts further exposed soil and road structures to erosion and degradation.

Additionally, the current salvage timber harvesting operations are impacting roads and water management structures that may ultimately have a long term impact on the hydrological integrity of the forest.

The JMBSF, acquired by the State of Florida in 2001, has been vulnerable to wildfire events over the years but in the recent past several major fires (the "Friendly Fire" in 1999 and the "Impassable Bay Fire" in 2004) have resulted in the loss of tens of thousands of dollars in timber revenue.

Consequently, the Division of Forestry is developing methods and forest management practices to make JMBSF more "resistant" to devastating affects of wildfires by taking a comprehensive look at various aspects of the forest's management, such as planting row/drill orientation, species composition, and, as this document reports, hydrologic restoration.

PURPOSE

A Hydrological Evaluation and Assessment Team ("Team"), made up of four individuals from the Hydrology Section in the Forest Resource Planning and Support Services Bureau, conducted a field assessment from July 27 – August 1, 2007. The team was assigned the task of looking at existing roads, firelines and water control and drainage structures on JMBSF to determine their influence on the hydrology of the forest.

Based on their observations in the field the team has developed this Hydrological Restoration Plan with the objective of identifying priority "at risk" areas and provide guidance by recommending management practices that would restore both the hydrology and hydroperiod within the area affected by the Bugaboo Wildfire.

METHODOLOGY

The Team divided the entire forest into four quadrants, Northeast (NE), Southeast (SE), Southwest (SW), and Northwest (NW), and each team member assessed one quadrant. Because most of the burned area lay in the north and western portions of the forest the SE was combined with the SW Quadrant (See Attachment 2, Map 1).

Each Quadrant was assessed using a GPS unit and standard Assessment Form developed specifically for this project. Each assessment point was located by lat./long.(for mapping purposes) and described by identifying type of structure and condition or status encountered, proposed remedy for problematic situations, and priority in terms of hydrological improvement. (See Attachment 1)

The Team identified **12** Hydrological Priority Areas on the Forest, which are listed below by Quadrant and team member responsible for assessing the area. The findings and recommendations for restoration for each Priority Area are discussed in detail in this Plan. (Refer to Maps 2-5 of Attachment 2 and Attachment 3)

The **NE QUADRANT** was assessed by G. Marshall and earlier by T. Gilpin during a separate Wetland Restoration Needs Assessment and revealed the following Priority Areas:

1) St. Mary's River/Bugaboo Pushed Fire Break Area, 2) Okefenokee Swamp Fire Break/Perimeter Road Area, 3) Perimeter Road/ "Cut Through" Road/ Road 6 Area, 4) Bugaboo Pushed Fire Break/Road 21/Moccasin Swamp Area, and 5) Moccasin Creek Area (See Attachment 2, Map 2)

The **NW QUADRANT** was assessed by T.Gilpin and had the following Priority Areas:

1) Road 20/ Okefenokee Swamp Fire Break Area, 2) Road 6/ Railroad Track Area, 3) "Potato Patch" Firelines, and 4) Interior Road Areas (See Attachment 2, Map 3)

The **SW/SE QUADRANTS** were assessed by L. Barnwell and R. Lima and revealed the following Priority Areas:

1) Pinhook Swamp Area, 2) Moccasin Swamp Area, and 3) Little River Bay Area (See Attachment 2, Map 4)

Photo 1: Plowed Fireline connected to Moccasin Creek

GENERAL OBSERVATIONS

The Team mapped a total of 228 waypoints, identified and evaluated a total of 192 structures, 186 of which fell within a priority area. Findings included 37 Above- and Below-Grade Roads (AGR/BGR), 16 culverted stream/drainage crossings (CX), 28 improved low-water crossings (LWX), 29 bridges, approximately 7 miles of field drainage ditches (DCH), and over 100 miles of road ditches (RD) and firelines (OFL/NFL), including approximately 2.5 miles of new pushed firelines (PL).

It should be noted that some areas covered in this assessment have historically been wetter but are now drier as a result of land management practices implemented by previous land owners over the last 50+ years. Consequently, these sites currently support artificially regenerated pine plantations and plant communities adapted to drier sites.

In addition, it should be understood that the intention of this Plan is to provide information and offer guidance in the re-hydration of parts of the forest impacted by previous land management activities in an effort to mitigate wildfire affects on JMBSF. If these recommendations are followed some of those sites may be wetter, more closely resembling their natural historical condition.

Finally, it should be noted that prior to the implementation of the recommendations offered in this plan the property should undergo a more thorough assessment involving state-of-the-art elevation mapping (LIDAR) and hydrological modeling to determine all potential off-site impacts. This is particularly critical for those areas bordering private properties adjacent to the state forest.

Photo 2: Service Road channeling surface flow into Road 20 ditch

John M. Bethea State Forest
Post-2007 Bugaboo Fire Hydrological Restoration Plan

FINDINGS/RECOMMENDATIONS
NORTHEASTERN QUADRANT

Field Assessment By
Greg Marshall

(See Attachment 2, Map 2)

The Northeast Quadrant of JBSF consists of wet flatwoods, mesic flatwoods, floodplain forest, basin swamps, dome swamps and basin marshes (JBSF Stand map). Most of the area has been drained and converted to pine plantation over the last 50 years. Otherwise the dominant ecological community would likely be wet flatwoods and basin swamps.

The drainage in this quadrant flows from the north through Cross Branch which flows out of the Okefenokee Swamp to the north; from the west through Lake Holes Branch out of the Lake Holes Swamp; and from the south from Moccasin Swamp to Moccasin Creek. Much of the water in the area flows into Moccasin Creek which flows southeast into the St. Mary's River. Plowed lines, pushed firelines, ditches, roads, and plantation rows disrupt the natural hydrological pattern in the area.

The road network in the quadrant consists of several primary forest roads (Rd 6, Rd 7, Rd 21, Perimeter and 'Cut-Thru' Roads) and numerous secondary roads. All of the roads included in this assessment need improvements and maintenance such as replacing, cleaning and removing culverts; adding armoring material to low water crossings; raising low water crossings and culverts; installing turnouts at bridge approaches; and re-pulling road ditches.

Firelines and push lines are another concern on the forest and need to be addressed. The majority of these lines are draining the water directly to road ditches which is accelerating the drainage of the area. These lines can be found along stand edges (swamps and hills) and through ponds and plantations. These lines need to be plugged in order to allow the water to recharge in the forest.

However, from a hydrological standpoint, listed below are several key areas of concern that need to be considered high priority:

4. <u>ST. MARY'S RIVER/BUGABOO PUSHED FIRE BREAK AREA</u>
(Bugaboo Waypoint # 154, 216-218)

The condition of this spot has improved somewhat since the fire. The woody debris has been re-distributed to some extent and the flow of the waterbody has resumed a somewhat natural pattern. To try to do more at this point would create more negative impact than positive. **Recommend monitoring for degradation.**

However, some old firelines tie directly or indirectly into the Pushed Line from the north. **Recommend ditch plugs where surface flow is being re-directed and channeled into the St. Mary's River or its flood plain.**

The Bugaboo Pushed Fireline, though effective in cutting off fuel to an open run of a wildfire, leaves soils exposed, potential for channelization, as well as a berm of debris and soil which impedes natural sheet flow across a landscape. In this case, where the pushed line ties directly into the St. Mary's River water quality may impacted by sediment discharge. **Recommend elongated ditch plugs or high water bars where surface flow is being re-directed into the St. Mary's River floodplain; rehab pushed fireline by either pulling berm back into open area or breaking wide "holes" in berm and maintain open as a fire "safety lane" in which only grasses or low groundcover vegetation is encouraged.** * ***This should be done as soon as possible, before the site is overgrown with mid-story vegetation***

5. OKEFENOKEE SWAMP FIRE BREAK/PERIMETER ROAD AREA
(Bugaboo Waypoint # 172)

The forest's north boundary lies adjacent to the "Okefenokee Swamp Break" (a 30-ft. wide firebreak). In several places along its route the swamp break traps water and redirects flow during the wet season. Where practical, and without creating a problem for our neighbor to the north, **Recommend installing ditch plugs at all points where the swamp break intersects with roads, firelines and "potato patch" lines leading onto the State Forest.**

Observations:

- On a secondary road north of the intersection of Road 6 and Perimeter Road in the northeast portion of the forest surface drainage from the swamp break has overtopped a damaged 18" metal culvert and caused erosion to the east. The water ultimately flows to a drain that contributes to the St. Mary's River. **Recommend replacing the culvert with the same size, thus avoiding the necessity of acquiring a Noticed General ("Jiffy") Permit from St. John's River Water Management District (SJRWMD).**

6. PERIMETER ROAD/CUT THROUGH/ROAD 6 AREA
(Bugaboo Waypoints #195, 196,197, 199, 223, 225)

This area lies adjacent to the north forest boundary and is influenced by the Okefenokee Swamp Break, particularly during lower water levels when the water is trapped or channeled by the swamp break and forced to flow south into the State Forest. **Recommend removing "Cut-Thru" Road if deemed unnecessary to operations; if "Cut-Thru" remains, provide additional conveyance either with culverts or elevated low-water crossings on both Perimeter and "Cut-Thru" Roads to slowly encourage flow through the area.**

Observations:

- On the north portion of Perimeter Road, close to the north forest boundary, the water is impounding on the north side of the road. This water needs to be slowly redirected across the road through elevated low water crossings.
- "Cut Thru" Road is acting as a dam and the water is impounding on the north side. The water can be redirected along the road and conveyed under Perimeter Road to Lake Holes Branch during high water periods by replacing the culvert and installing an elevated low water crossing. If another low-water crossing is in close proximity to this location that one should be elevated. Also, an elevated low water crossing can be installed on "Cut Thru" Road to encourage the water south at high periods. Caution needs to be taken as water can be redirected onto adjacent landowners.
- On the west side of the loop, on both sides of Perimeter Road, a basin marsh site exists that is important to restore to its natural plant community.
- Previous industrial landowner(s) delineated timber stands and, effectively, wetland plant communities, by plowing or blading shallow firelines around their peripheries and tying them into nearby road ditches. Over time some of these lines have eroded to an extent which causes significant surface water channelization during storm events and in some cases draining wetlands.

7. BUGABOO PUSHED FIRE BREAK/ROAD 21/MOCCASIN SWAMP AREA

(Waypoints #174 & #154)

There are two large pushed firelines that were a result of the Bugaboo Fire that need to be rehabbed as soon as practical and maintained. These lines need to be rehabbed by leveling and spreading grass seed in order to stabilize the line. If this is not achieved the lines will continually accelerate the drainage causing an erosion problem in the future. If the lines are not maintained after rehab the open areas will become overgrown with vegetation and once again become a fire danger. If the lines cannot be maintained the lines need to be chemically treated to control woody vegetation and then planted with slash pine. **Recommend immediate rehab effort by either pulling berm back into open area or breaking wide "holes" in berm and maintain open as a fire "safety lane" in which only grasses or low groundcover vegetation is encouraged.** **** This should be done as soon as possible, before the site is overgrown with mid-story vegetation.***

Observations:

- A section of the road within the Pushed Fireline, near the forest boundary in Section 35, has a small berm on each side, channelizing water within the road and impeding natural flow **(Photo # 3)**. The road edges should be disked to permit flow across the travel lane. Some areas of the road may need armoring with rock, tile or other suitable material.

8. MOCCASIN CREEK AREA

(Bugaboo Waypoint #s149, 161-163, 204)

This area may need additional hydrological assessment to identify potential off-site impacts resulting from restoration efforts. A number of private properties exist adjacent to the forest in this area so residents should be notified of any restoration activities occurring there. New firelines that tie into Moccasin Creek and road ditches need to be plugged to

prevent wetland drain and water pollution. **Recommend ditch plug on south end of fireline near SW curve of Moccasin Creek Circle and on north end at the creek itself; *immediately* remove debris from ingress of culverts on Moccasin Creek on W Moccasin Creek Circle.**

Observations:

- A secondary road the runs south off of Road 6 along the edge of a basin marsh. The road is accelerating and redirecting the drainage of the area. The area is low and the water flows west towards Moccasin Creek. This area has great potential for ecological restoration.
- The north east portion of a secondary road located on the northwest side of Moccasin Swamp needs to be removed (closing it off will not keep ATV's out) since it is underwater and it does not provide benefit for land management operations.
- The water flows southeast across the road towards Moccasin Creek.
- New fireline ties directly into Moccasin Creek from secondary road leading southwest from Moccasin Creek Circle; road being used as loading area for logging operation **(Photo #1)**.

Photo 3: "Bugaboo" Line showing road trapping & channeling surface flow and berms associated with line construction.

John M. Bethea State Forest
Post-2007 Bugaboo Fire Hydrological Restoration Plan

FINDINGS/RECOMMENDATIONS
NORTHWESTERN QUADRANT

Field Assessment By
Tom Gilpin

(See Attachment 2, Map 3)

9. ROAD 20/ OKEFENOKEE SWAMP FIRE BREAK AREA
(Bugaboo Waypoint #s 123-125, 128-131, 133,138)

This part of the forest tends to remain wetter than other parts of the forest, being so close to the Okefenokee. Road 20 runs east-west, following a "ridge" of high ground – mesic and wet flatwoods - and is the primary access to this area. It was constructed at grade for most of its length but has ditches on both sides and is elevated above grade in numerous places to provide drier access.

In general, surface drainage appears to flow north, except where the road ditches or firelines intercept and re-direct it **(Photo #2)**. At the time of this assessment the Division Road Crew was working on Road 20 – re-shaping the road bed, replacing culverts and making improvements to the low-water crossings – in response to traffic damage incurred after the fire. Their progress, however, was slow, and has since ceased altogether because of the extremely wet conditions.

As in other parts of the forest basic road maintenance is needed: several culverts and low-water crossings need to be improved or re-worked. Also, several dips in the road need to be made low-water crossings to provide continued flow.

If the intention is to re-hydrate parts of the forest that have burned in recent fires: **Recommend major effort in relocating, elevating, and/or removing crossings on Road 20 to slow rate of surface drainage to the north. Several culverts can be replaced with elevated low-water crossings, armored with rock or other appropriate material.**

Observations:

- On the western end of Road 20 new road work has been done and early traffic is beginning to rut the roadbed. Access to road should be restricted once the salvage logging is complete until road can stabilize.
- Western end Road 20 impedes surface flow and forces flow northeast along its eastern ditch. **Recommend installing additional conveyance, either cross-drain culvert or low-water hard-surface crossing to encourage flow to west side road ditch.**
- Some old firelines tie directly into road ditches. **Recommend installing ditch plugs at these locations just outside the road ditch.**
- "Potato patch" lines perpendicular to the western end of Road 20 are cut off from the ditches by a secondary plow line. However, these lines themselves are tied to nearby drains or other firelines and are re-directing flow, in some cases accelerating drainage. **Recommend re-evaluating these lines and install ditch plugs where needed.**

10. ROAD 6 / RAILROAD TRACK AREA
(Bugaboo Waypoint #s 140, 141)

Several old ditches installed by previous landowners to purposely drain wetlands exist on the forest. Many are deep, wide structures, but most are like the one found here, 2-3 feet deep and 6-8 feet wide. Most are covered by dense shrubby vegetation and are difficult to locate on an aerial photograph. Since this area burned in the Bugaboo Fire the spoil pile are accessible. **Recommend filling the ditch as much as possible with remnant spoil along the ditch, effectively plugging the drain to the wetland.**

Observations:

- Old drainage ditch extends from west side of Road 6 about 10 chains into a dome swamp, effectively draining it.
- Ditches adjacent to old woods road leading into an old burn area parallel to the railroad track still transport water from the bay swamp west. Ditch plugs needed.

11. "POTATO PATCH" FIRELINE AREAS
(Wetland Restoration Assessment Waypoint #s 122-126, 132-133, 139, 142)

Due to the high fire activity in the past many of the flatwoods pine plantations have firelines pulled down their rows ("potato patch"). Initially, the potato patch lines are pulled down every third or fifth row but over the years, as the practice is repeated, the lines are shifted to another, un-plowed row. Ultimately, in some areas, every row ends up being plowed. In areas where these rows tie into road ditches and/or firelines the surface drainage is accelerated, altering the hydroperiod of the site. **(Photo # 4)**

Since DOF typically does not implement the practice of "bedding" when planting state forest lands, it is anticipated that drainage from planted sites will ultimately revert more or less to a natural sheet flow pattern across the landscape in the future.

At the present time most of the "potato patching" that is altering the hydrology on JMBSF occurs adjacent to the primary roads in the northern part of the forest (Roads 6, 6A, 7, 20, and Perimeter Road); many of the plantations in which they occur are either being salvaged now or will be harvested with the next 5 years.

- In those areas being cut now and which will be machine planted: **Recommend plowing lines within the plantation area perpendicular to the row direction after planting. The length of these plow lines should not be extensive but should be between the crest of the "hill" and the road ditches, wetlands, and/or firelines. It is important not to connect these lines to a swamp or an existing line or ditch.**

- Where re-planting will be done by hand: **Recommend plowing lines within the plantation area perpendicular to the row direction before or after planting. The length of these plow lines should not be extensive but should be between the crest of the "hill" and the road ditches, wetlands, and/or firelines. It is important not to connect these lines to a swamp or an existing line or ditch.**

-In those areas where a final harvest is not scheduled within the next 5 years: **Recommend re-pulling road ditches with an emphasis on creating a berm to stop or at least minimize the drainage from the plantation.**

12. INTERIOR ROAD AREAS
(Wetland Restoration Assessment Waypoint #s 153,194, 172, 174)

Forest road construction, more than any other forest management activity, can affect water movement on a tract of land with as little topographic relief as JMBSF has. Under normal circumstances, where natural hydrology is impeded by above grade roads, the solution is to remove all or part of the road to improve flow.

Although JMBSF doesn't have any roads that run above grade their full extent, there are a considerable number of above-grade sections of road that significantly affect the hydrology of the forest. However, on JMBSF the objective is to lengthen the hydroperiod to minimize the amount of water draining from the area, thus reducing the risk of destructive fire events. Consequently, there are very few recommendations for road closures in this plan.

Recommendations made in this Restoration Plan, if followed, should re-hydrate many areas of the forest where secondary and tertiary roads will become flooded and less desirable for traffic. The State Forest management team should be aware of any undesirable hydrological changes that interfere with management objectives by flooding important forest roads.

FINDINGS/RECOMMENDATIONS
SOUTHERN QUADRANTS

Field Assessment By
Lee Barnwell and Roy Lima

(See Attachment 2, Map 4)

Critical areas of impact south of Highway 2 were noted in three separate quadrants: 1) the area west of Eddy Grade to the property line encompassing Pinhook Swamp and associated forest roads; 2) the area between Eddy Grade and Baxter Grade encompassing Moccasin Swamp; and 3) the area southwest of Eddy Grade involving Roads 3, 4, 9 and 26 and encompassing Little River Bay.

1. PINHOOK SWAMP AREA, WEST OF EDDY GRADE
[Bugaboo Waypoint #s 22, 23, 78-81 (Lima); 150-152, 159-160 (Gilpin)]

Generally speaking, the existing water control structures (i.e. low water hard surface crossings, culvert crossings, and bridges) are in fair-to-good condition. However, Eddy Grade, the primary access in the southwestern part of the forest, impounds surface flow where it is above grade, and is subject to flooding where it is at- or below grade. Additional conveyance is recommended through culvert replacement or improvement.

Eddy Grade, with open access by the public, particularly on the south end of the road, is a county road. Baker County holds a 100-ft right-of-way easement and is responsible for maintenance. * ***Any reparations or maintenance work recommended for Eddy Grade in this Plan must be coordinated with the county.***

It appears that surface flow in an area along and at the end of Road 33 south of SR 2 is being accelerated by the road ditch which extends into a wetland. According to aerial photographs and industry type maps this area was historically wetter than it is now, and would flow south under Road 19 into Pinhook Swamp. Two metal culverts and a Low Water Crossing provide conveyance on Road 19. However, one of the culverts is badly damaged and essentially nonfunctional. **Recommend replacing the damaged culvert on Road 19, remove the western section of Road 33, and plug the south ditch from where Road 33 turns NW.**

Observations:

- The north-south orientation of Eddy Grade occasionally impounds the flow of water from west to east.
- Several culverts are in poor condition and should be replaced with like diameters.
- Existing road conditions are degrading near low lying areas due to timber salvage operations and truck traffic.
- Existing culverts along Eddy Grade appear to be in good condition and functioning satisfactorily. However, several waypoints were noted where flow patterns across the road dictate additional road work or perhaps Low Water Crossings should be installed. Road washouts and vehicular traffic is a concern.

2. MOCCASIN SWAMP AREA, S. OF SR 2, BETWEEN EDDY GRADE, & RD 10
(Bugaboo Waypoint #s 4, 6, 8-69)

The greatest concern for hydrological restoration occurs within this area of the forest. Moccasin Swamp occupies a very large area on both sides (north and south) of Highway 2. The general surface water flow into Moccasin Swamp is from the south and east. Problems were observed where existing above-grade roads, Road 10, in particular, serve as impediments to the natural direction of flow. Conveyance under Road 10 is inadequate, both in number of and capacity of structures. Here the team observed that while one side of the swamp was hydrated, the other remained dry. **Additional conveyance under Road 10 is recommended to equalize the hydrology on both sides of road.**

Observations:

- Road 10 from Highway 2 to the intersection of Eddy Grade is a high priority item. The general flow is from the southeast to the northwest into Moccasin Swamp. Two concrete bridges were noted and are in good shape. Two existing Low Water Crossings are functional but need additional rock or other inert material, especially along both approaches to the wetland drain. The four crossings on this road seem to be inadequate - Road 10 is an above grade fill road constructed through the southeast one-third of Moccasin Swamp and impedes flow into Moccasin Swamp.
- The flow along Road 14 is southwest to northeast into Moccasin Swamp. Four Low Water Crossings were found to be in similar condition, all requiring improvements such as additional rock in the channel and along both of the approaches.

3. LITTLE RIVER BAY, SW OF EDDY GRADE, TO WESTERN FOREST LINE

(Bugaboo Waypoint #s 74-76, 59, 61, 64-65)

This area, though burned in the Bugaboo Fire, had much of its fuel load reduced dramatically in the Impassable Bay Fire. For the most part, this area of the forest, seems to be least impacted from a hydrological standpoint. Most of the structures encountered in this area remain intact. However, the hydrology in several areas on the western extreme of the forest is being affected by old firelines draining wetlands and/or re-directing surface flow. **Recommend plugging firelines prior to intersecting with road ditches.**

Fire suppression and logging traffic has severely degraded some roads in this area, primarily Road 24, Road 4 and the lower part of Eddy Grade. Where surface drainage connects with primary water arteries during the rainy season water quality may be an issue. **Recommend re-working roads and stabilizing with armoring if continued use is anticipated; with vegetation, if not.**

Observations:

- Direction of flow north of Road 3 is to the east from Pinhook Swamp toward Moccasin Swamp.
- Surface water flows south from Road 3 into Little River Bay. Existing bridges are in good shape.
- Flow continues south under Road 4 into Gum Swamp and Gum Swamp Creek. Culverts, bridges, and LW crossings are in good shape.
- There is a need for road work along a stretch on Road 24 between Road 4 and Road 25. Two wallowed/rutted spots have occurred at waypoints 064 and 065 on Road 24; perhaps due to logging truck traffic. Installation of several LW crossings is recommended.
- The extreme southwest portion of the forest west of Road 4 has flow problems. Waypoints 075 and 076 are old firelines that tie into Road 9 and should be plugged.
- Waypoint 077 is a ditch and should be plugged. This should help retain water within existing isolated wetlands north and south of Road 9.
- Established LW crossings are functioning satisfactorily. However, several were observed that need improving. **Improvements such as adding rock (slag, tile, etc.) along both sides of the approaches in addition to the channel itself.**

Photo 4: "Potato Patch" Fireline Re-Directing surface flow into Road 6 Ditch

SUMMARY

(See Attachment 2, Map 5)

Any comprehensive effort to restore the hydrology on John M. Bethea State Forest should take into consideration the Division's land management objectives and any long-term off-site impacts since there are private properties adjacent to the forest.

Road and structure maintenance on the primary roads on JMBSF is imperative for continued land management activities. Salvage logging operations, although slowed by recent rains, may continue for the next month, so road maintenance should be a priority for the forest management team, including reinforcing low-water crossings, repairing or replacing culverts, and reshaping road beds. As soon as practical after salvage operations cease road beds and shoulders should be stabilized in an appropriate and expedient manner.

Also, as soon as possible, the Bugaboo Pushed Firelines should be rehabbed and reworked to restore sheet flow across those lanes. Roadways that are trapping, channeling, and re-directing surface drainage should be reworked by disk or blade before erosion and sediment discharge into waterbodies and wetlands occurs.

New firelines that tie into road ditches, pushed lines, waterbodies, or wetlands should be blocked with soil plugs just above the discharge point, outside of any SMZ or wetland edge.

Older firelines and drainage ditches should be plugged to prevent accelerated flow out of the system or wetland drain.

"Potato patch" firelines can be dealt with at the time of final timber harvest. "Cut-off" lines should be pulled perpendicular to the direction of the beds, between the break of the "hill" and the discharge point, being careful not to tie these lines into other channels such as old firelines, wetlands or road ditches. In those cases where the "potato patch" lines must be dealt with before final harvest, it may be practical to re-pull the road ditches, provided that enough soil is available to create sufficient berms to plug the ends of the lines.

Many of the existing culverts and low-water crossings on the primary roads, particularly Roads 6, 20, Perimeter, and Eddy Grade Roads, should be elevated to slow the flow of surface water exiting the forest. Sections of the Eddy Grade Road need to be reinforced with fill and armoring material, especially in the Little River Bay area. Any work on the Eddy Grade Road will require the cooperation of Baker County since is a county-maintained roadway.

Finally, any expanded fireline that is left intact as a fire "safety lane" should be maintained in such a way that surface flow during the wet seasons is maintained as naturally as possible.

ACTION ITEMS
(By Priority Area)

(See Attachment 3)

1. Moccasin Creek Area (NE)

1a. - West Moccasin Creek Circle (Wypt. #211-213): I*mmediately* remove debris from ingress end of double culverts on Moccasin Creek.
1b. - Near SW curve of Moccasin Creek Circle (Wypt. #147-148): Install ditch plugs on both ends of fireline - south end near secondary road and north end at Moccasin Creek.

2. St. Mary's River/Bugaboo Pushed Fire Break Area (NE)

2a. - Bugaboo Pushed Fireline: Recommend elongated ditch plugs or high water bars where surface flow is being re-directed into the St. Mary's River floodplain; rehab pushed fireline by either pulling berm back into open area or breaking wide "holes" in berm and maintain open as a fire "safety lane" in which only grasses or low groundcover vegetation is encouraged. * *This should be done as soon as possible, before the site is overgrown with mid-story vegetation*
2b. - St. Mary's River channel (Wypt # 154): Continue monitoring for degradation

.**2c.** - Some old firelines tie directly or indirectly into the Pushed Line from the north. Recommend ditch plugs where surface flow is being re-directed and channeled into the St. Mary's River or its flood plain.

3. Bugaboo Pushed Fire Break/Road 21/Moccasin Swamp Area (NE)

3a.- Recommend immediate rehab effort by either pulling berm back into open area or breaking wide "holes" in berm and maintain open as a fire "safety lane" in which only grasses or low groundcover vegetation is encouraged. * *This should be done as soon as possible, before the site is overgrown with mid-story vegetation.*
3b. - Section of the road within Pushed Fireline (Wypt. #143-145, **Photo #3**): Disk raised road shoulders (berms) to facilitate flow across the travel lane and to prevent channelization of surface flow.
3c. - Armor problematic sections of road with rock, tile, or other suitable material.

4. Moccasin Swamp Area (SW)

4a. - Additional conveyance under Road 10 is recommended to equalize the hydrology on both sides of road.
4b. - Road 14: Four Low Water Crossings were found to be in similar condition, all requiring improvements such as additional rock in the channel and along both of the approaches.

5. Road 20/ Okefenokee Swamp Fire Break Area (NW)

5a. - Western end of Road 20 (Wypt. # 126): Restrict access to road once salvage logging is complete and stabilize road with vegetation.
5b. - Western end of Road 20: Install additional conveyance, either cross-drain culvert or low-water hard-surface crossing to encourage flow to west side road ditch.
5c. - Road 20: Replace damaged culverts in flatwoods with elevated low-water crossings, armored with rock or other appropriate material.
5d. - Road 20: Implement comprehensive, consistent effort in relocating, elevating, and/or removing crossings to slow rate of surface drainage to the north.
5e. - (Wypt. #123 -125): Install ditch plugs at ends of old firelines prior to connecting with road ditches.

6. Perimeter Road/ "Cut Through" Road/Road 6 Area (NE)

6a. - "Cut Thru" Road: Remove road or redirect surface flow to Lake Holes Branch by replacing the culvert on Perimeter Road and installing an elevated low-water crossing. Another low-water crossing in close proximity to this location that one should be elevated as well.
6b. - Install an elevated low water crossing on "Cut Thru" Road to encourage the water to flow south during the wet season. Caution needs to be taken as water can be redirected onto adjacent landowners.
6c. - Install ditch plugs in shallow firelines (industry) where they tie into nearby road ditches, especially where wetlands are impacted.
6d. - West side of Perimeter Road loop: restore natural basin marsh plant community site through passive management.

7. "Potato Patch" Firelines (NE/NW)

7a. - For salvaged/harvested areas with existing "potato patch" lines: Plow shallow lines within the plantation area perpendicular to the row direction before or after planting, depending on method used.
7b. - In those areas where a final harvest is not scheduled within the next 5 years: Re-pull road ditches with an emphasis on creating a berm to stop or at least minimize the drainage from the plantation.

8. Pinhook Swamp Area (SW)

8a. - Recommend replacing the damaged culvert on Road 19, remove Road 33, and plug the ditch associated with Road 33.
8c. - Eddy Grade, the primary access in the southwestern part of the forest, impounds surface flow where it is above grade, and is subject to flooding where it is at- or below grade. Additional conveyance is recommended
8b. - Existing road conditions are degrading near low lying areas due to timber salvage operations and truck traffic.

9. Little River Bay Area (SW)

9a. -Roads 4 and 24; lower part of Eddy Grade: Where surface drainage connects with primary water arteries during the rainy season water quality may be an issue. Recommend re-working roads and stabilizing with armoring if continued use is anticipated; with vegetation, if not.
9b. -The hydrology in several areas on the western extreme of the forest is being affected by old firelines draining wetlands and/or re-directing surface flow. Recommend plugging firelines prior to intersecting with road ditches.
9d. - Road 9 (Wypts. 075, 076) are old firelines that tie into and should be plugged.
9c. - Road 9 (Wypt. 077) is a ditch and should be plugged.

10. Road 6/ Railroad Track Area (NW)

10a. - Road 6 (Wypt. #140): Fill field ditch as much as possible with remnant spoil along the ditch.

11. Okefenokee Swamp Fire Break/Perimeter Road Area (NE)

11a. - Recommend installing ditch plugs at all points where the swamp break intersects with roads, firelines and "potato patch" lines leading onto the State Forest.
11a. - Secondary road north of the intersection of Road 6 and Perimeter Road: Recommend replacing the culvert with the same size.

12. Interior Road Areas (Forest-wide)

No Recommendations

John M. Bethea State Forest
Silviculture Plan

Introduction

The spring 2007 Bugaboo Fire burned over approximately 28,000 acres of the 37,000 acre John M. Bethea State Forest. As a result, approximately 6,500 acres of productive pines were severely damaged. This included some pine stands that had recently been initially thinned. In the aftermath, the Bugaboo Fire resulted in a significant loss to the timber resource on the State Forest.

This silviculture plan is an effort to lay out recommendations for thinning, site preparation and tree planting on the State Forest. The other components of the JMBSF Restoration Plan, which includes Hydrological Restoration, Wetland/Upland Ecosystem Restoration and Fire Management, will all be considered when determining the silvicultural recommendations. These will influence the manner in which pine stands are site prepared and planted as well as site suitability and species selection. Some former planted pine stands and/or portions of these stands are expected to be no longer suitable for pine production, once the natural hydrology is restored and assessments of Desired Future Conditions (DFC) in the aftermath of the fire are taken into account. However, as it cannot yet be accurately determined which pine stands will be affected, this plan component will provide recommendations for replanting all of the former pine stands to the same or the more appropriate pine species.

The goal of this silviculture plan is to reforest those areas formerly in pine production that were adversely affected by the recent wildfire, to thin overly dense pine plantations, and to establish a "Firewise" State Forest that will better withstand the next wildfire event. The recommendations in this section established a timeline of four years to accomplish these goals. Budget constraints, seedling availability and other factors make it impractical to accomplish this goal in any less time and may result in a need to extend this timeline. The feasibility of plan implementation within the proposed timeline will depend on several factors. These include adequate funding, tree seedling availability, favorable weather conditions and contractor availability to name a few. Any shortfalls in the above may alter the proposed schedule and lengthen the timber resource recovery period.

Furthermore, in an attempt to better promote the native ground cover in some areas, it may later be determined that it is more advantageous to use prescribed fire on a 2 to 3 year rotation for 5 to 6 years prior to planting of pines. Certainly, prescribed fire will be used as a preferred method of site preparation whenever feasible and in combination with other mechanical and/or chemical treatments.

The silviculture section of this plan should be considered a living document. There are some unknowns that once learned could change some of the recommendations outlined in this plan. As formerly mentioned, once some of the restoration measures are undertaken to restore the natural hydrology, a mean annual hydroperiod increase is anticipated in some areas. As such, affected pine stands will need to be evaluated to determine tree species suitability and perhaps a reassessment of DFC undertaken. In some instances, cypress or other tree species may be planted instead of pines or areas

may be excluded from tree planting in an effort to restore natural community types. For this reason, the recommendations outlined in this plan, particularly those 3 and 4 years out, need to be flexible and this reforestation component used as a guideline for restoring the timber resource on the former pine stands only. There may be additional opportunities to expand this plan in time to include the restoration of basin swamps, basin marshes and other wetland habitats that have been altered by past silvicultural activities, fire exclusion and other factors. However, it will take additional information derived from historical maps and photos, field observations, photo points, research study, and other methods to make an appropriate assessment on these areas prior to implementing any on the ground practices.

The ground cover in many areas has not recovered from the intensive site preparation used to establish the plantations, the various wildfire events and the salvage harvest operations that ensued after the wildfires. It should be noted that irrespective of the acreage prescribed burned in the last few years, most of the property now associated with the John M. Bethea State Forest, formerly with Rayonier Incorporated SE Forest Resources, has sustained more than one and in many areas three or more fires over the last two decades as a result of recurring wildfires. These fires include the Shorts, Blackjack, Friendly, Impassible Bay, Road 1 and Bugaboo. All these were large fires that resulted in significant timber resource losses to the area. As such, the existing groundcover and associated plant composition that exists, whether from the respective seedbank or residual plant rootstocks, is to some extent attributable to these fires, most of which occurred during the spring or summer season.

The Site Preparation and Planting plans below outline specific recommendations for site preparing and establishing pines on the areas that were formerly in pine production but severely damaged by the Bugaboo Fire. The associated maps, recommended species and site prep treatments are found in this section.

Thinning and Harvest Plan

Since acquisition of the John M. Bethea State Forest (JMBSF), planned harvesting has been limited. Since 2004, approximately 1,160 acres have been harvested, not counting salvage sales from the significant wildfires that have plagued the area. With the current pine forest types that are present in the area, predominantly densely stocked, fiber producing type stands, many acres are in need of thinning.

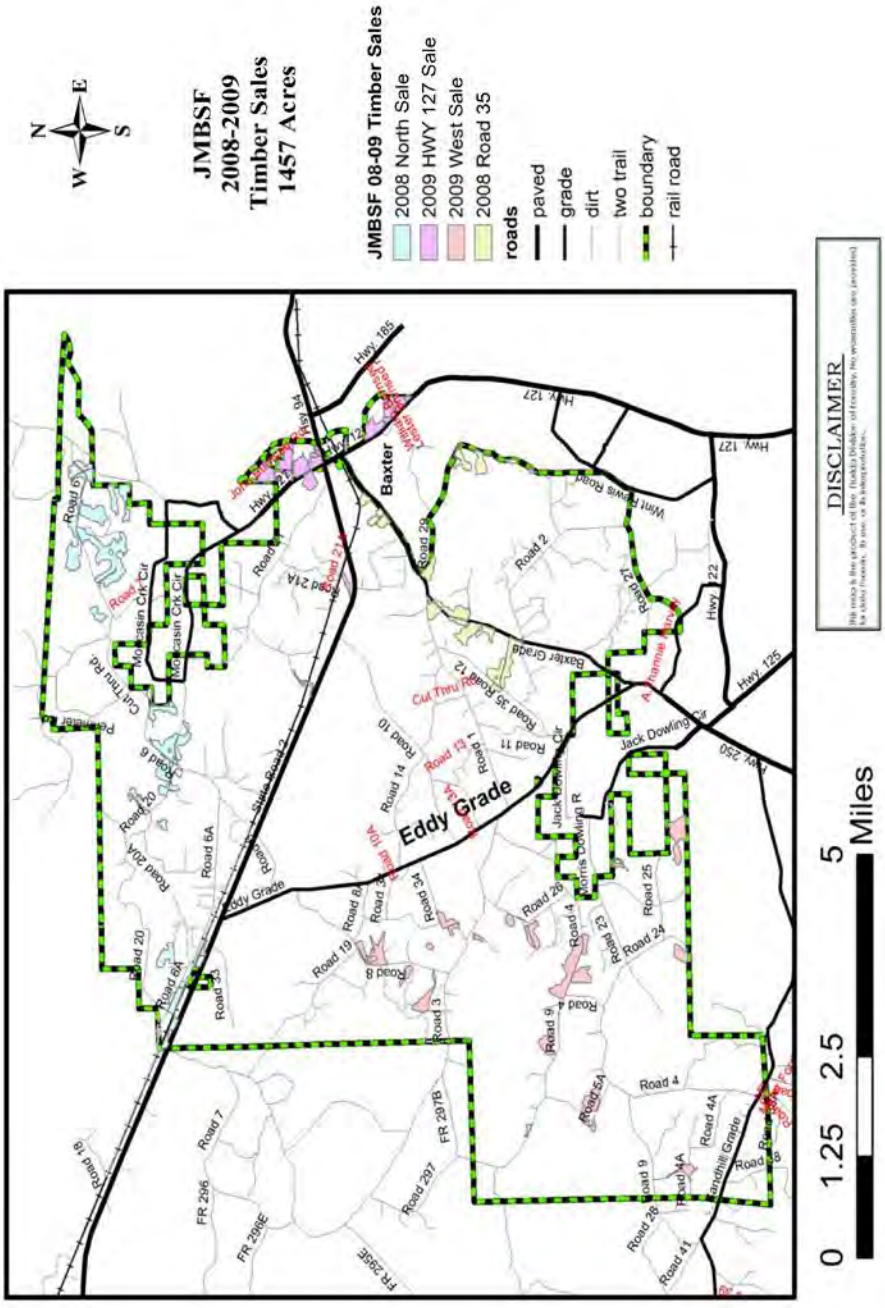
As has been seen after the numerous wildfires in the past, well managed open stands are more fire resistant than the densely stocked, short rotation type stands that are currently present. By thinning these densely stocked timber stands, the health of the forest will be improved and hazardous fuels will be reduced, both on the forest floor and in the canopy. Also, after initial thinnings, prescribed fire can be reintroduced with less chance of mortality in the remaining stand. Fire without thinning in densely stocked stands has very little ecological benefit and is mainly done as a hazard reduction treatment. Fire after thinning is a much safer, more cost effective practice with more ecological benefits.

Following the Bugaboo Wildfire, JMBSF personnel developed a harvest plan that entailed conducting an initial thinning on all the remaining merchantable pine stands prior to FY 2008-2009's end. This plan is on schedule with two outstanding timber sales that need to be advertised and sold to effectively meet this goal (see attached map). It is crucial that future, first thins be done in a timely manner to maintain the health and productivity of stands while allowing beneficial prescribed burning and restoration to begin.

Selection thinning methods were primarily used in older age class stands. These methods employed marking by DOF staff as well as logger-select. Logger select thinnings resulted in minimal additional cost, required slightly more time to administer, but provided better and more uniform residual tree spacing for the purpose of wildfire protection, provided more sunlight to the forest floor, better facilitated prescribed burning, and promoted other ecological benefits. Future selection efforts will require adequate monitoring and will be coordinated with the State Lands Section of the Forest Management Bureau.

Future thinnings, especially in younger age class pine stands, should emphasize third row thinnings, if time constraints are a concern. This method will allow a larger number of acres to be addressed as compared to selective thinnings, because it requires less manpower and supervision. Row thinning will also insure that enough of a stand will remain to ensure adequate volume for future thinnings.

John M. Bethea State Forest
Silviculture Plan



Site Prep and Planting
2007-2008

The reforestation effort for the 2007-08 FY was concentrated on those stands that were planted during the 2005, 2006 and 2007 winters, <1 to 3 years of age, and/or that were treated with herbicide in the 2006 spring, and that were burned over during Bugaboo in the 2007 spring. Prior to this most recent wildfire event, most of these stands were formerly site prepared at some time by band spraying of herbicide in strips over the tops of the existing beds.

As these stands were burned over in the 2007 spring, the existing ground cover is the result of the later half of a single growing season. Evidence of the formerly herbicided strips is in the form of a somewhat altered composition, reduced density and less height growth of the woody and herbaceous plants within the strips. This is particularly noticeable in those stands that were treated in the 2006 fall. As such, no additional site preparation treatments are recommended for the majority of this acreage. The exception is those stands, approximately 262 acres in total, that are within ½ mile north of SR 2, and in which the residual beds are oriented in a north to south direction. To facilitate fire suppression efforts in the future, these rows are to be reoriented in an east to west direction, parallel to SR 2. As such, the recommendation for these stands is to disk harrow strips in the fall on 12 foot centers perpendicular to the existing beds and residual stump rows in an east to west orientation. This practice will serve to help knock down the residual beds, break up the dense gallberry root mat and facilitate the machine planting of pines at a right angle to the former planting rows.

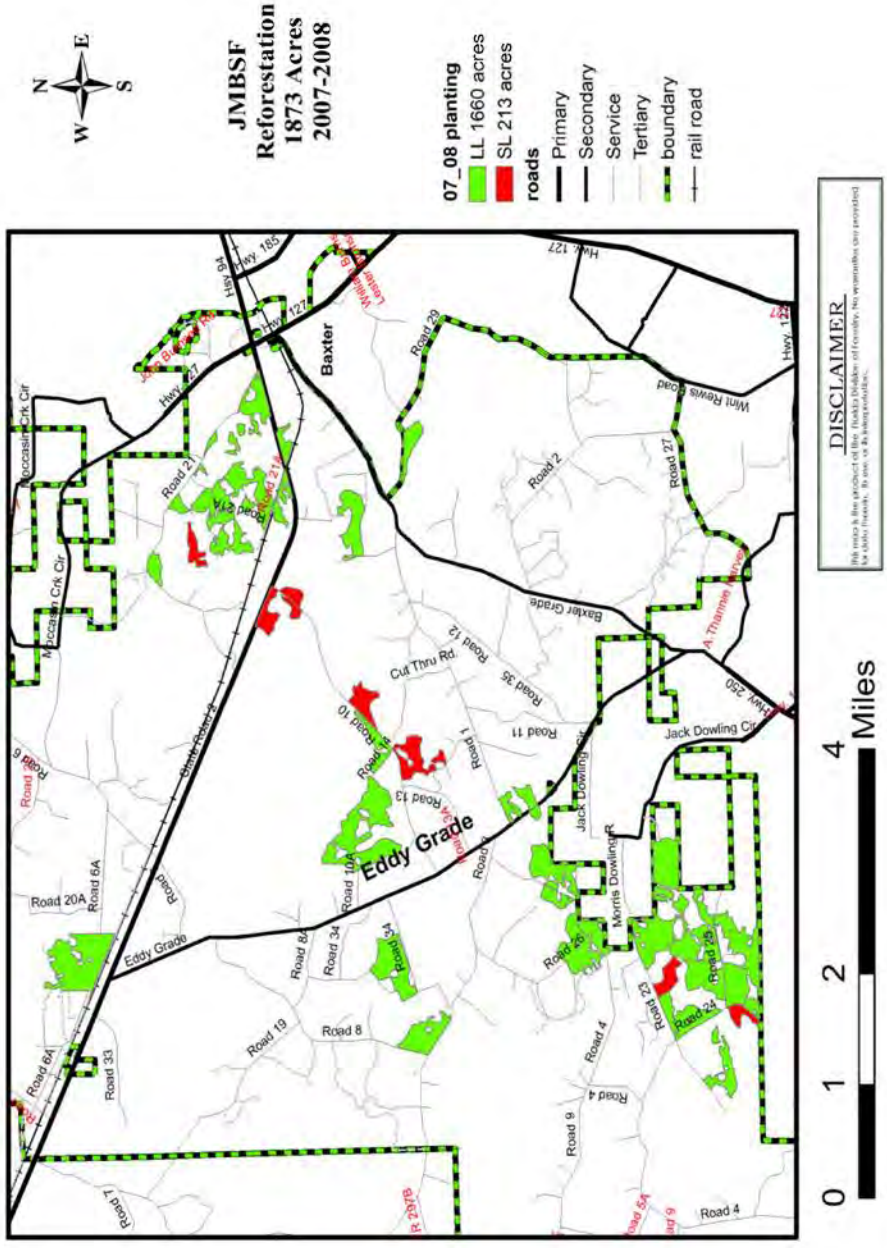
The following summarizes the accomplishments for the 2007-2008 FY reforestation season. Approximately 267 acres were planted with longleaf pines in September of 2007. Normal winter (dormant season) planting occurred on approximately 1,592 acres from December 2007 through February of 2008. Of the total 1,873 acres reforested, 1,660 acres were planted with longleaf pine and 213 acres were planted with slash pine. Stocking densities ranged from 605 trees per acre to 726 trees per acre.

Site preparation consisted of previously herbicided strips and newly disked or harrowed strips, as mentioned above. Trees were planted in the strips and a post plant herbicide treatment of Arsenal Applicators Concentrate (Imazapyr) was made in the Spring of 2008 at the rate of 4 ounces per treated acre in five foot wide bands.

In addition to the above accomplishments, to further facilitate both future fire suppression efforts and the use of prescribed fire, 15' wide strips along portions of stand boundaries that adjoin a forest road are to be excluded from any tree planting. These strips are to be maintained by mowing and/or disking and may also function as permanent openings to benefit a variety of resident wildlife species or as sites for ground cover restoration.

Two years after planting, all of the longleaf stands planted in FY 2008 will be evaluated for dormant season prescribed fire suitability and if appropriate, a controlled burn will be executed when these reach 2 to 3 years of age. Subsequent prescribed fires should be conducted once the pines reach sapling stage 8+ feet with a return interval of no more than three years.

John M. Bethea State Forest
Silviculture Plan



Site Prep and Planting
2008-2009

The reforestation efforts for the 2008-2009 FY have focused on those slash pine stands, planted and natural, and portions of those stands that were clearcut harvested during the Bugaboo salvage operation and/or the result of other timber sales conducted for restoration purposes. A total of 1,406 out of 1,607 acres or 87 percent of these stands are to be planted back to longleaf pine. Initial site preparation entailed spot raking and piling the residual logging debris in and around the scattered loading decks. Single drum chopping was incorporated on all the sites as well.

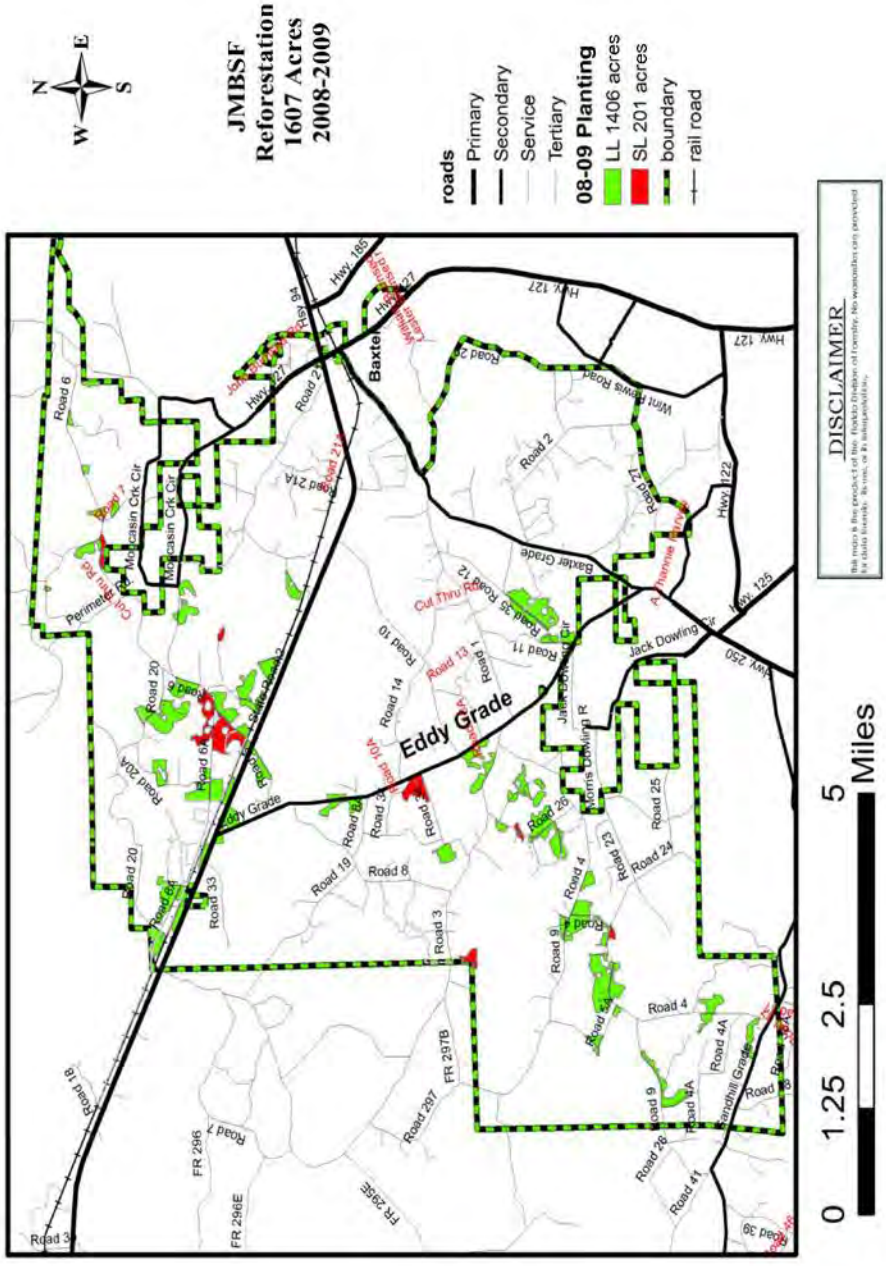
In the fall of 2008, Chopper herbicide was applied at the rate of 48 ounces per acre to control heavier areas of gallberry and other herbaceous vegetation on 784 acres. This was done as a broadcast application.

Approximately 520 acres was strip disk harrowed on twelve foot centers. These strips were double disked, two passes over the same strip, with an un-disked strip left in between.

Planting will be done by machine, either V-Blade with a crawler type tractor or rough woods with rubber tired tractors. Planting will consist of 1,406 acres of longleaf pine and 201 acres of bareroot slash pine according to the planting schedule. Bareroot stock will be planted on a 5' x 12' spacing to establish 726 seedlings per acre. Containerized longleaf will be planted on a 5'6" x 12' spacing to establish 660 seedlings per acre.

Two years after planting, evaluate all of the longleaf stands planted in FY 2008-2009 for dormant season prescribed fire suitability and if appropriate, execute a controlled burn when these reach 2 to 3 years of age. Subsequent prescribed fires should be conducted once the pines reach sapling stage, 8+ feet, with a return interval of no more than three years.

John M. Bethea State Forest
Silviculture Plan



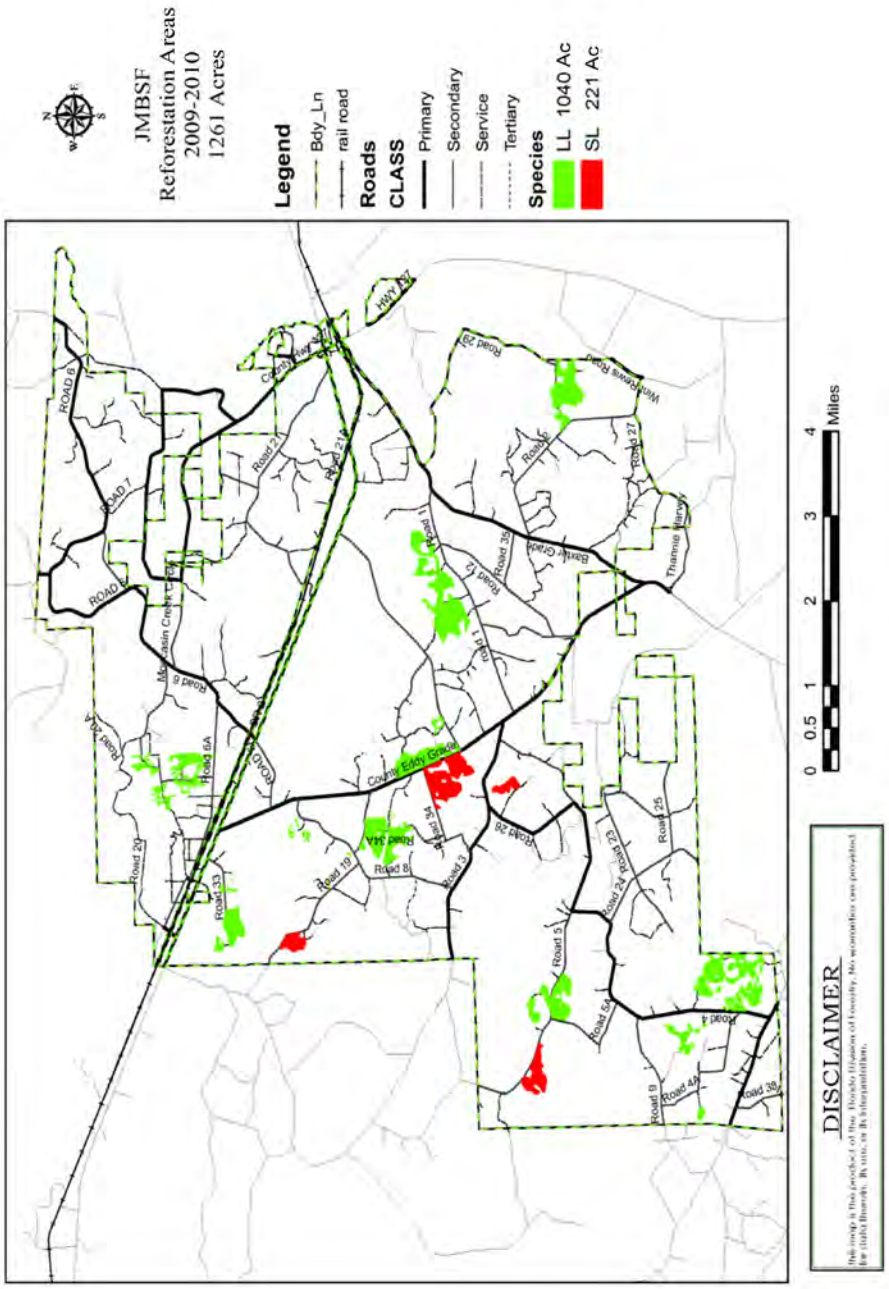
Site Prep and Planting
2009-2010

The reforestation effort for the 2009-2010 FY will concentrate on those planted slash pine stands and portions of the same, 4 to 8 years of age that were severely damaged by the wildfire. There are some slash pines scattered throughout these stands that survived but an insufficient amount to carry the stand to rotation age. Furthermore, 1,040 out of 1,261 acres or 82 percent of these sites are to be planted with longleaf pine. As such, mechanical site preparation to effectively lay down most of the residual snags and surviving trees and control the woody and herbaceous vegetation is recommended. Subsequently, a follow-up treatment with an appropriate herbicide to further control the competing vegetation will help to ensure a successful reforestation effort.

Prior to any treatments, in the 2009 spring, evaluate these stands for prescribed burning suitability. For those stands with sufficient surface fuel contiguity, prescribe burn in the late spring and/or summer. In the 2008 fall, determine which stands will require single drum chopping and follow up with this practice in the 2009 spring. In the ensuing summer, apply a tank mix of Chopper @ 48 oz. /ac. and Accord @ 32 oz. /ac. or other appropriate herbicide tank mix at an appropriate rate to control the gallberry and other herbaceous and woody vegetation.

Follow up, in the winter, with machine planting 1,040 acres of containerized and/or bareroot longleaf and 221 acres of bareroot slash pine for a total of 1,261 acres. (See map for details) All bareroot seedling stock should be planted on a 5' x 12' spacing to establish 726 seedlings per acre. Containerized longleaf could be planted on a 6' x 12' spacing to establish 605 seedlings per acre.

Two years after planting, evaluate all of the longleaf stands planted in FY 2009-2010 for dormant season prescribed fire suitability and if appropriate, execute a controlled burn when these reach 2 to 3 years of age. Subsequent prescribed fires should be conducted once the pines reach sapling stage, 8+ feet, with a return interval of no more than three years.


JMBSF
Reforestation Areas
2009-2010
1261 Acres
Legend
Bdy_Ln
rail road
Roads
CLASS
Primary
Secondary
Service
Tertiary
Species
LL 1040 Ac
SL 221 Ac
0 0.5 1 2 3 4
Miles
DISCLAIMER

John M. Bethea State Forest
Silviculture Plan

Site Prep and Planting
2010-2011

The reforestation effort for the 2010-2011 FY will concentrate on those planted slash pine stands, and portions of these, 9 to 13 years of age that were severely damaged as a result of the wildfire. There are also some slash pines scattered throughout these stands that survived, but an insufficient amount to carry the stand to rotation age. Furthermore, 905 out of 971 acres or 93 percent of these sites are to be restored to longleaf pine. As such, mechanical site preparation to effectively lay down most of the larger residual snags and surviving trees as well as control the woody and herbaceous vegetation is recommended. Subsequently, a follow-up treatment with an appropriate herbicide to further control the competing vegetation will help to ensure a successful reforestation effort.

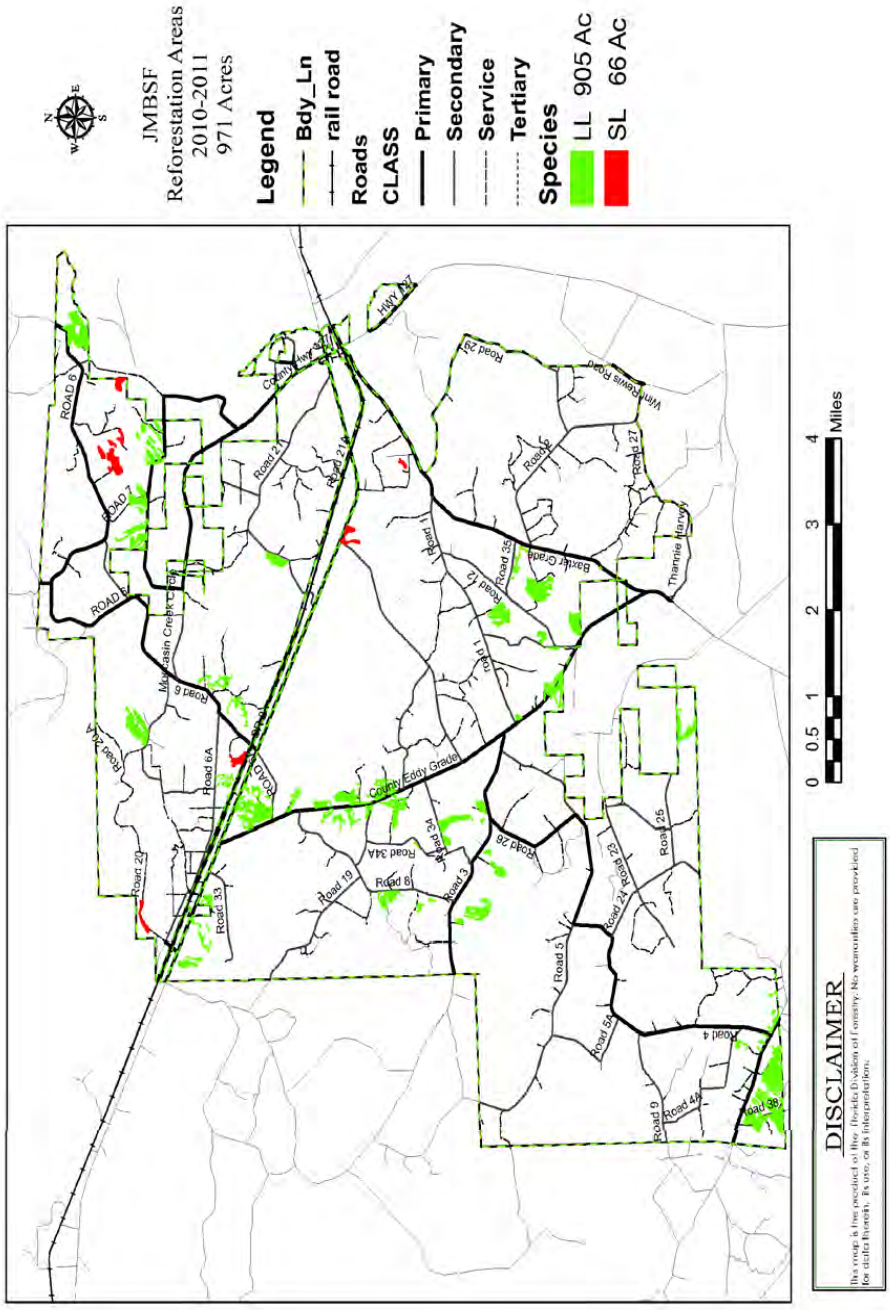
In regards to prescribed fire, for site preparation, fuels reduction and natural community restoration, evaluate these stands for burning feasibility in the 2009 spring. Evaluate the two year roughs on these stands for prescribed burning suitability. For those stands with sufficient surface fuel contiguity, prescribe burn in the late spring and/or summer. In the 2009 fall, determine which stands will necessitate a tandem drum chop. It is expected that due to the size of the residual pines, in the pre-merchantable to small pulpwood size classes, that a tandem drum chopper will be needed to prepare these sites. Tandem drum chop these stands in the 2010 spring.

In the summer, apply a tank mix of Chopper @ 48 oz. /ac. and Accord @ 32 oz. /ac. or other appropriate herbicide at an appropriate rate to control gallberry and other herbaceous vegetation.

Follow up, in the winter, with V-blade planting 905 acres of containerized and/or bareroot longleafs and 66 acres of bareroot slash pine. Bareroot stock should be planted on a 5' x 12' spacing to establish 726 seedlings per acre. Containerized longleaf should be planted on a 6' x 12' spacing to establish 605 seedlings per acre.

.

Two years after planting, evaluate all of the longleaf stands planted in FY 2010-2011 for dormant season prescribed fire suitability and if appropriate, execute a controlled burn when these reach 2 to 3 years of age. Subsequent prescribed fires should be conducted once the pines reach sapling stage 8+ feet with a return interval of no more than three years.


JMBSF
Reforestation Areas
2010-2011
971 Acres
Legend
Bdy_Ln
rail road
Roads
CLASS
Primary
Secondary
Service
Tertiary
Species
LL 905 Ac
SL 66 Ac
0 0.5 1 2 3 4
Miles
DISCLAIMER

ATTACHMENT 1

POST-BUGABOO HYDROLOGICAL RESTORATION
JOHN M. BETHEA STATE FOREST

FIELD DATA SHEETS

Florida Division of Forestry
Post-Fire Hydrological Restoration Assessment Waypoints for
JOHN M. BETHEA STATE FOREST - July 27 - August 1, 2007
ATTACHMENT 1

Reference			Observations		Status/ Condition (2)	Remedy - (To Minimize, Redirect, or Stop Flow) (3)	Priority 1 = High 2 = Med. 3 = Low	Quadrant/Date
No.	WyPt.	Flow Dir.	Structure (1)	Size (Dia.)				
1	37	S	(Multiple) CR	18"/18"	FAC	CU	2	SW/SE
2	38	S	BX		FLD	NA	3	7/27/2007
3	39	S	CR		(Not Found)	NA	3	(Lima)
4	40	S	BX		FLD	NA	3	
5	41	S	LWX		FLD	IX	2	
6	42	S	CR	18"	D	IX (Fill)	2	
7	43	S	CR		(Not Found)	NA	3	
8	**44**	**E**	**CR**	**24**	**D**	**RPL+CU**	**1**	
9	45	?	BX		FLD	NA	3	
10	46	S	BX		FLD	NA	3	
11	47	W	FL		FX	DP+	2	
12	**48**	**W**	**BX**		**FLD**	**IX (Rock Spillover)**	**1**	
13	49	S	BX		FLD	NA	3	
14	50	S	LWX		D	IX (Rock)	1	
15	51	S	BX		FLD	NA	3	
16	52	S	BX		FAC	NA	3	
17	53	S	BX (Bailey)		FLD	NA	3	
18	54	S	BX (Concrete)		FLD	NA	3	
19	55	S	BX (Wood)		FLD	NA	3	
20	56	S	CR		FX	RPL (Difficult)	3	
21	57	E	LWX		D	XC (Rock)	2	
22	58	E	BX (Concrete)		FLD	NA	3	
23	**59**	**E-S**	**LWX**		**D**	**IX (Rock)**	**1**	
24	60	SW	CR	24	FLD	NA	3	
25	**61**	**E**	**CR**	**12**	**FLD**	**CU**	**1**	
26	62	E	BX (Wood)		FAC	NA	3	
27	63	NE	BX (Concrete)		FLD	NA	3	
28	**64**	**NE**	**Road**		**FLD**	**LW+**	**1**	
29	**65**	**?**	**Road**		**FLD**	**LW+ (3)**	**1**	
30	66	N	CR	18	FLD	NA	3	
31	**67**	**N**	**DCH**		**FLD/WTD**	**DP+**	**1**	
32	68	N	CR	24	FLD	NA	3	
33	69	S	(Multiple) CR	10"/10"	FLD	NA	3	
34	70	S	CR	?	FLD	NA	3	
35	71	S	BX (Wood)		FLD	NA	3	
36	72	S	BX (Concrete)		FLD	NA	3	
37	73	N	BX (Wood)		FLD	NA	3	
38	**74**	**S**	**FL**		**FLD**	**DP+**	**1**	
39	**75**	**S**	**FL**		**FLD**	**DP+**	**1**	
40	**76**	**S**	**DCH**		**FLD/WTD**	**DP+**	**1**	
41	77	N	CR	18	FLD	NA	3	

PLEASE SEE PAGE 6 FOR CODE INDEX

Florida Division of Forestry
Post-Fire Hydrological Restoration Assessment Waypoints for
JOHN M. BETHEA STATE FOREST - July 27 - August 1, 2007
ATTACHMENT 1

Reference			Observations		Status/ Condition (2)	Remedy - (To Minimize, Redirect, or Stop Flow) (3)	Priority 1 = High 2 = Med. 3 = Low	Quadrant/Date
No.	WyPt.	Flow Dir.	Structure (1)	Size (Dia.)				
42	**78**	**E**	**LWX**		**FLD**	**IX (Rock)**	**1**	
43	**79**	**S**	**LWX**		**FLD**	**IX (Rock)**	**1**	
44	**80**	**E**	**CR**	**10**	**D**	**RPL/LW+**	**1**	
45	**81**	**E**	**DCH**		**FLD/WTD**	**DP+**	**1**	
46	82	E	CR	?	(Not Found)	C+?	3	
47	**83**	**SE**	**CR**	**18**	**FX**	**IX**	**1**	
48	84	SE	LWX		FLD	NA	3	
49	85	SE	CR	18	FLD	NA	3	
50	86	SE	CR	18	FLD	NA	3	
51	87	NW	CR	18	D	NA	3	
52	88	NW	CR	24	FLD	NA	3	**SW/SE**
53	**4**	**NW**	**LWX**		**D**	**IX (Rock)**	**1**	**7/30/2007**
54	5	NW	BX (Concrete)		WTD	NA	3	**(Lima)**
55	**6**	**NW**	**AGR**	**24**	**WR/FX**	**C+**	**1**	
56	7	NW	BX (Concrete)		WTD	NA	3	
57	**8**	**NW**	**AGR**		**WR/FX**	**LW+**	**1**	
58	**9**	**NW**	**AGR**		**WR/FX**	**LW+**	**1**	
59	**10**	**NW**	**OFL**		**FLD**	**PL+**	**1**	
60	**11**	**NW**	**AGR**		**WR/FX**	**LW+**	**1**	
61	**12**	**NE**	**AGR**		**WR/FX**	**LW+**	**1**	
62	**13**	**NE**	**OFL**		**FLD**	**PL+**	**1**	
63	**14**	**N**	**LWX**		**WR**	**IX (Rock)**	**1**	
64	**15**	**NE**	**BGR**		**WR**	**LW+**	**1**	
65	**16**	**NE**	**LWX**		**FLD**	**IX (Rock)**	**1**	
66	**17**	**NE**	**LWX**		**FAC**	**IX (Rock)**	**1**	
67	**18**	**NE**	**LWX**		**FLD**	**IX (Rock)**	**1**	
68	**19**	**NE**	**LWX**		**FLD**	**IX (Rock)**	**1**	
69	**20**	**N**	**CR**		**FAC**	**CU**	**1**	
70	21	SE	AGR		FX	C+	2	
71	**22**	**NE**	**AGR**		**FX**	**CU**	**1**	
72	**23**	**W**	**AGR**		**FLD**	**C+**	**1**	
73	24	E	CR	24	FAC	NA	3	
74	**25**	**S**	**CR**	**18**	**FX**	**IX (Clean)**	**1**	
75	26	E	CR	24	FAC	CU	2	
76	**27**	**NE**	**CR**	**18**	**FX**	**RPL**	**1**	
77	**28**	**S**	**AGR**		**FLD**	**C+**	**1**	
78	**29**	**?**	**BGR**		**FLD**	**LW+**	**1**	
79	30	E	LWX		D	NA	3	
80	31	NE	CR	24	FLD	NA	3	
81	32	NE	BGR		WTD	LW+	2	
82	33	NE	AGR	24	FLD	NA	3	
83	34	N	BGR/LWX		D	NA	3	

PLEASE SEE PAGE 6 FOR CODE INDEX

Florida Division of Forestry
Post-Fire Hydrological Restoration Assessment Waypoints for
JOHN M. BETHEA STATE FOREST - July 27 - August 1, 2007
ATTACHMENT 1

Reference			Observations		Status/ Condition (2)	Remedy - (To Minimize, Redirect, or Stop Flow) (3)	Priority 1 = High 2 = Med. 3 = Low	Quadrant/Date
No.	WyPt.	Flow Dir.	Structure (1)	Size (Dia.)				
84	**35**	**E**	**CR**	**36**	**DM/ (Crushed)/FX**	**IX**	**1**	
85	36	SE	BX (Concrete)		WTD	NA	3	
86	37	x	CR		(Removed)	NA	3	**SW/SE**
87	**38**	**E**	**CR**	**36**	**D**	**IX (Shoulders)**	**1**	**7/31/2007**
88	39	E	CR	?	(Not Found)	RPL	2	**(Lima)**
89	40	E	LWX		D	IX (Rock)	3	
90	**41**	**E**	**CR (Concrete)**	**24**	**DM/ (Crushed)**	**RPL**	**1**	
91	42	E	BX (Wood)		D	IX (Approaches)	2	
92	43	E	AGR		D/FX	LW+	2	
93	44	E	BX (Wood)		D	NA	3	
94	45		CR	?	(Not Found)	?		
95	46	NE	LWX		D	IX (Rock)	2	
96	**47**	**SE**	**CR (Concrete)**	**24**	**D/(Buried)**	**RPL**	**1**	
97	48		CR (Concrete)	24	D	IX (Clean)	2	
98	49	SW	CR (Concrete)	36	D	IX (Clean)	2	
99	50	SW	(2) CR (Metal & Concrete)	48/36	WTD	NA	3	
100	51	SW	CR (Concrete)	24	WTD	IX (Clean)	2	
101	54	S	CR (Metal)	24	D	RPL	2	
102	55		BX (Concrete)		WTD	NA	3	
103	**56**	**S**	**CR**	**?**	**DM (Buried)/WTD**	**LW+**	**1**	
104	**57**	**SE**	**CR**	**36**	**WTD/WR**	**IX (Clean & Rock)**	**1**	
105	**149**		**LWX/PTCH**		**WTD**	**CU/DP+**	**1**	**NE**
106	150		PL		FZ	DP+	2	**7/27/2007**
107	152	S	PL		FZ	DP+	2	**(Marshall)**
108	153	S	BGR		FZ	DP+/XR	3	
109	**154**		**PL**		**FZ**	**WB+**	**1**	
110	155		PTCH		FZ	PL+	3	
111	156		LWX/RD		FZ	CU	2	
112	157		PL		FZ	DP+	2	
113	158		BX/RD		FZ	WTO	3	
114	159		PTCH/RD		FZ	XR	3	
115	160		PTCH/FL		FZ/WTD	PL+	3	
116	161		BGR/RD		FZ	?	3	
117	162		AGR		FZ	DP+	3	
118	163		FL		FZ	DP+	3	
119	**164**		**FL**		**FZ/WTD**	**DP+**	**1**	
120	165		PTCH		?	?	3	
121	166		PL		FZ	DP+	3	
122	167		BX		ERN	WTO+	2	
123	**168**		**PL/CR**		**FZ/WTD**	**DP+/LW+**	**1**	
124	169		PTCH		FZ	?	?	
125	**170**		**PL**		**FZ**	**DP+**	**1**	

PLEASE SEE PAGE 6 FOR CODE INDEX

Florida Division of Forestry
Post-Fire Hydrological Restoration Assessment Waypoints for
JOHN M. BETHEA STATE FOREST - July 27 - August 1, 2007
ATTACHMENT 1

Reference			Observations		Status/ Condition (2)	Remedy - (To Minimize, Redirect, or Stop Flow) (3)	Priority 1 = High 2 = Med. 3 = Low	Quadrant/Date
No.	WyPt.	Flow Dir.	Structure (1)	Size (Dia.)				
126	171		PL		FZ	DP+	3	
127	**172**		**AGR**		**FX**	**C+ or XR**	**1**	
128	173		PTCH		?	?		
129	**174**		**BGR/PL**		**FZ/FX**	**DP+ or XR**	**1**	
130	175		AGR		?	WTO+	2	
131	176		FL		FZ	DP+	2	
132	178	S	CR	?	FX/DM	RPL	2	
133	179	S	CR	?	FX/FZ/DM	RPL	2	
134	180	S	RD		ERN/FAC	WTO+	3	
135	181		OFL/PTCH		FZ	DP+	3	
136	182		PL/PTCH		FZ	DP+	3	
137	183							
138	184		RD		FZ	WTO+	3	**NE**
139	185		BX		FZ	WTO+	3	**7/30/2007**
140	186		PL		FZ	DP+	3	**(Marshall)**
141	**187**		**OFL**		**WTD**	**DP+**	**1**	
142	188		PL/BGR		FZ	DP+/XR	2	
143	189		OFL		FZ	DP+	2	
144	190		PL		FZ	DP+	3	
145	191		PL		FZ	DP+	2	
146	192		CX	?	FX	IX (Clean)	2	
147	193		BX/RD		FZ	WTO+	2	
148	194		AGR/LWX		FX/FZ	XR	2	
149	**195**		**AGR/CR**		**FX**	**LW+**	**1**	
150	**196**	**S**	**AGR**		**FX**	**C+ or LW+**	**1**	
151	**197**		**AGR**		**FX**	**C+ or LW+**	**1**	
152	198		LWX		FX	IX	2	
153	199		CX		FX/DM?	RPL	2	
154	200		PL		FZ	DP+	2	
155	201		PL		FZ	DP+	2	
156	**202**		**BX**		**ERN/FX**	**WTO+**	**1**	
157	203		NFL		FZ	DP+	2	
158	204		ABGR		FLD	WTO+	3	
159	205		ABGR		WR	LW+	3	
160	206		ABGR		FX	LW+	3	
161	207		RD		FX/LOG	RD = Remove Debris	3	
162	208		PL		FZ	DP+	3	**NE**
163	209		BGR		FZ	XR/DP+?	3	**7/31/2007**
164	210		BX		ERN	WTO+	3	**(Marshall)**
165	211		OFL		FZ	DP+	2	
166	212		CX		FX	RPL	2	
167	213		PL		FZ	DP+	2	

PLEASE SEE PAGE 6 FOR CODE INDEX

Florida Division of Forestry
Post-Fire Hydrological Restoration Assessment Waypoints for
JOHN M. BETHEA STATE FOREST - July 27 - August 1, 2007
ATTACHMENT 1

Reference			Observations		Status/ Condition (2)	Remedy - (To Minimize, Redirect, or Stop Flow) (3)	Priority 1 = High 2 = Med. 3 = Low	Quadrant/Date
No.	WyPt.	Flow Dir.	Structure (1)	Size (Dia.)				
168	**214**		**DCH**		**FZ/WTD**	**DP+**	**1**	
169	215		OFL		FZ	DP+	3	
170	**216**		**DCH**		**WTD**	**DP+**	**1**	
171	**217**		**LWX**		**WTD**	**DP+ or CU**	**1**	
172	**218**		**CR**	**18"**	**WTD**	**CU**	**1**	
173	219		OFL		FZ	DP+	3	
174	**220**		**CX**		**WTD**	**CU**	**1**	
175	**221**		**OFL**		**WTD**	**DP+**	**1**	
176	**222**		**CX**		**WTD**	**CU**	**1**	
177	**223**		**LWX/PL**		**FZ/WTD**	**IX/DP+**	**1**	
178	**224**		**PL**		**FZ/WTD**	**DP+**	**1**	
179	225		CR		FZ	LW+	3	
180	**226**		**LWX**		**WTD**	**XC**	**1**	
181	120		CR (DOT)	12"	D	NA	3	**NW**
182	121	W	OFL/RD		D	NA	3	**7/27/2007**
183	122	N	RD (Road 20)		FX/FZ	C+	2	**(Gilpin)**
184	**123**		**NFL/RD**		**WTD**	**DP+**	**1**	
185	**124**	**N**	**OFL/RD**		**FZ**	**DP+**	**1**	
186	**125**	**N**	**CX**	**24"**	**D/FX**	**RPL or XC**	**1**	
187	126	N	AGR		WR	ERD/IX	2	
188	127	NE	HWX/RD		ERN	IX	3	
189	**128**	**E**	**BGR/RD**		**FAC/WTD/FZ**	**DP+**	**1**	
190	**129**		**OFL/RD**		**FZ**	**DP+**	**1**	
191	**130**	**S**	**NFL/RD/CX/PG**	**24"**	**FAC/FX/FZ/DM**	**RPL or CU**	**1**	**NW**
192	**131**	**NW**	**CX/DCH**		**FX/FZ**	**RPL**	**1**	**7/30/2007**
193	132	E	CX/BGR	18"	D	NA	3	**(Gilpin)**
194	**133**	**N**	**CX/DCH or OFL**	**24"**	**DM/WTD**	**XC or CU**	**1**	
195	134		PTCH/RD		FZ	PL+	2	
196	135	E	LWX		FLD	NA	3	
197		E-S-E	CX/DCH	24"?	DM/FAC/WTD?	XC or CU	2	
198	136		PTCH/RD		D	NA	3	
199	137	NE	CX	?	FX	IX	2	
200	**138**	**NW**	**(Multiple) CX**	**Var.**	**FX**	**IX**	**1**	
201	139	S	LWX		ERN	IX	3	
202	**140**	**S**	**DCH/RD**		**FZ/WTD**	**DP+**	**1**	
203	141	S	BGR/RD		FZ	XR	2	**NW**
204	142		PL (Cutthru from Rd 21)		D/FX?	NA	3	**7/31/2007**
205	**143**		**PL/ULWX**		**FX/FZ/WR**	**RB/IX/SL**	**1**	**(Gilpin)**
206	**144**		**PL/ULWX**		**FZ/WR**	**IX/SL**	**1**	
207	**145**		**PL/BGR**		**FLD/FZ**	**RB/SL**	**1**	
208	146		BX (Moccasin Crk)		OK	NA	3	
209	**147**		**NFL/RD**		**FX/FZ**	**DP+/RB**	**1**	

PLEASE SEE PAGE 6 FOR CODE INDEX

Florida Division of Forestry
Post-Fire Hydrological Restoration Assessment Waypoints for
JOHN M. BETHEA STATE FOREST - July 27 - August 1, 2007
ATTACHMENT 1

Reference			Observations		Status/ Condition (2)	Remedy - (To Minimize, Redirect, or Stop Flow) (3)	Priority 1 = High 2 = Med. 3 = Low	Quadrant/Date
No.	WyPt.	Flow Dir.	Structure (1)	Size (Dia.)				
210	**148**		**NFL**		**FZ**	**DP+**	**1**	
211	**149**		**CX**		**DM/FX**	**C+ (Co. Mnt.?)**	**1**	
214	**150**	**S?**	**FNAI: Basin Swamp Site**		**Pine Plantation**		**1**	
215	**151**	**S?**	**DCH**		**FZ/WTD**	**DP+**	**1**	
216	**152**		**AGR/RD**		**FX/FZ**	**XR or C+**	**1**	
217	153		(Multiple) CR (Metal)	24/24	(FR 295)	NA (Not on SF)	n/a	
218	154		AGR		(FR 295)	NA (Not on SF)	n/a	
219	155		(Multiple) CR (Concrete)	24/24	(FR 295)	NA (Not on SF)	n/a	
220	156		CX (Steel)	24	(FR 295)	NA (Not on SF)	n/a	
221	157		LWX		(FR 295A)	NA (Not on SF)	n/a	
222	158		LWX		(FR 295A)	NA (Not on SF)	n/a	
223	**159**	**N?**	**CX (Metal)/DCH (Road 19)**	**24**	**FAC**	**CU**	**1**	
224		**N?**	**ULWX**		**FLD**	**IX (Rock)**	**1**	
225	**160**	**N?**	**CX (Metal)**	**24**	**DM/FAC**	**RPL/CU**	**1**	
226	161		AGR/(Multiple) CR (Concrete)	24/24	DM	RPL	2	
227	162		AGR		FX/FZ	LW+ or C+	2	
228	163		LWX		D	IX (Rock)	2	

(1) Structure Descriptors:

AGR = Above Grade Road
BGR = Below Grade Road
BX = Bridge Crossing
CX = Culverted Crossing
CR = Cross-Drain Culvert
DCH = Field Ditch or Canal
LOG = Logging Debris
LWX = Low Water Crossing
PG = Exisiting Plug
PL = Pushed Line
PTCH = "Potato Patch" Lines
NFL = New Fireline
OFL = Old Fireline
RD = Road Ditch
ULWX = Unimproved LWX

(2) Descriptors:

D = Dry
DM = Damaged
ERN = Erosion
FAC = Flow Accelerated
FLD = Flooded
FX = Flow Impeded
FZ = Flow Redirected
LD = Logging Debris
WR = Wallowed/Rutted
WTD = Wetland Drain

(3) Descriptors:

C+ = Install Culvert
CD = Lower Culvert
CU = Raise Crossing
DP+ = Install Ditch Plug
ERD = Elevate Road
IX = Improve Crossing
LW+ = Install LWX
PL+ = Install Plug Line
NAC = No Action
RB = Remove Berm
RPL = Replace Culvert
SL = Est. Safety Lane
WB+ =Install Water Bar
WD+ =Install Wing Ditch
WTO+ =Install Turnout
XC = Remove Crossing
XR = Remove Road

Priority 1 Areas

PLEASE SEE PAGE 6 FOR CODE INDEX

ATTACHMENT 2

POST-BUGABOO HYDROLOGICAL RESTORATION MAPS
JOHN M. BETHEA STATE FOREST

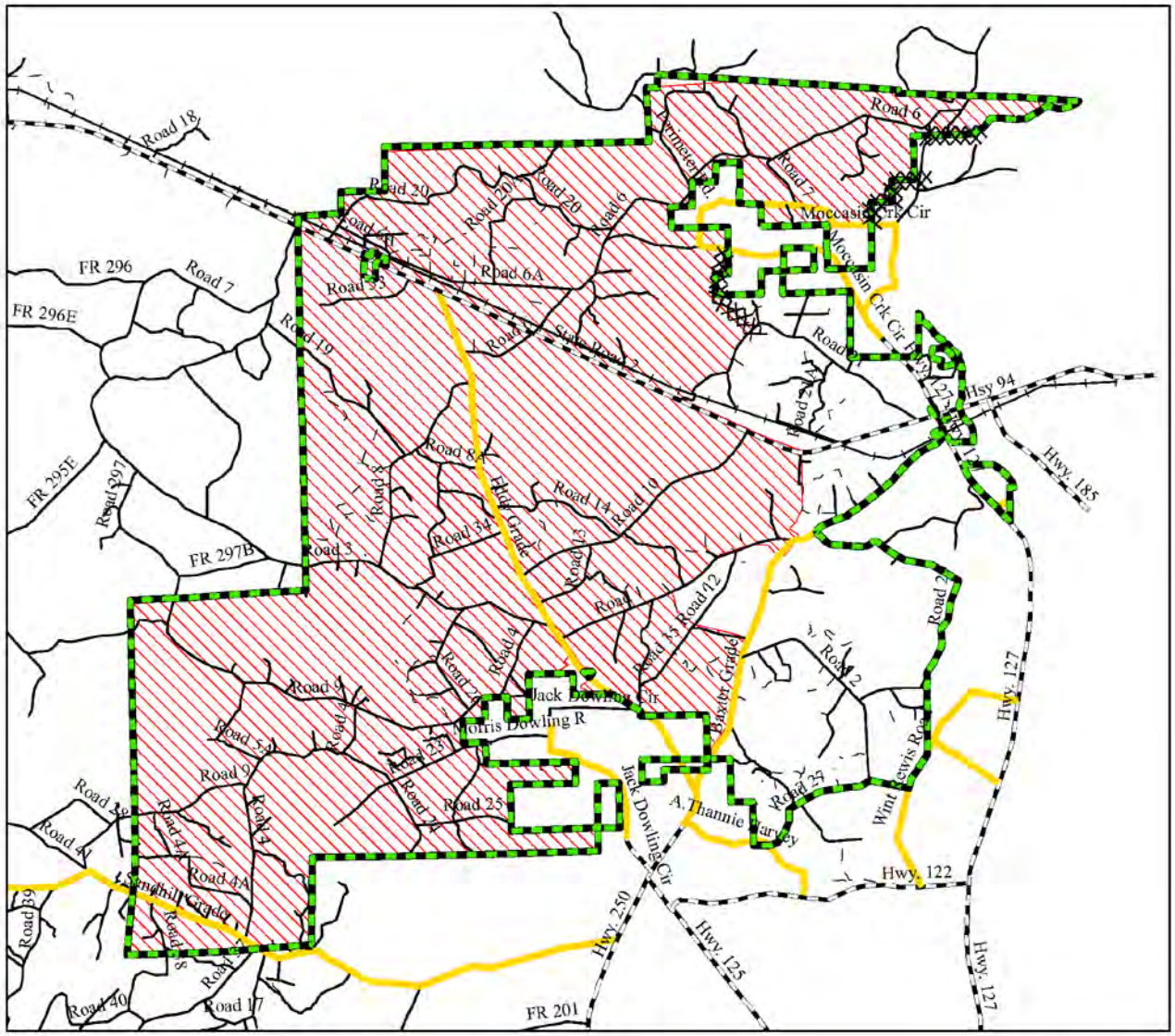
MAP 1:
MAP SHOWING EXTENT OF "BUGABOO" FIRE DAMAGE W/IN JMBSF

MAP 2:
NE QUADRANT SHOWING PRIORITY ASSESSMENT POINTS

MAP 3:
NW QUADRANT SHOWING PRIORITY ASSESSMENT POINTS

MAP 4:
SE & SW QUADRANTS SHOWING PRIORITY ASSESSMENT POINTS

MAP 5:
HYDROLOGY RESTORATION OVERVIEW MAP
SHOWING PRIORITY ASSESSMENT POINTS AND DETECTED
FLOW PATTERNS



John M. Bethea State Forest Post Bugaboo Hydrology Restoration Plan Map 1

N
W E
S

- bugaboo dozer line
- boundary
- dirt
- grade
- paved
- two trail
- rail road
- Bubaboo Wildfire

drawn by
Lee Barnwell
Forestry Supervisor II
8/9/07

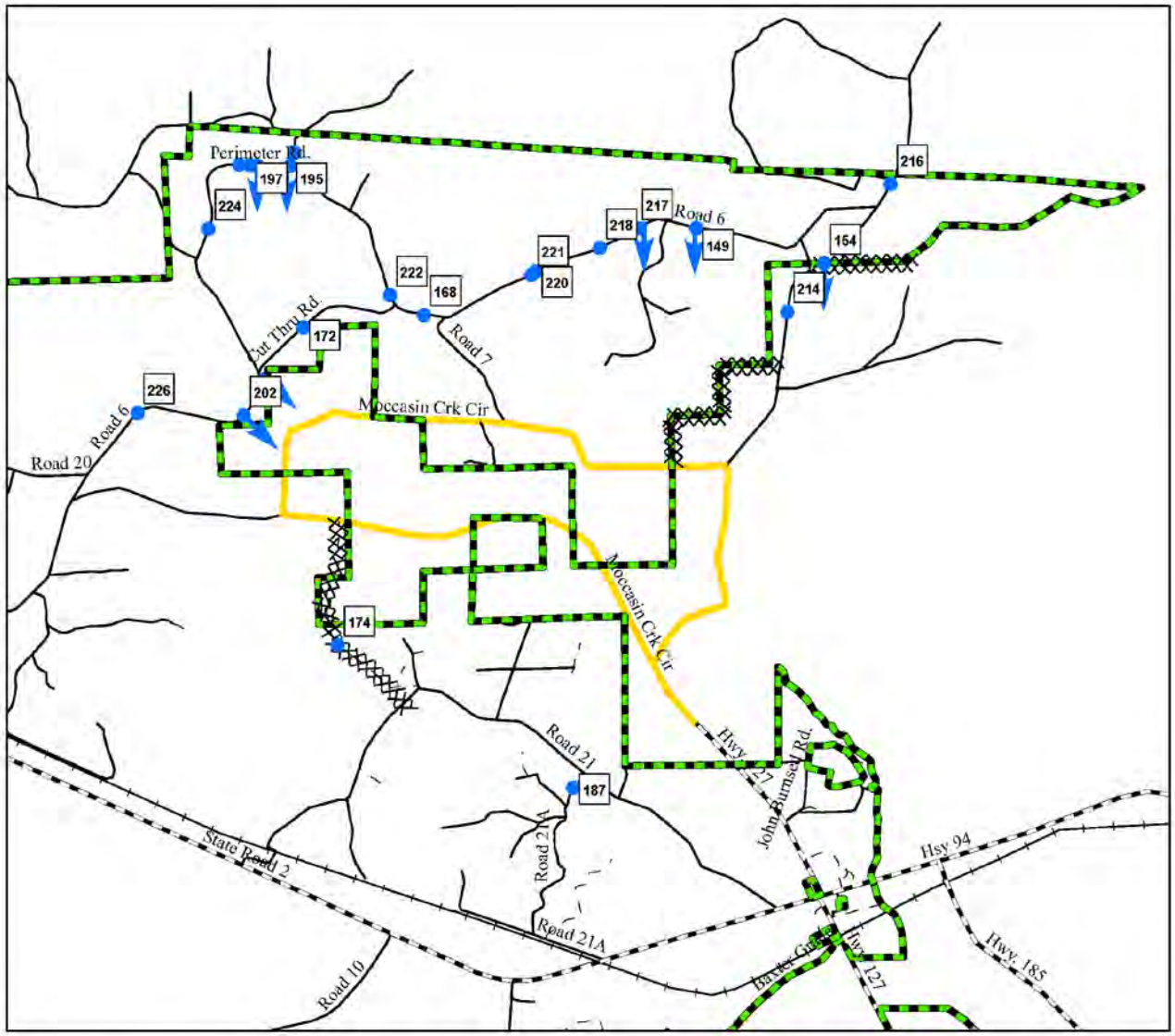
FLORIDA
DIVISION OF FORESTRY

0 0.5 1 2
Miles

DISCLAIMER

This map is the product of the Florida Division of Forestry. No warranties are provided for data therein, its use, or its interpretation.

d:\dof\JMBSF\post bugaboo restoration plans\hydrology\bugaboo map1



N
W E
S

John M. Bethea State Forest Post Bugaboo Hydrology Restoration Plan Map 2

JMBSF post Bugaboo Hydrology Restoration Points
bugaboo dozer line
boundary
dirt
grace
paved
two trail
rail road

Direction of Surface Flows

SE Flow

drawn by
Lee Barnwell
Forestry Supervisor II
8/9/07

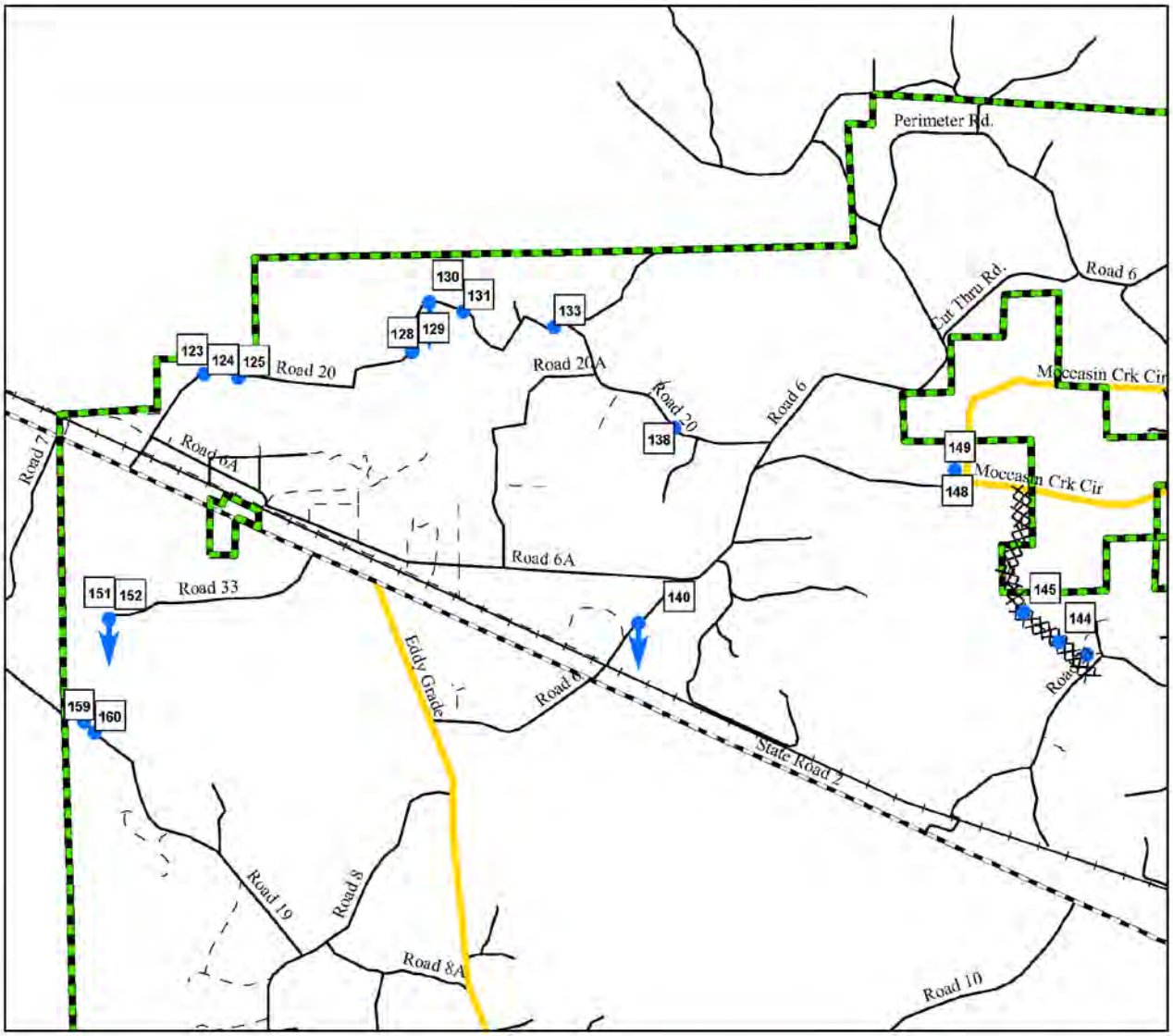
FLORIDA
DEPARTMENT OF AGRICULTURE & CONSUMER SERVICES
DIVISION OF FORESTRY

0 0.5 1 2 Miles

DISCLAIMER

This map is the product of the Florida Division of Forestry. No warranties are provided for data therein, its use, or its interpretation.

d:\dof\JMBSF\post bugaboo restoration plans\hydrology\bugaboo map2



N

W E

S

John M. Bethea State Forest Post Bugaboo Hydrology Restoration Plan Map 3

JMBSF post Bugaboo Hydrology Restoration Points

bugaboo dozer line

boundary

dirt

grade

paved

two trail

rail road

Direction of Surface Flows

SE Flow

drawn by
Lee Barnwell
Forestry Supervisor II
8/9/07

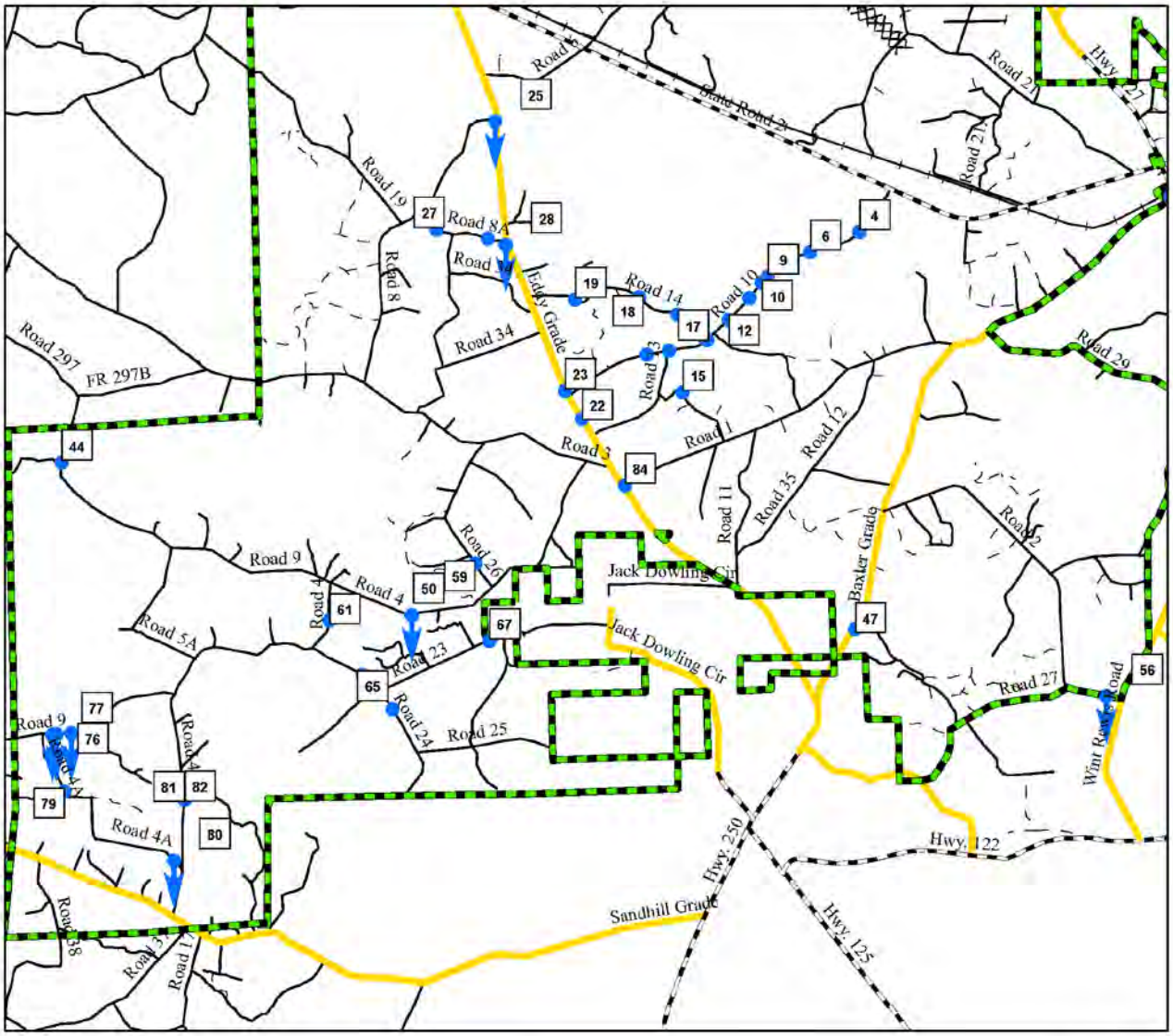
FLORIDA
DEPARTMENT OF AGRICULTURE & CONSUMER SERVICES
DIVISION OF FORESTRY

0 0.5 1 2 Miles

DISCLAIMER

This map is the product of the Florida Division of Forestry. No warranties are provided for data therein, its use, or its interpretation.

d:\dof\JMBSF\post bugaboo restoration plans\hydrology\bugaboo map3



N

W E

S

John M. Bethea State Forest Post Bugaboo Hydrology Restoration Plan Map 4

JMBSF post Bugaboo Hydrology Restoration Points

bugaboo dozer line

boundary

dirt

grace

paved

two trail

rail road

Direction of Surface Flows

SE Flow

drawn by
Lee Barnwell
Forestry Supervisor II
8/9/07

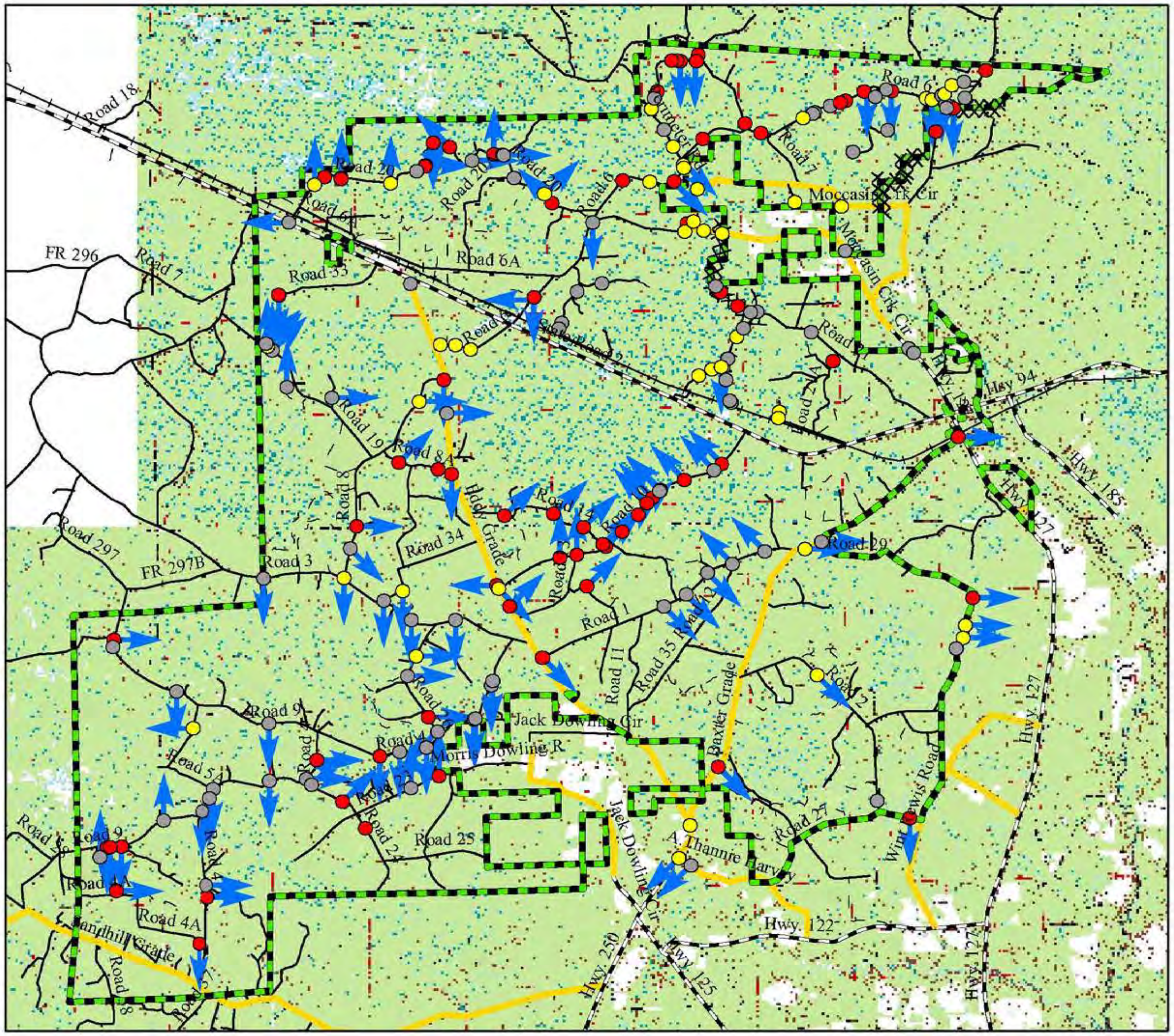
FLORIDA
DEPARTMENT OF AGRICULTURE & CONSUMER SERVICES
DIVISION OF FORESTRY

0 0.5 1 2 Miles

DISCLAIMER

This map is the product of the Florida Division of Forestry. No warranties are provided for data therein, its use, or its interpretation.

d:\dof\JMBSF\post bugaboo restoration plans\hydrology\bugaboo map4



0 0.5 1 2
Miles

John M. Bethea State Forest Post Bugaboo Hydrology Restoration Plan Overview

Map 5

JMBSF Hydrology Restoration Priorities

priority
- 1
- 2
- 3
- bugaboo dozer line
- boundary
- dirt
- grade
- paved
- two trail
- rail road

Direction of Surface Flows

SE Flow

drawn by
Lee Barnwell
Forestry Supervisor II
8/9/07

FLORIDA DIVISION OF FORESTRY

DISCLAIMER

This map is the product of the Florida Division of Forestry. No warranties are provided for data therein, its use, or its interpretation.

d:\dof\JMBSF\post bugaboo restoration plans\hydrology\bugaboo overview drg

ATTACHMENT 3

POST-BUGABOO HYDROLOGICAL RESTORATION
JOHN M. BETHEA STATE FOREST

ACTION ITEM PLAN/TIMETABLE

ATTACHMENT 3

JOHN M. BETHEA STATE FOREST
POST-BUGABOO HYDROLOGICAL RESTORATION

ACTION ITEMS PLAN/SCHEDULE

PRTY. #	PRIORITY AREA	FOREST QUAD./ WAYPT. REF.	ACTION	SCHEDULED	REFERENCE (Page #s)
1	**Moccasin Creek Area**	NE/	**1a: Immediately remove debris from culverts; 1b: Ditch Plugs on Fireline**	**1st Qrtr., FY2007-08**	**9 – 10**
2	**St. Mary's River/Bugaboo Pushed Line**	**NE/154,**	**2a: Ditch Plugs & Water Bars on Bugaboo Line; 2b: Monitor tributary to SMR; 2c: Ditch Plugs on Firelines**	1st & 2nd. Qrtrs., FY2007-08	**7 - 8**
3	**Bugaboo Pushed Line/Road 21/ Moccasin Creek**	**NE/**	**3a: Bugaboo Line Rehab, Berm Removal, Stabilization Activities; 3b: Remove Berms on Road Shoulders within Bugaboo Line; 3c: Armor Road Sections**	1st & 2nd. Qrtrs., FY2007-08	**9**
4	**Moccasin Swamp/Road 10**	**SW**	**4a: Create Additional Conveyance under Road 10 with installation of culverts or LWHS Crossings; 4b: Improve (reinforce LW Crossings on Road 14**	2nd.& 3rd Qrtrs., FY2007-08	**5**
5	**Road 20/ Okefenokee Swamp Break**	**NW**	**5a: Restrict Traffic on Rd 20 until Stabilized; Install additional conveyance under west end of Road 20 5b: Replaced damaged culverts, elevate crossings; 5d: Install Ditch Plugs on Firelines;**	**1st & 3rd Qrtrs., FY 2007-08**	**11 - 12**
6	**Perimeter Road/ "Cut Thru" Road Loop**	**NE**	**6a: Remove "Cut Thru" Road or Re-direct flow to Lake Holes Branch under Perimeter Road; 6b: Or install elevated LWHS Crossings on "Cut Thru" Road 6c: Install Ditch Plugs in Old Firelines (Delineation Lines); 6d: Monitor Basin Marsh reversion in west Perimeter Loop Area**	3rd & 4th Qrtrs., FY2007-08	**8 - 9**

ATTACHMENT 3

JOHN M. BETHEA STATE FOREST
POST-BUGABOO HYDROLOGICAL RESTORATION

ACTION ITEMS PLAN/SCHEDULE
(Continued)

PRTY. #	PRIORITY AREA	FOREST QUAD./WAY PT. REF.	ACTION	SCHEDULED	REFERENCE (Page #)
7	"Potato Patch" Firelines	NE&NW/	7a: Plow "cut-off" across beds; 7b: Re-Work Road Ditches – outer berms	1st & 3rd Qrtrs., FY 2007-08	12 – 13
8	Pinhook Swamp	SW/	8a: Replace Damaged Culverts; Improve Crossings on Road 19; 8b: Work with County to Improve Crossings and Sections of Eddy Grade	3rd & 4rd Qrtr., FY 2007-08	4
9	Little River Bay	SW/	9a: Re-work, Stabilize, Improve Crossings on Road 4 and 24, and Eddy Grade; 9b: Install Ditch Plugs on Firelines; 9c: Install Ditch Plug in Field Ditch off Road 9	1st & 2nd Qrts., FY 2008-09	5 – 6
10	Road 6/Railroad Track	NW/	10a: Install Ditch Plug in Field Ditch off Road 6	1st & 2nd Qrts., FY 2008-09	12
11	Okefenokee Swamp FireBreak/Perimeter Road	NW/	11a: Install Ditch Plugs As Needed Along Southern Edge Of Break; 11b: Replace culvert on Secondary Road off of Road 6	1st & 2nd Qrts., FY 2008-09	8
12	Interior Forest Roads	Forest-wide	12a: Restore Historically wet areas through passive management	On-going	13

Exhibit V

State Forest Summary Budget

State Forest Summary Budget

	JOHN M. BETHEA STATE FOREST LANDS MGT. ONLY 13-14 EXPENDITURES -	Percentage of Total for FY 2013-14	JMBSF Based Upon LMUAC Resource Management Funding Need
Resource Management	**$ 324,850**	**30.40%**	**$ 878,286.09**
Exotic Species Control	$ 15,984	2.50%	$ 72,227.47
Prescribed Burning	$ 167,568	5.80%	$ 167,567.74
Cultural Resources Management	$ 639	0.10%	$ 2,889.10
Timber Management	$ 64,575	10.10%	$ 291,799.00
Hydrological Management	$ 4,475	0.70%	$ 20,223.69
	$ -		$ -
OTHER RESOURCE MANAGEMENT	$ 71,608	11.20%	$ 323,579.08
Listed Species Management	$ -		$ -
Forest Pest and Disease	$ -		$ -
Plant Conservation Program	$ -		$ -
State Forest Research Projects	$ -		$ -
Boundary Surveys for State Forests	$ -		$ -
Other Activities Also Include:	$ -		$ -
Liaison Community Meetings / Boundary Line Maintenance / Forest Inventories and Various Other Activities / Wildfire Suppression on State Forests			
			$ -
Administration	**$ 49,870**	**7.80%**	**$ 225,349.72**
Central Office Headquarters	$ 49,870	7.80%	$ 225,349.72
District/Regions	$ -		$ -
Units/Projects	$ -		$ -
	$ -		$ -
Support	**$ 188,610**	**29.50%**	**$ 421,808.45**
Land Management Planning	$ 11,508	1.80%	$ 52,003.78
Land Management Reviews	$ 1,918	0.30%	$ 8,667.30
Training/Staff Development	$ 36,443	5.70%	$ 164,678.64
Vehicle Purchase	$ 2,557	0.40%	$ 11,556.40
Vehicle Operations and Maintenance	$ 95,264	14.90%	$ -
	$ -		$ -
OTHER SUPPORT	$ 40,919	6.40%	$ 184,902.33
State Forest Land Acquisition Support			$ -
Other Support Activities Also Include:	$ -		$ -
Computer Maintenance / Radio Maintenance / Technical Support / Management of Apiary and Cattle Leases / State Forest Easements and Other Various Activities	$ -		$ -
			$ -
Capital Improvements	**$ 124,675**	**19.50%**	**$ 563,374.30**
New Facility Construction	$ 29,410	4.60%	$ 132,898.55
Facility Maintenance	$ 95,264	14.90%	$ 430,475.75
			$ -
Visitor Services/Recreation	**$ 81,838**	**12.80%**	**$ 369,804.67**
Information/Education	$ 18,541	2.90%	$ 83,783.87
Operations	$ 63,296	9.90%	$ 286,020.80
			$ -
Law Enforcement	$ -	0.00%	$ -
Total	**$ 639,357**	**100.00%**	**2,889,098.97**

Exhibit W

Compliance with Local Comprehensive Plan

Baker County
Planning and Zoning Department
360 East Shuey Avenue
Macclenny, Florida 32063
Phone (904) 259-3354
Fax (904) 259-5057

Ed Preston
Planning & Zoning Director

November 5, 2015

Jennifer Reed
3125 Conner Boulevard
Tallahassee, FL 32399-1650

Jennifer Reed:

The Baker County Planning Department has completed its review of the Florida Forest Service Ten Year Resource Management Plan for the John M. Bethea State Forest.

We have found the Plan consistent with the Baker County Local Comprehensive Plan.

If you have any questions, please contact Ed Preston, at (904) 259-3354.

Sincerely,

Ed Preston
Baker County Planning & Zoning Director

EP

cc: Sam Leneave
John Raulerson
Andy Lamborn

Exhibit X

State Forest Management Plan
Advisory Group Summary

Management Plan Advisory Group Introductory Meeting
John Bethea State Forest
July 28, 2015 at 6:00 p.m.

Meeting Minutes

MPAG Members Present: All

- Pete Bowyer, Hunter
- Doug Moore, Private Landowner
- David Walls, Private Landowner
- Candice Leek, Hiker
- Scotland Talley, FWC
- Chad Rischar, SJRWMD
- Sam LeNeave, FFS
- James Croft, Baker County Commissioner

MPAG Members Not Present: N/A

Guests:

- Joel Addington, Baker County Press

Staff:

- Sam LeNeave, District Manager, FFS
- John Raulerson, FFS
- Andy Lamborn, FFS
- Jennifer Reed, FFS
- Bill Korn, FFS
- Cat Ingram, FFS

Starting Time: 6:01 p.m.

- Mr. Korn opened the meeting by explaining the purpose, statutory requirement and at what point during the management plan development process the MPAG members are called upon to provide input into the draft land management plan. Mr. Korn also explained the Sunshine Law's role in the MPAG public hearings, the member appointment timeframe, and a rundown of how the meetings were appropriately advertised to the public.
- Mr. Korn provided a rundown of the various approvals the draft land management plan must go through both before and after the MPAG public hearings have occurred.
- Introductions were made by everybody in the room.
- Mr. Korn went over the different roles of each of the MPAG public hearings, and how each meeting is structured. He also provided how various scenarios could play out at the individual meetings.
- Mr. Talley moved to elect Mr. LeNeave as MPAG Chair. Mr. Walls seconded the motion.
- No opposition; the motion was approved.

Ending Time: 6:20 p.m.

Public Hearing
John Bethea State Forest
July 28, 2015
6:30 p.m.

Meeting Minutes

MPAG Members Present: All

- Pete Bowyer, Hunter
- Doug Moore, Private Landowner
- David Walls, Private Landowner
- Candice Leek, Hiker
- Scotland Talley, FWC
- Chad Rischar, SJRWMD
- Sam LeNeave, FFS
- James Croft, Baker County Commissioner

MPAG Members Not Present: N/A

Public Guests:

- Joel Addington, Baker County Press

Staff:

- Sam LeNeave, Center Manager, FFS
- John Raulerson, FFS
- Andy Lamborn, FFS
- Jennifer Reed, FFS
- Bill Korn, FFS
- Cat Ingram, FFS

Starting Time: 6:30 p.m.

- Mr. Korn began the meeting and gave a general overview of the purpose of the public hearing.
- Mr. Lamborn welcomed the group and gave a PowerPoint presentation which provided an overview of the Draft Ten-Year Land Management Plan Update for John Bethea State Forest. Mr. Lamborn's presentation covered: the history of the forest, the general points of interest on the state forest, management changes set forth in the draft plan update, and the basic goals and objectives for the management of JMBSF that are presented in the draft plan update.
- Mr. Moore inquired about potential areas on JMBSF that are flat-planted (not bedded). Mr. Lamborn commented that this activity does occur on JMBSF. Associated discussion ensued regarding the difference in management practices on state land versus forest industry property.
- Mr. Bowyer inquired about road widening, turn around areas for equipment and any associated foodplots. Mr. Lamborn responded that foodplots were being added to the forest, and that the public can suggest to FFS where they would like the locations of foodplots to be located on the forest. Also discussed was the fact that over time, the roads on JMBSF would be widened over the next several years for fire suppression purposes.

- Mr. Rischar inquired about the number of acres of foodplots FFS desires to have on the forest. Mr. Lamborn responded that probably about 8-10 acres total would be planted.
- Mr. Talley mentioned the benefits that foodplots can provide.
- Mr. Bowyer mentioned he thought foodplots bring a sense of artificiality to forests.
- Mr. Korn reminded the group that tomorrow's MPAG meeting would be the appropriate time and place to hash out the ins and outs of foodplots.
- Mr. Lamborn continued with the presentation on the draft plan, including the topic of non-native, invasive species.
- Mr. Moore asked if cogon grass was present on the forest. Mr. Lamborn responded that a small amount does exist. Mr. Bowyer inquired about how FFS is dealing with it. Mr. Lamborn answered that it would take approximately 3-4 treatments to eradicate the species from the forest.
- Mr. Bowyer asked if the longleaf pine trees on JMBSF are genetically the same as the historical longleaf pines that were there many years ago. Mr. Lamborn responded that they are the same.
- Mr. Lamborn concluded his presentation.
- At this juncture in the meeting, the public would normally be asked to speak. However, since no members of the general public were present, Mr. Korn stated that the group would wait a few more minutes until 7:00 p.m. to close the meeting in case anyone else showed up late to the meeting and wanted a chance to speak.
- Mr. Talley and Mr. Lamborn discussed fishing opportunities, hatcheries and the genetics of bass and its subspecies.
- Mr. Rischar inquired whether or not any RCWs have been documented on JMBSF. Mr. Lamborn responded that there was documentation that RCWs occurred on the forest in the early 1900s. Mr. Rischar asked if JMBSF could ever be an appropriate habitat RCWs. Mr. Lamborn responded that in 30-40 years, JMBSF could be appropriate habitat for the birds.
- Mr. Walls, Mr. Lamborn and Mr. LeNeave discussed flat-planting, the associated timeframes and the associated ability to use containerized longleaf seedlings to allow the earlier introduction of fire.
- Mr. Talley discussed the scientific, Latin name of the longleaf pine tree and its association with its historic presence in marshes.
- Mr. Korn inquired about whether or not FWC is contemplating changes to hunting regulations at JMBSF. Mr. Talley discussed recent new regulations in place for black bear hunts, as well as a recent change to FWC's breakdown of deer management units across the state. Discussion ensued regarding new hunting rules versus old hunting rules, antlers and measurements.
- Mr. Rischar and Mr. Talley discussed what the accepted determined age is of a bear cub that can fend for itself, as well as what activities the collected bear hunt fees will go toward in the future.
- Mr. Moore and Mr. Talley discussed the purpose of FWC opening up the black bear hunt opportunity in the state.
- Mr. Korn stated that as no other public has arrived at this point, it was time to wrap up the meeting.

Ending Time: 7:03 p.m.

Management Plan Advisory Group Meeting
John M. Bethea State Forest
July 29, 2015
9:30 a.m.

Meeting Minutes

MPAG Members Present:

- Pete Bowyer, Hunter
- Doug Moore, Private Landowner
- David Walls, Private Landowner
- Candice Leek, Hiker
- Scotland Talley, FWC
- Chad Rischar, SJRWMD
- Sam LeNeave, FFS
- Michael Davis, substituting for Mr. James Croft, Baker County Commissioner

MPAG Members Not Present:

- James Croft, Baker County Commissioner

Public Guests: None

Staff:

- Sam LeNeave, Center Manager, FFS
- John Raulerson, FFS
- Andy Lamborn, FFS
- Jennifer Reed, FFS
- Bill Korn, FFS
- Cat Ingram, FFS

Starting Time: 9:30a.m.

- Mr. Korn started the meeting by going over which members were missing, the meeting structure that would take place and specifics regarding staff and member responsibilities regarding the meeting minutes in the coming days/weeks.
- The MPAG reviewed the two sets of meeting minutes from the MPAG Introductory Meeting and Public Hearing that occurred on 7/28/2015. The following are the recommended changes:
  - Mr. Talley asked for a correction in the spelling of his name. Staff made the change.
  - Changes were also made to tighten up some of the acronyms listed on the minutes.
  - Mr. Walls asked for two of the statements that indicated that he had made them, be changed to indicate that Mr. Bowyer made them, who concurred that these changes would be accurate. Staff made the changes.
  - Ms. Leek asked about the meaning of "flat-planted" and Mr. LeNeave explained the meaning of the terminology.

- Mr. Moore moved to accept both sets of minutes.
- Ms. Leek seconded the motion.
- Mr. Korn proceeded to call on each member one by one and go over each member's questions and recommended changes.

Pete Bowyer

- Mr. Bowyer noted that he thinks the plan is great.
- Mr. Bowyer had questions regarding Eddy Road maintenance and the corresponding section in the plan. Mr. Lamborn responded to his questions regarding road maintenance, the budget, and how the county and FFS cooperates in providing equipment, personnel and supplies for such road projects.
- Mr. Talley shared an anecdote from a recent LMR that he had participated on and questioned if a similar circumstance was valid for the JMBSF. The situation was in regard to the ROW corridor and fire protection and how they relate to the subject draft plan's pertinent objective. Mr. Lamborn responded and he and Mr. Korn further discussed the collaboration of resources the county and FFS employ. Mr. LeNeave stated that Eddy Road is much more improved now than the condition it was in the past.
- Mr. Bowyer stated that no changes to the plan were necessary regarding this topic.

Doug Moore

- Mr. Moore inquired whether or not FFS rakes following clearcuts. Mr. Lamborn responded that this method is employed only after catastrophic fires for salvage harvests. Mr. Moore talked about how raking can create piles of dirt, which later can become mounds that coyotes may inhabit. Mr. Lamborn stated that FFS does scatter the mound tops during thinning. Mr. Moore, Mr. Lamborn and Mr. Bowyer discussed rake piles and burn potential.
- Mr. Moore inquired about the timing of planting as it relates to FFS methods for herbiciding. Mr. Lamborn responded and discussed seasonal timing and which herbicides are used. Mr. Korn stated that the current discussion was more operational in nature and that the draft plan does not go into the details of operations to the extent at which the conversation was presently occurring. Mr. Moore stated that the current conversation relates to timber money and how well wildlife will do on the forest. Mr. Lamborn discussed stocking levels. Mr. Korn stated that FFS is more aggressive with prep work. Mr. Lamborn stated that FFS manages for multiple-use, not just timber, but also groundcover, etc.
- Mr. Moore stated that he believed that all available management tools should be employed on JMBSF to result in more revenue. More revenue would mean more money to manage the forest with. He stated that he wants prescribed fire and herbicide to be utilized. Mr. Lamborn stated that FFS does use all the tools available, except bedding. Mr. Moore stated that herbicide is an important forest management tool.

At this time, the group took a quick break. The meeting resumed after a few minutes.

- Mr. Moore stated that feral hogs are invasive and can be quite detrimental to forests. When the feral hog populations are high, he would like to see all available tools employed for hog control. He stated that he wants no restrictions, including hunting.
- Mr. Talley stated that outside of youth and specialized hunts, feral hogs are legal game. He further mentioned that if FFS would like to add more hog hunts, FWC would be fine with

that. He further discussed the fact that FWC issues annual permits to FFS to trap and remove feral hogs from all state forests. Each forest manager on a case-by case basis may decide if they want to employ contractors for hog removal. The forest is not necessarily open for hog hunts all year long because there is not enough enforcement staff available to provide oversight for such hunt activities.

- Mr. Moore stated that youth hunts were a great opportunity to utilize the forest. He further discussed that one cannot control hogs with guns or traps because the hogs are too smart. He stated that the hogs could be controlled with dogs though. He encouraged that opportunity to be available on JMBSF.
- Mr. Korn stated that the mission of the meeting is to incorporate changes to the draft plan. He asked whether this discussion revolved around any suggested change to the draft plan.
- Mr. Moore declared that he would like the plan to state that FFS would allow all means available to control feral hogs, including off-season hunting, trapping and hog hunting.
- Mr. Talley stated that there is no "off-season" hunts for hogs. Mr. Lamborn and Mr. Moore discussed hunt seasons.
- Mr. Rischar inquired whether the plan currently reads as if all means for getting hogs from tearing up the forest are available the way it is worded currently. Mr. Moore asked if the language includes utilizing dogs.
- Ms. Leek stated that feral hogs are included in the species listed for hunts on the document that lists hunt dates. She inquired as to whether Mr. Moore's request conflict with the hunt date rules on the website.
- Mr. Talley stated that this situation would be an instance of FWC and FFS cooperating together. He further mentioned that this type of issue gets vetted in FWC's rulemaking process and further, this is an operational issue. The language that is currently in the draft plan provides for FFS being able to host hunts as they wish, and FWC works with FFS in this type of endeavor.
- Mr. Moore declared that this issue is in reference to a ten-year plan.
- Mr. Bowyer talked about specific hunt season dates as they relate to hogs, dogs and turkeys.
- Mr. Talley brought up the fact that a manager can run into a lot of conflicts due to other issues.
- Mr. Lamborn stated that the hogs on JMBSF are not a horrible issue currently, though he would of course like to see the population decrease. However, managing the people that would be involved in such a hunt would be hard for the land management staff on JMBSF. Mr. Moore stated that he did not want the tools that could be used for hog management be limited. Mr. Korn stated that the draft plan's language is non-limiting the way it reads currently. He added that no one wants to see hog damage to the forest. Mr. Talley stated that the cooperating land managers do have youth hunts that may incorporate such activities. Ms. Reed pointed out that such hunts are advertised for appropriately. Mr. Talley discussed the topic further.

At this juncture in the meeting, Mr. Croft entered the meeting.

At this juncture in the meeting, Mr. Davis left the meeting.

- Mr. Talley discussed hunting and the potential use of contractors. Mr. Moore stated that at Pumpkin Hill, the land has been devastated by hogs. The managers do not allow hunts on the

property, and as a result, spend a lot of money on getting hogs, as opposed to getting other activities accomplished.

- Mr. Lamborn stated that hunting is a huge recreational activity on JMBSF.
- Mr. Korn asked if there was consensus among the group to change the pertinent section in the draft plan. He stated that the agency was comfortable with the language as it is currently. At that time all members of the Advisory Group nodded in the affirmative that they were in agreement that they did not support the proposal to have year-around out-of-season hunting for feral hogs in JM Bethea SF.
- Mr. Moore stated that the county was one of 16 counties in the U.S.A. that are "firewise." He stated that we want to help the public understand that fact, and they would be happy to take advantage of any financial help to that end. Mr. Lamborn stated that FFS cooperates with all of our partners, many of which are state and federal agencies.

David Walls

- Mr. Walls had a specific suggestion regarding the section of the plan entitled, "Use of Private Land Contractors." He inquired whether or not it would be beneficial to have a pre-screened list of foresters for timber sales to get more revenue from bidders. Mr. Lamborn responded that FFS only utilizes loggers that have gone through master-logger training. Mr. Korn referenced the guidelines within the State Forest Handbook. Mr. Lamborn referenced the most recent time a bid package went out and approximately how many loggers bid on the project. Mr. Lamborn stated that FFS gets top dollar when ascertaining work from contractors. Mr. Korn further discussed timber sales and the minimum bid process for state forests.

Candice Leek

- Ms. Leek thanked FFS for the opportunity to serve as a member on the MPAG. She complimented the draft plan creators and stated that the color maps are good. She stated that she is a hiker and former hunter, and she uses the forest recreationally. She declared that she had three main points she wanted to talk about.
- She wondered if there could be a sign-in log at the Maple Set Trailhead Kiosk. Mr. Lamborn stated that there was not one, but that if a visitor wanted to communicate with state forest staff, they could fill out a general comment card and mail it in to the state office. Ms. Leek stated that there may be primitive campers and day users that may not be utilizing the Trailwalker Program. She asked how those types of forest users are being kept track of. Mr. Lamborn stated that as much as he would love to document all those who visit the forest, a sign-in log would just not be feasible to maintain at the trailhead. He discussed the relevant hardships.
- Mr. Raulerson agreed with Ms. Leek and Mr. Lamborn and stated that he, too, would like to see this information captured, however, the personnel to manage such a task does not exist. He stated that placement of the general comment cards at the kiosk for feedback is a good idea.
- Mr. Talley asked whether FFS has considered a traffic counter. Mr. Lamborn stated that they would have to hide it. Mr. Talley stated that FWC has had success disguising them as blue bird boxes. The issue was discussed further.
- Mr. Korn stated that FFS only has three to four actual recreational positions and that the issues the group was discussing was operational in nature. He remarked that FWC had

received a substantial amount of money they were able to use in such a way that has been effective in utilizing the counters for good and credible information.

- Mr. LeNeave stated that one of the recreational coordinators at the state office has been able to ascertain good information for FFS that has been used to build credibility for visitor numbers. He stated that FFS works with FWC in this type of endeavor on occasion. He further stated that FFS had considered putting a counter on Eddy Road, but the issue of accuracy came up. As in, it would additionally be counting people that were just driving through on the road and not necessarily using the forest.
- The second issue Ms. Leek wanted to speak about was in regard to volunteerism. She inquired how volunteers could help FFS JMBSF staff, including trail blazing, equipment, tools etc. She stated that she herself was going to give Mr. Lamborn her FFS Volunteer Application paperwork so that the manager can utilize her service when they need her. She also mentioned that perhaps volunteers can help FFS with particular species counts on the forest. Mr. Lamborn stated that if he had qualified volunteers to help with such an activity, then yes, he would consider using them. He further mentioned trail maintenance and picking up litter as activities volunteers may be helpful in accomplishing.
- Mr. Korn referenced that in the past, volunteers with botanical credentials had actually identified plants on Cary State Forest that FFS had not been aware of existed on the property. Ms. Leek stated that volunteers are teachable, and with the appropriate trust in place between the manager and volunteer, more could be accomplished.
- The third issue Ms. Leek talked about was the surveying and monitoring of archeological and historical resources. She discussed how in the past, she had spent years volunteering at Mammoth Cave National Park. After receiving training, she was able to mobilize into the backcountry and identify areas where unauthorized digging had occurred. Mr. Lamborn referenced the Sunshine Law and stated that the locations of many historical and archeological resources are sensitive. He stated that activities such as these that could potentially be performed by volunteers would depend on the trust between the manager and the volunteer as an individual.
- Ms. Leek discussed that bits and pieces containing verbiage regarding volunteerism are scattered throughout the plan. She wondered how volunteer work on the forest could be captured and documented perhaps via exhibit or appendix. Mr. Lamborn stated that for this ten year update, there is no volunteer information available to add to the plan. He stated that if there is volunteer information available for the next ten year update plan, he would consider putting that information in at that time.
- Mr. Rischar stated that the Friends of Florida State Forests could be the best avenue for volunteerism.
- Mr. Croft mentioned that a similar situation existed at Olustee Battlefield.
- Mr. Rischar stated that funding received from FFSF has the ability to accomplish projects on the state forests that the FFS may not be able to fund itself.
- Mr. LeNeave stated that FFS is growing these types of direct support organizations and that FFS will continue to be interested in pursuing and addressing these issues.
- Mr. Korn discussed the liaison group objective in the draft plan and mentioned that the department will put a renewed focus on liaison groups so that their interaction becomes more routine.

Scotland Talley

- Mr. Talley mentioned a few housekeeping issues in the plan. These were mostly grammatical errors that were changed by staff accordingly.
- Mr. Talley mentioned the fact that the black bear is listed in the FNAI list in the draft plan and that it was delisted species in 2012. Mr. Reed stated that it is still on the FNAI list. Mr. Talley remarked that he was not sure if FNAI has updated their list since FWC delisted the species. He pointed out that this issue could potentially cause "heartache," in that the draft plan lists the species as rare/threatened, and yet FWC just opened up hunts specific to the species in Florida.
- Further discussion amongst the group ensued regarding the issue of whether or not to take the species out or to leave it in. Mr. Korn asked the group if there was a consensus to remove it from the list in the plan. More discussion ensued. Mr. Korn asked if there was group consensus to remove black bear from the plan. Mr. Talley mentioned that it is now a game species and it could be added to the "game species and other wildlife" section of the plan. The group agreed as a consensus.
- Mr. Moore talked about whether or not to use the term, "Florida" before "black bear." Mr. LeNeave and Mr. Talley discussed terminology and legal reasoning behind different ways to mention the bear in documents. Mr. Talley stated that FWC is comfortable with the way it is worded in the draft plan. Mr. Korn asked Mr. Talley if the name the draft plan gives the Black Bear management plan that is referenced uses the correct title. Mr. Talley stated that it did. Mr. Bowyer, Mr. Talley, Ms. Leek and Mr. Rischar discussed verbiage technicalities as they relate to the draft plan.
- Mr. Talley talked about the natural community section and inquired how the section is broken up into topics. He asked if there was no longer a desired future condition being listed in the FFS management plans. Mr. Korn stated that the desired future condition is captured within the description section of those areas. Mr. Talley commented that the section is not as detailed as it was in the past. Mr. Korn stated that the draft plan is not operational in nature.
- Mr. Talley, Mr. Korn and Mr. LeNeave discussed the descriptions offered in the draft plan and how they relate to the State Forest Handbook.
- Mr. Talley referred to a place in the draft plan that mentions "tater patching." The group came to a consensus to remove the verbiage.
- Mr. Talley stated that overall, he thought that FFS did a good job on the draft plan, as well as on managing the forest. He stated that he is glad to continue to work with FFS.

At this juncture, Mr. Moore left the meeting.

The group then took a five-minute break.

Chad Rischar

- Mr. Rischar asked how it came to be that mesic flatwoods were identified as the primary uplands on the property. He mentioned that it seemed to him that greater than half of the property looks like industrial pine plantation. He asked whether this discrepancy is due to the difference in the natural community definitions. Mr. Lamborn stated that the draft plan includes how FFS plans to manage that portion of the property, and that FFS plans to bring it into the stated desired condition of mesic flatwoods.

- Mr. Rischar discussed the natural community maps (Q and R) in the exhibit portion of the draft plan. He stated he felt that pine plantation does not fall into the natural community category, but also that it could be listed that way due to the different ways the individual agencies define certain land use types.
- Mr. Rischar discussed the opportunity FFS has to show how particular management strategies can bring an industrial pine plantation area into the FFS desired condition. Mr. Rischar, Mr. LeNeave, Mr. Korn and Mr. Talley discussed historic and current natural land types, the way FNAI categorizes land types, and at what point can one determine a changeover in community type. Discussion centered on how community types are depicted in exhibits. Mr. Korn stated that this issue would be revisited by FFS planning staff with the State Forest Ecologist.
- Mr. Rischar restated that FFS can use data to show how particular FFS strategies can be integral in changing community types. Ms. Reed stated that the State Forest Ecologist is currently gathering related information from state forests.
- Mr. Rischar referenced a specific exhibit in the draft plan and asked how the map was created since many sections of JMBSF were not surveyed by FNAI. Mr. Lamborn responded that an FFS staff member most likely completed the map utilizing photographs of the property from the 1940's. He informed the group that the reason why sections were not surveyed was because FFS was going to have the feds complete the natural community survey work. Mr. Rischar stated that there is a potential for disparity. Mr. Korn stated that FFS staff would revisit the issue with the State Forest Ecologist.
- Mr. Rischar stated that he supports any initiative of the manager to maintain a species inventory, though this is a hard feat to accomplish. However, doing this would show how increases in species populations do occur. Mr. Korn stated that such a program had been in place, and Mr. Lamborn maintains the info. Mr. Rischar discussed how information that depicts how the mitigation of, for instance, DOT's impacts to the land, gets used by the feds, including the Army Corps of Engineers. Mr. Rischar specifically mentioned the hydrology section and corresponding exhibit in the draft plan, specifically in reference to the FDOT mitigation program. He commended the forest supervisor for implementing and executing what the WMD indicated would be beneficial on the forest. He stated that he would like to see more financial help go toward state forest projects such as that one. He stated that he would like to continue to help facilitate a relationship between the WMD and FFS for more successful partnerships in the future.
- Mr. LeNeave mentioned the hydrological assessment on JMBSF. Mr. Rischar talked more about what could be accomplished with even more cooperation between the WMD and FFS. He spoke specifically about how the WMD can help FFS out with the addition of culverts, many of which are also mentioned in the 2007 hydrological report.
- Mr. Rischar commended FFS on the draft plan.

Sam LeNeave

- Mr. LeNeave stated that he thought the plan looked good. He did not have any recommendations for change other than what was being discussed during this meeting.

James Croft

- Mr. Croft stated that he did not have any recommendations for change. He added that he, in fact, did not receive a copy of the draft plan until the night before, since he was filling in for another county commissioner at the last minute.
- Mr. Korn thanked Mr. Croft for his attendance.

- Ms. Reed stated that she would be sending these meeting minutes to the MPAG members as an attachment to an email.
- Mr. Korn stated that FFS would revisit the natural community portion with the appropriate staff.
- Mr. Rischar, Mr. LeNeave, Mr. Raulerson and Mr. Korn discussed the timing of natural community map generation. Mr. Rischar referenced "departure" maps that were utilized on Four Creeks. The maps were used to indicate changes over time.
- Mr. Korn discussed the FFS forest inventory process.
- Mr. LeNeave motioned for the meeting to adjourn.
- Mr. Walls seconded the motion.

Ending Time: 11:32 a.m.

Exhibit Y

Arthropod Control Plan – County Response

STACIE D. HARVEY
CLERK TO BOARD

Baker County
Board of Commissioners
55 NORTH THIRD STREET
MACCLENNY, FLORIDA 32063
(904) 259-3613 • (904) 259-7610
www.bakercountyfl.org

CJ THOMPSON
COUNTY MANAGER

May 20, 2015

Andy Lamborn, Forestry Supervisor II
Florida Forestry Service
John M. Bethea State Forest
11656 SR 2
Sanderson, Florida 32087

RE: John M. Bethea State Forest Arthropod (mosquito) Control Plan

Mr. Lamborn,

I am in receipt of your letter regarding mosquito control in the John M. Bethea State Forest. Please consider this correspondence as official notification that Baker County does not have any plans for mosquito control in the forest.

In the past, Baker County has partnered with FEMA in the aftermath of tropical storms and hurricanes to bring mosquito control to specific areas of concern due to flooding. These instances are not routine or on a continued basis.

Unfortunately, do to budget limitations Baker County has no future plans to offer mosquito control in any area of the County. Should this information ever change notification will be sent to the Florida Forestry Service.

If you have any questions regarding this or any other matter please contact my office.

Sincerely,

CJ Thompson
County Manager

Exhibit Z

Acres Planted to Longleaf Pine

John M Bethea State Forest
7,197 Acres Planted Longleaf Pine