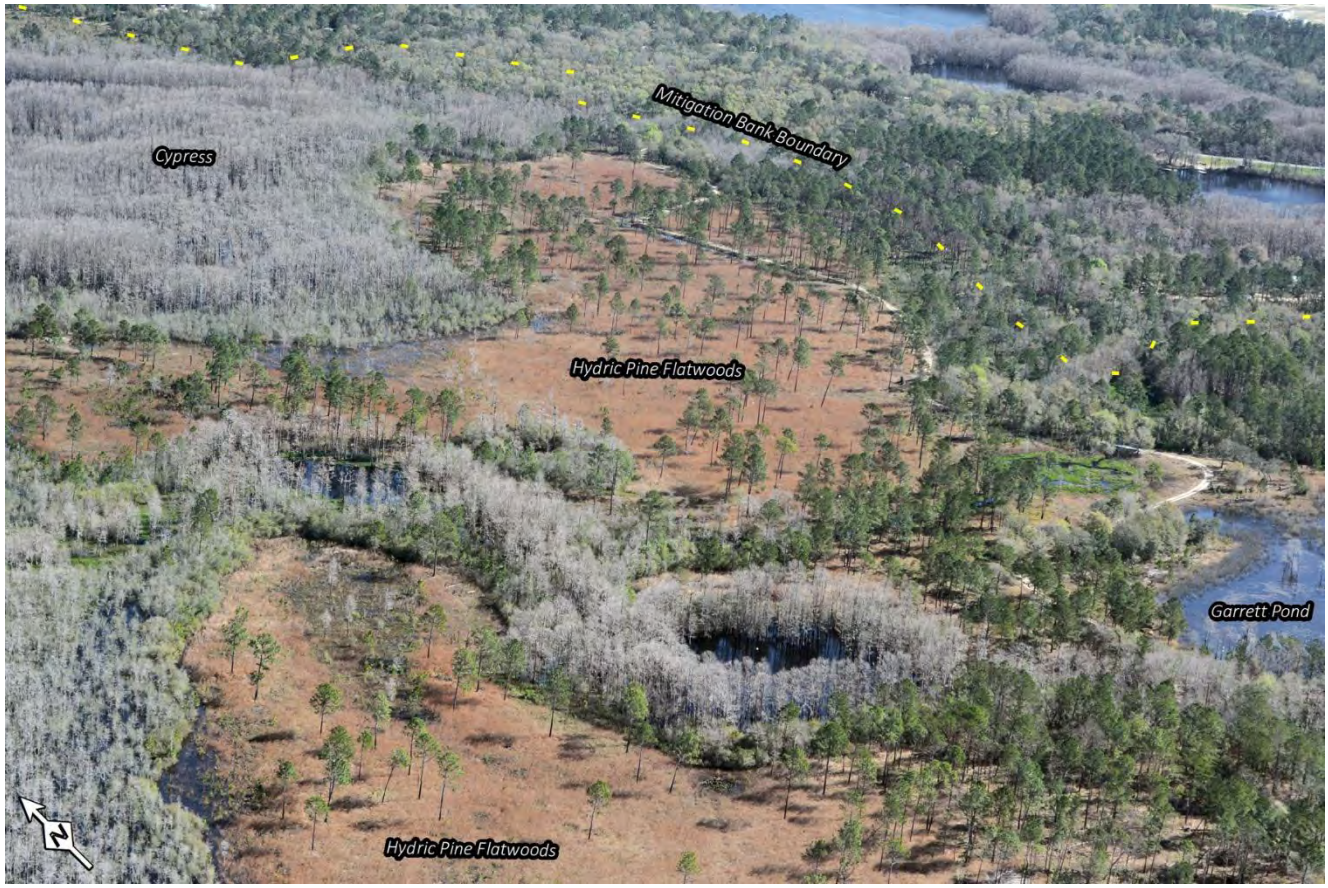
Sand Hill Lakes Mitigation Bank
Combined FDEP/USACE
2025 (20th) Annual Report



FDEP Permit No. 0227351-001, issued 9/6/2005
USACE Permit SAJ-2002-5061 (NW-DEB), issued 5/17/2006

Northwest Florida Water Management District
81 Water Management Drive
Havana, Florida 32333-4712

Executive Summary

Located in southern Washington County in the Sand Hill Lakes region of the Florida Panhandle (Figure 1), the Sand Hill Lakes Mitigation Bank (SHLMB) consists of approximately 2,155 acres (~850 acres of wetlands; ~155 acres of natural lakes and ponds; ~1,150 acres of upland communities; Figure 2). Acquired in 2002 for the express purpose of establishing a mitigation bank, the Florida Department of Environmental Protection (FDEP) bank permit was issued September 5, 2005; the corresponding US Army Corps of Engineers (USACE) permit was issued on May 17, 2006.

This Combined FDEP/USACE 2025 (20th) Annual Report is written in accordance with Specific Conditions 26 and 28 of the FDEP permit. All restoration activities described in the state and federal permits have been implemented (including, though not limited to, wetland and upland habitat restoration, fire management, hydrologic enhancements, erosion stabilization, management of exotic and/or invasive vegetation, management of feral hog populations, and management of preserved high-quality cypress and seepage slope wetlands). Annual quantitative and qualitative monitoring of vegetation has been conducted since 2006. Restored habitats are improving, vegetation species diversity is increasing, preserved habitats are being managed for ecological integrity, and interim success criteria have been met since 2010.

Initial credits releases occurred in 2006 and 2008; 1st Interim Credit Release was in 2010; 2nd Interim Credit Release was in 2013; 3rd Interim Credit Release was in 2018; 4th Interim Credit Release was in 2023. The Final Credit Release will be requested upon attainment of final success criteria as described in Specific Condition 22 of the FDEP permit. To facilitate effective management of the site and to comply with differing USACE and FDEP credit assessment methodologies, the SHLMB is divided into Management Unit polygons for management prescriptions (Figure 3), UMAM[1] polygons for FDEP credit assessment (Figure 4), and WRAP[2] polygons for USACE credit assessment (Figure 5).

Prior to 2023, annual fall vegetation monitoring of the SHLMB (Specific Condition 26, FDEP permit) was conducted by Northwest Florida Water Management District (NWFWMD) staff. Since 2023, annual vegetation monitoring has been conducted by Florida Natural Areas Inventory (FNAI) staff (2025 vegetation monitoring included in this annual report as Appendix A).

The semiannual report (Specific Condition 27, FDEP Permit) for the period July – December 2025, as allowed by Specific Condition 28 of the FDEP Permit, is included as an attachment to this annual report (Appendix B).

Water level staff gage readings (2006 – 2025) are reported in Appendix C.

[1] Uniform Mitigation Assessment Method.

[2] Wetland Rapid Assessment Procedure.

Annual panoramic monitoring photos (Specific Condition 26, FDEP permit), taken 2006 – 2025 at approved points, are available online at https://nwfwater.com/water-resources/regional-wetland-mitigation-program/regional-mitigation-plan/nwfwmd-mitigation-sites/choctawhatchee-watershed-mitigation-sites/sand-hill-lakes-mitigation-bank/panoramic-photos/. In Appendix D attached, panoramic photos from 2006 and 2025 are shown.

Certification:

We certify, to the best of our knowledge, that this report represents a true and accurate description of the activities and site conditions at the time of this report.

Robert F. Lide

Robert F. Lide, Senior Environmental Scientist, QMS Team Member
23 January 2026

Philip Garrett

Philip Garrett, Senior Environmental Scientist, QMS Team Member
23 January 2026

Coakley Taylor

Coakley Taylor, Lands Manager, QMS Team Member
23 January 2026

Contents

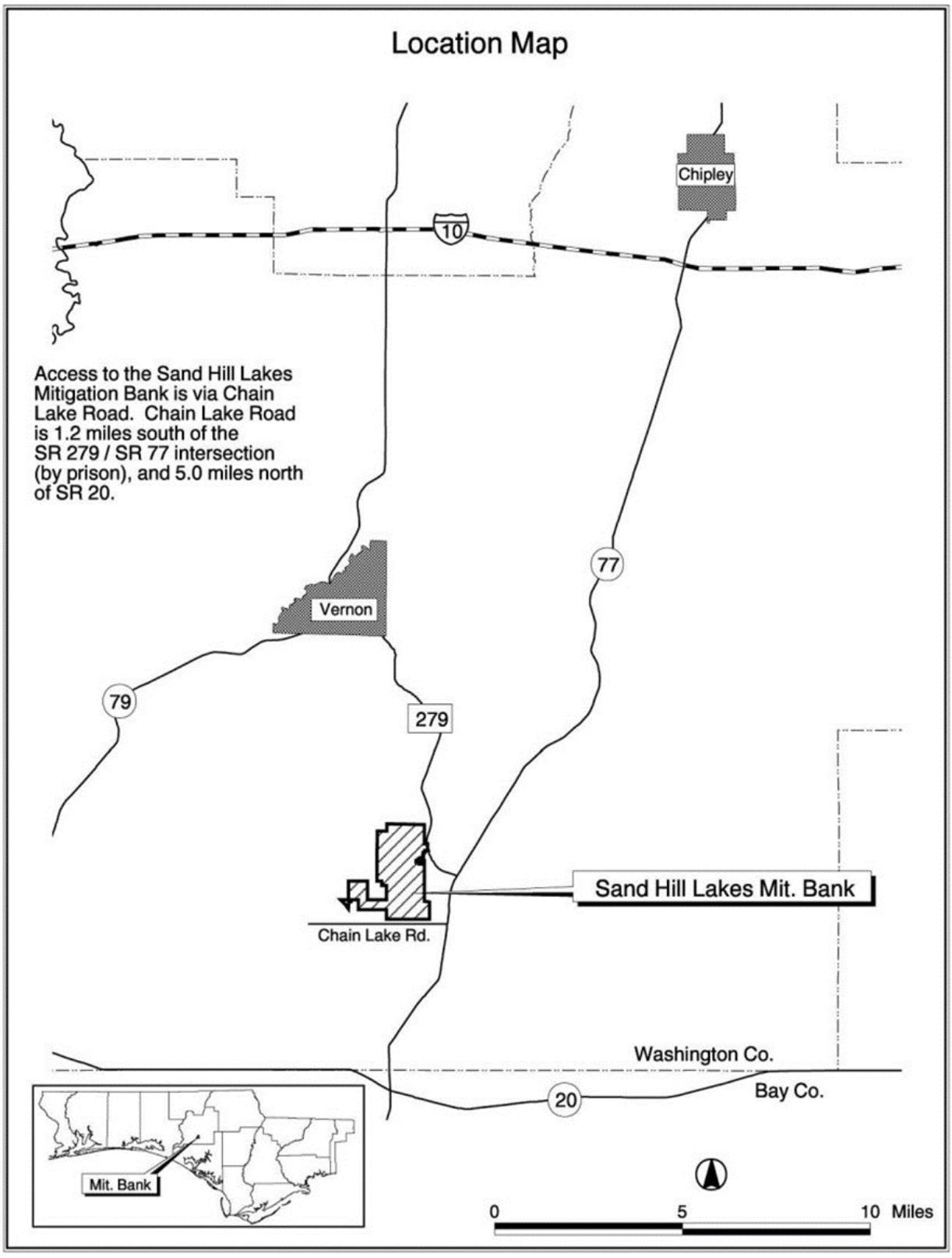


FIGURE 1. LOCATION MAP (FROM 2005 FDEP PERMIT)

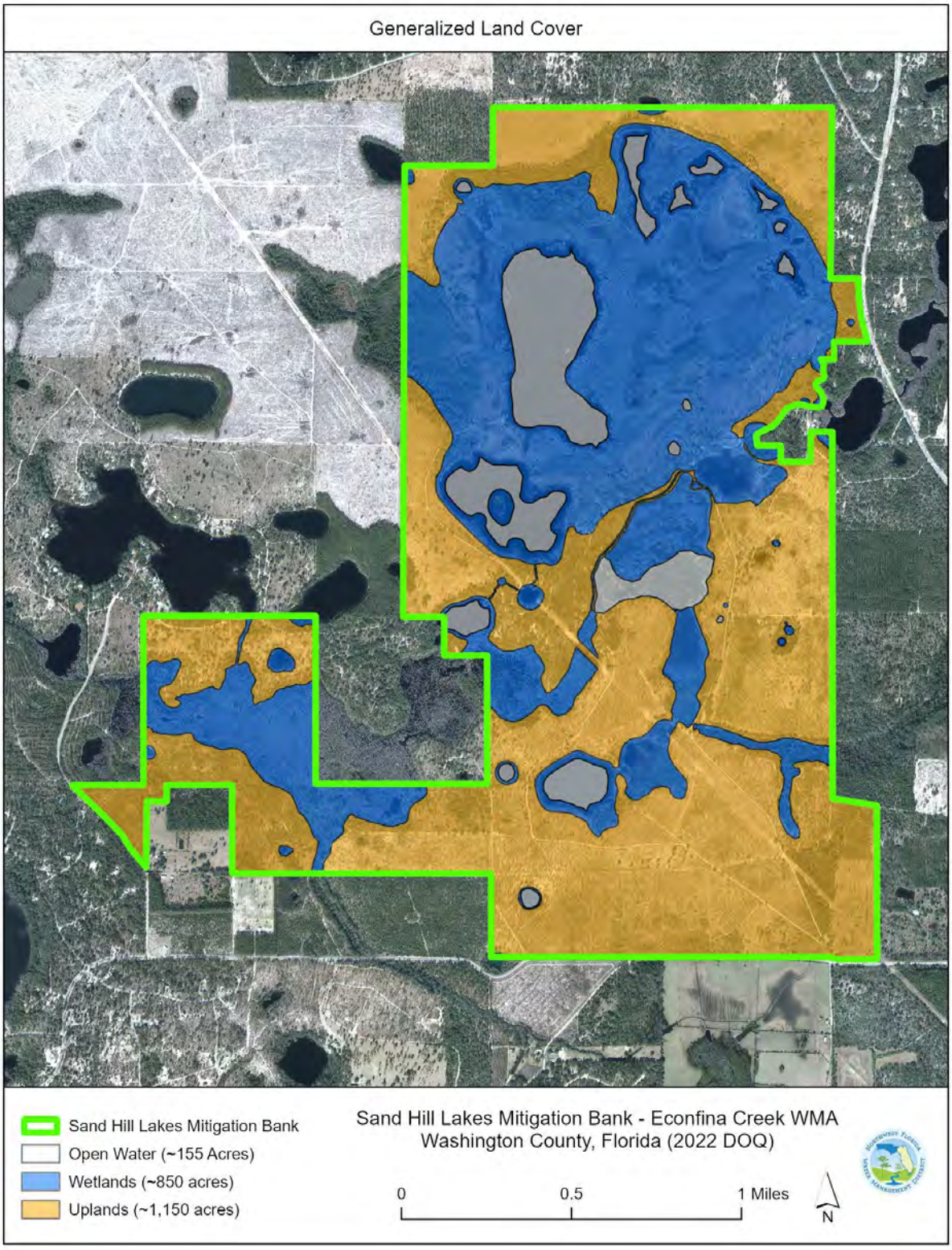


FIGURE 2. GENERALIZED LAND COVER

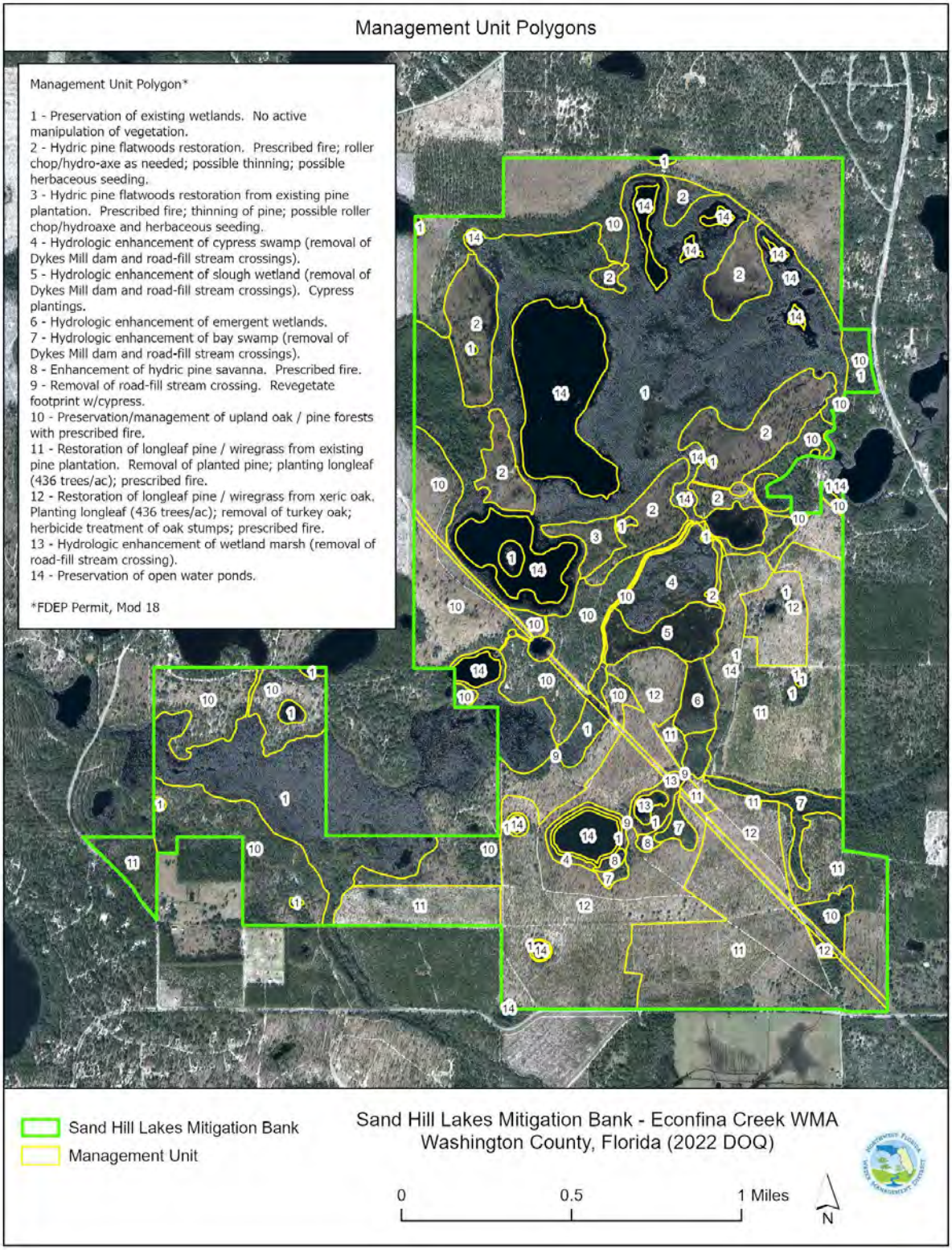


FIGURE 3. MANAGEMENT UNITS

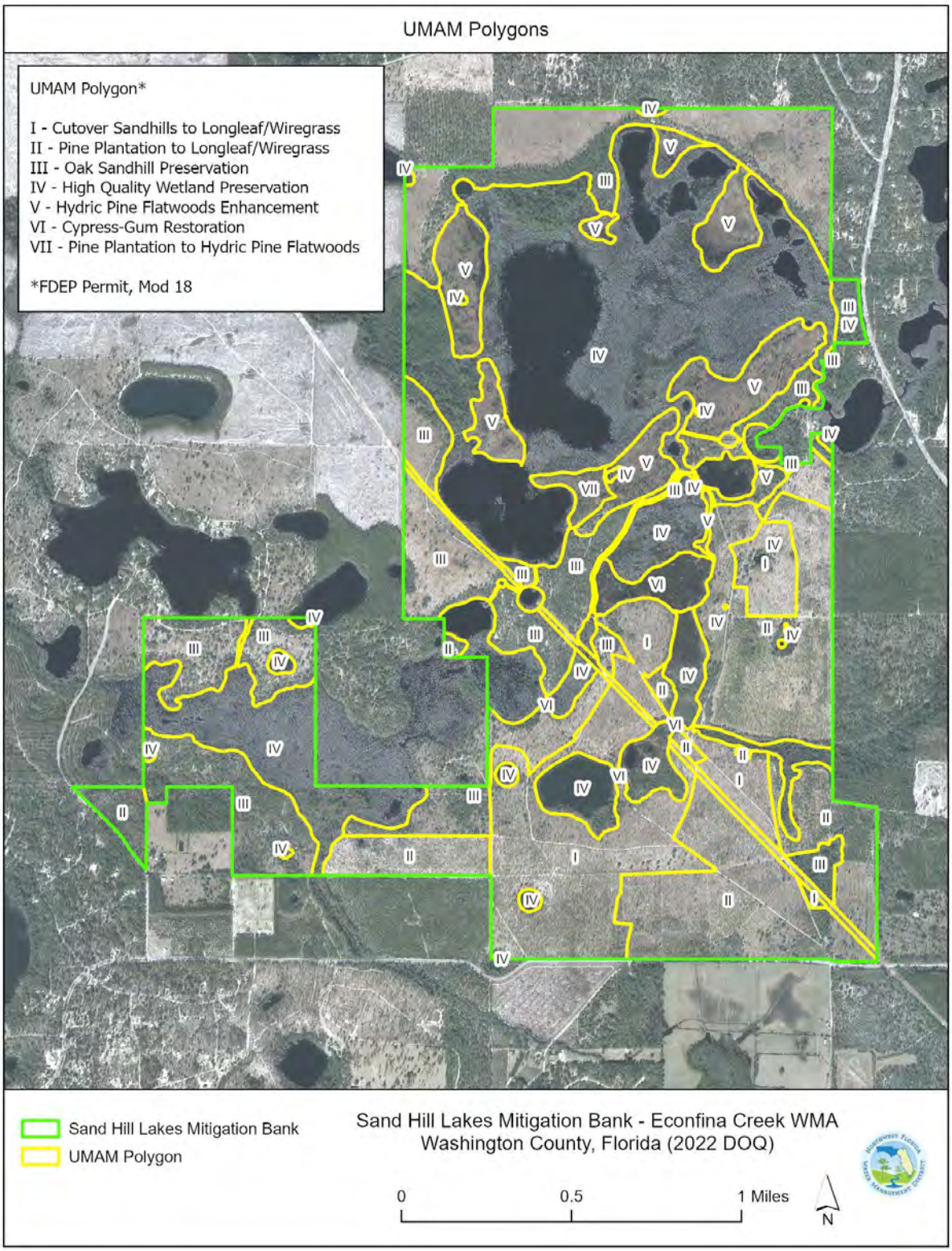


FIGURE 4. UMAM POLYGONS

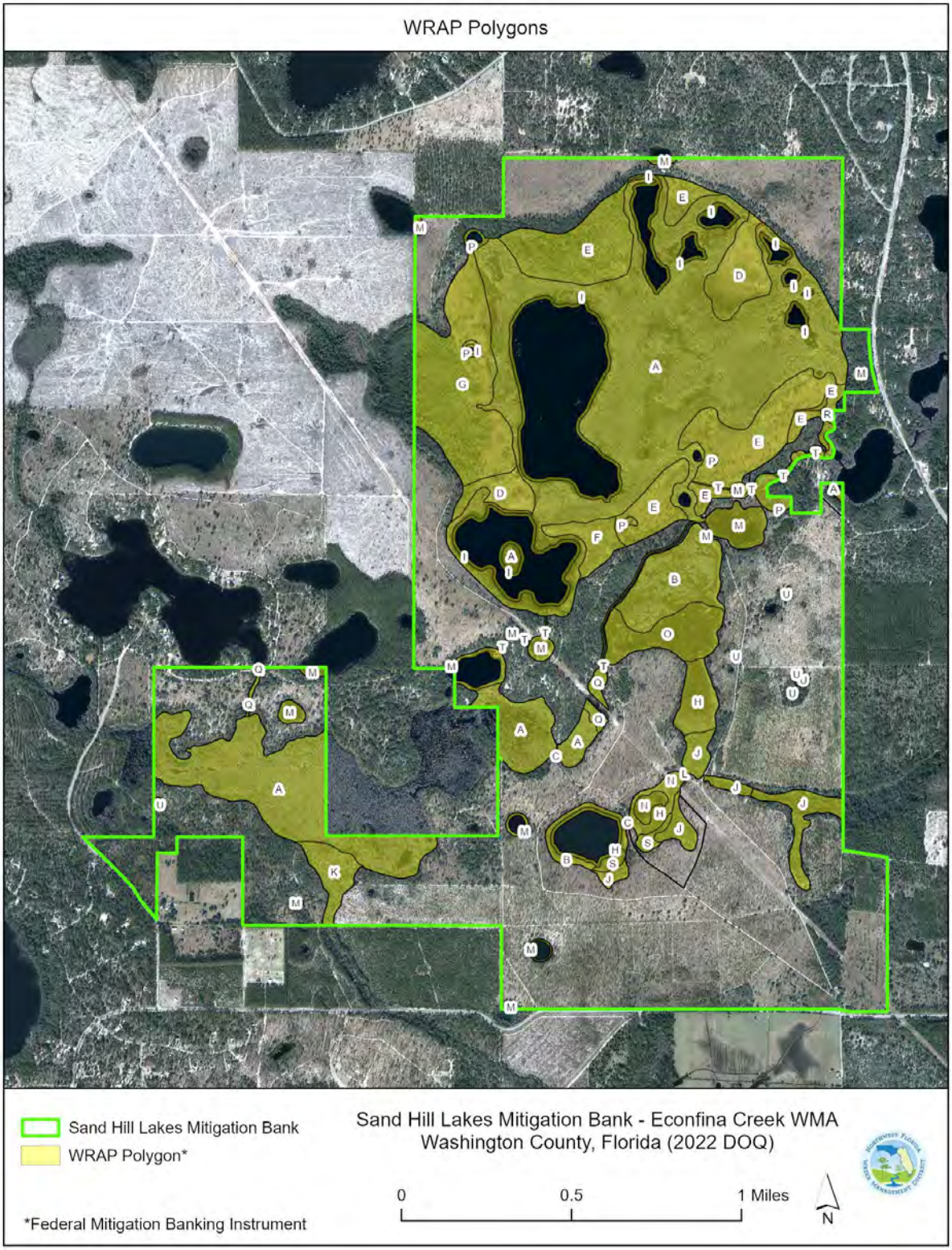


FIGURE 5. WRAP POLYGONS

Work Activity Schedule and Completion Date

Specific Condition 14 (FDEP Permit)

TABLE 1. WORK ACTIVITY SCHEDULE (ADAPTED FROM SPECIFIC CONDITION 14, FDEP PERMIT)

Activity	Completion Date
Conservation Easement, QMS	2006
Fencing and signage of site.	2005
Site security / law enforcement / internal gating / road closures.	Ongoing
Stabilization of 10 erosion sites.	2007
Hydrologic enhancements: -Replacement of Black Pond dam -Removal of Dykes Mill Pond dam -Removal of road-fill at 3 sites -Construction of 3 bridges and 2 box culverts	 2008 2006 2007 2007
Removal of pine plantation and replanting with longleaf pine.	*2007 (Initial Completion) *2012 (Additional thinning of Management Unit 3; Eradication of sand pine volunteers on 158 acres of former sand pine plantation)

Activity	Completion Date
Removal of oak overgrowth and replanting with longleaf pine.	*2005 (Longleaf pine planted) *2006 (Initial oak removal) *2007 (Additional longleaf pine planted) *2009 (Additional oak removal) *2010 (Oak/shrub reduction on 150 acres) *2011 (Additional oak removal) 2012 (Additional oak removal in 40 acres of sandhill restoration area)
80% completion of initial growing-season burns in areas to be maintained as oak / pine community.	2005
Initial thinning, roller chopping, and fuel-reduction burns in hydric pine.	*2005 (Initial burns) *2007 (Thinning of pine) *2008 (Shrub reduction via Gyro-trac)

Activity	Completion Date
Supplemental wiregrass seeding if necessitated by onsite conditions. To date within the 163.88 acres of hydric pine flatwoods restoration site, 1.18 million wiregrass plugs, 182,700 cut over muhly grass, 122,600 tooth ache grass and 72,600 mixed hydric pine flatwoods wildflowers have been established in the hydric pine flatwoods restoration area in accordance with Specific Condition 10. Road fill removal areas were planted with sapling cypress and black gum and shrub species in 2009 in accordance with Specific Condition 10. A total of 646 acres of sandhill and sandhill restoration were planted with longleaf pine at a rate of 436 trees per acre in accordance with Specific Condition 10. A total of 454.5 acres of sandhill understory was restored by planting wiregrass on 3' centers (2,199,780 plants). In 2017, 32,000 plants from 20 sandhill species grown from seed collected at the SHLMB were installed in sandhill restoration. In 2021, 12 acres of sandhill restoration east of Dykes Mill Pond were planted with 8 sandhill species on 6' centers. In 2025 a total of 145 acres of hydric pine flatwoods were restored and planted with longleaf pine at a density of 726 trees per acre.	*2012 (Initial work completed) *2017 (Supplemental planting) *2021 (Supplemental planting) *2025 (Supplemental Planting) *Additional supplemental plantings may occur as conditions warrant)
Installation of water level gages.	2005
Baseline assessment of vegetation.	2006
Fire Management / Baseline Monitoring / 1^{stt} Annual Report	2006
Fire Management / Monitoring Year 1 / 2nd Annual Report	2007
Fire Management / Monitoring Year 2 / 3rd Annual Report	2008
Fire Management / Monitoring Year 3 / 4th Annual Report	2009

Activity	Completion Date
Fire Management / Monitoring Year 4 / 5th Annual Report	2010
Fire Management / Monitoring Year 5 / 6th Annual Report	2011
Fire Management / Monitoring Year 6 / 7th Annual Report	2012
Fire Management / Monitoring Year 7 / 8th Annual Report	2013
Fire Management / Monitoring Year 8 / 9th Annual Report	2014
Fire Management / Monitoring Year 9 / 10th Annual Report	2015
Fire Management / Monitoring Year 10 / 11th Annual Report	2017
Fire Management / Monitoring Year 11 / 12th Annual Report	2018
Fire Management / Monitoring Year 12 / 13th Annual Report	2019
Fire Management / Monitoring Year 13 / 14th Annual Report	2020
Fire Management / Monitoring Year 14 / 15th Annual Report	2021
Fire Management / Monitoring Year 15 / 16th Annual Report	2022
Fire Management / Monitoring Year 16 / 17th Annual Report	2023
Fire Management / Monitoring Year 17 / 18th Annual Report	2024
Fire Management / Monitoring Year 18 / 19th Annual Report	2025
Fire Management / Monitoring Year 19 / 20th Annual Report	2026
Perpetual Ecological Management	Perpetual

Hydrologic Enhancements

Specific Condition 12 (FDEP Permit)

Hydrologic enhancements (Figure 6) included replacement of the failed Black Pond Dam, removal of the Dykes Mill Pond Dam, removal of road-fill at three sites (Pine Log Creek; Deep Edge Pond; Little Deep Edge Pond), construction of bridges at two sites (Dykes Mill Pond and Joiner Ditch), and construction of two box culverts (Power Line Pond; Green Ponds Channel). Per permit conditions, a boat ramp on the west side of Dry Pond was rehabilitated and ten erosion sites (Figure 7) were stabilized. All hydrologic enhancements (structures, road-fill removals, erosion stabilization areas) continue to function as designed.

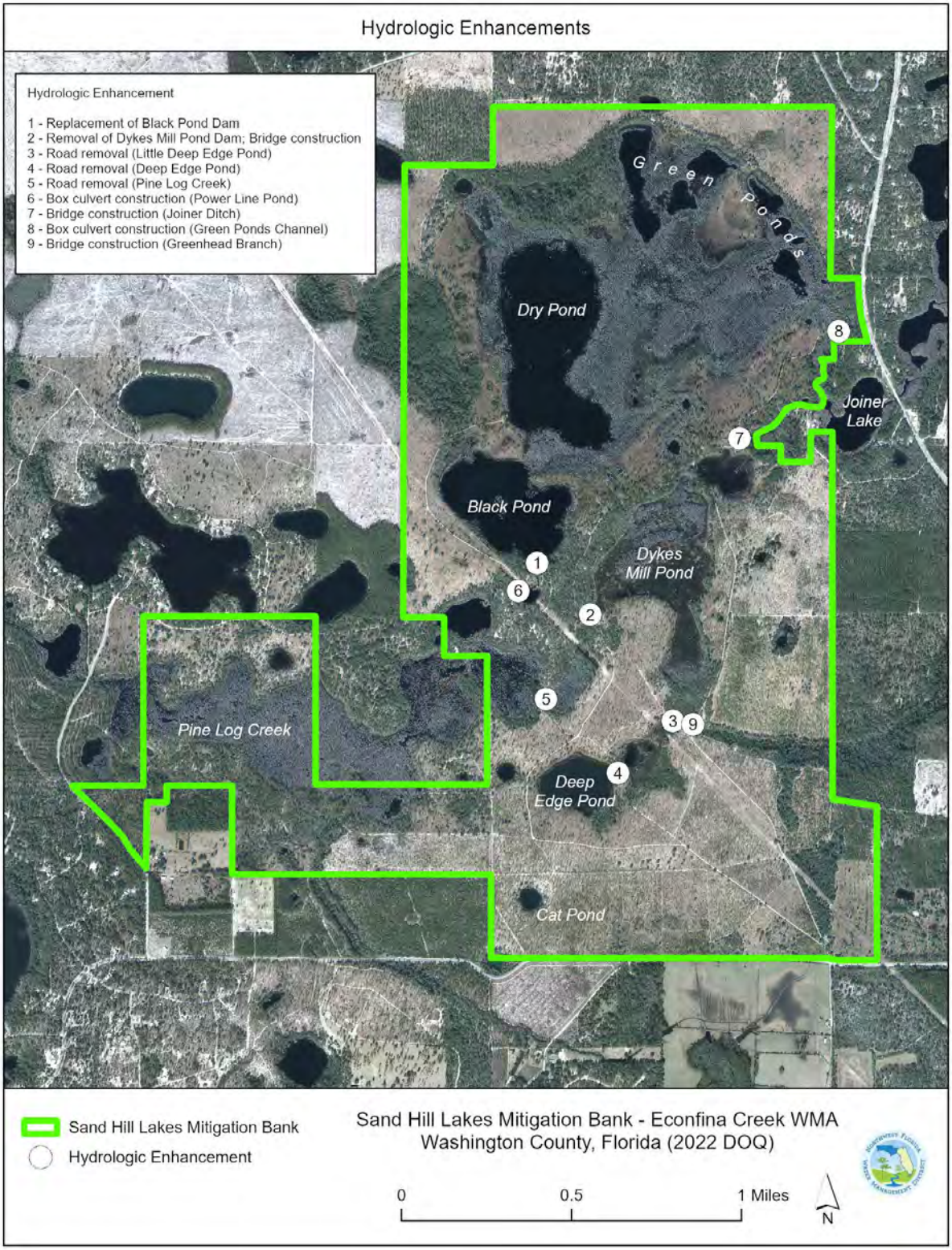


FIGURE 6. HYDROLOGIC ENHANCEMENTS

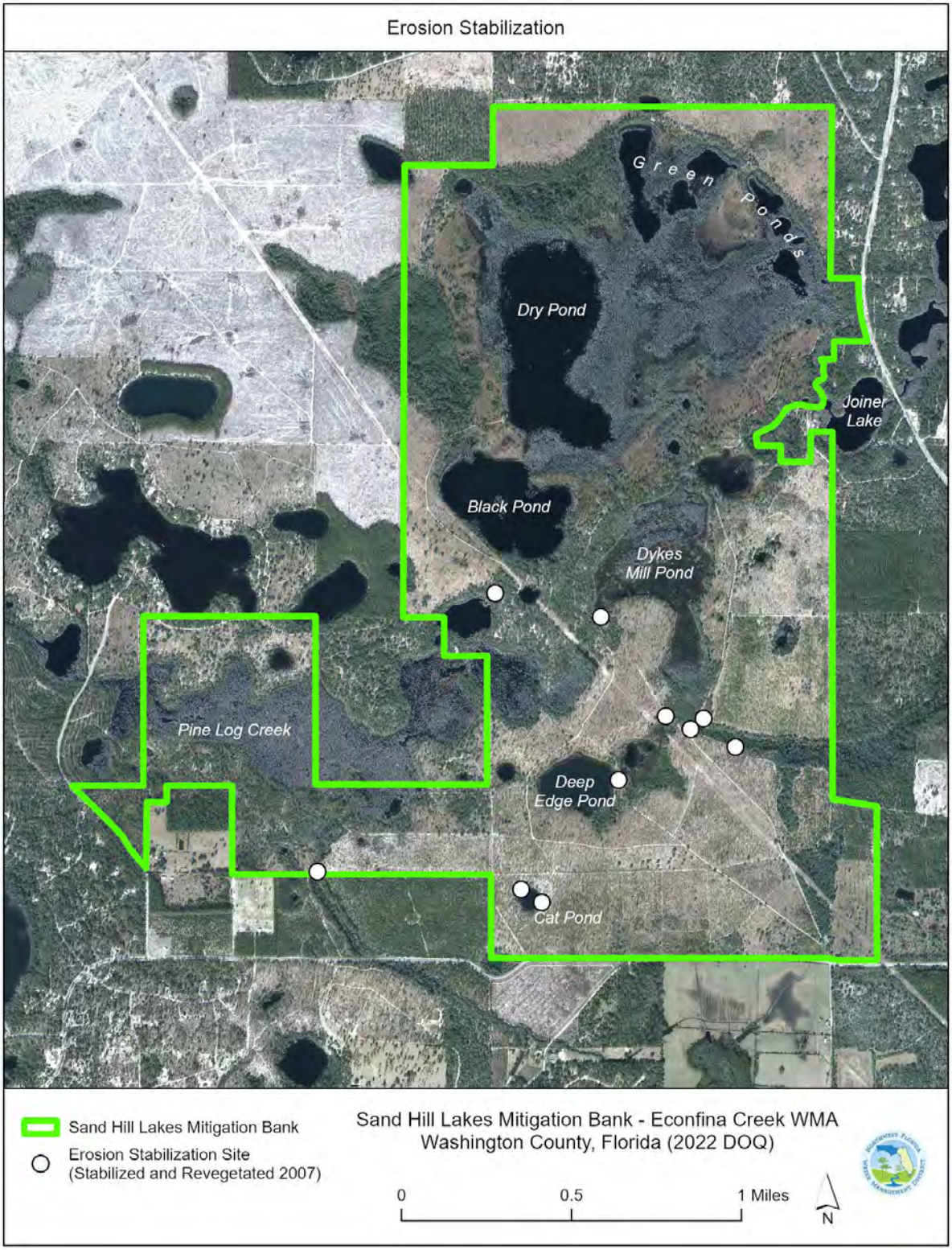


FIGURE 7. EROSION STABILIZATION

Fire Management

Specific Condition 11 (FDEP Permit)

Prescribed fire, reintroduced in the fall of 2004, is an integral component of the management, enhancement, and restoration at the SHLMB. Sandhill habitat (longleaf pine / wiregrass) and hydric pine flatwoods is burned on a targeted two-year cycle. In 2025, approximately 991 acres (Figure 8) were burned in May/June.

Fire will continue to be implemented in 2026 and beyond per permit conditions, fuel loads, and site conditions. Fire prescriptions are written in compliance with Chapter 590, Florida Statutes; all fires are implemented and supervised by a Florida Certified Prescribed Burn Manager.

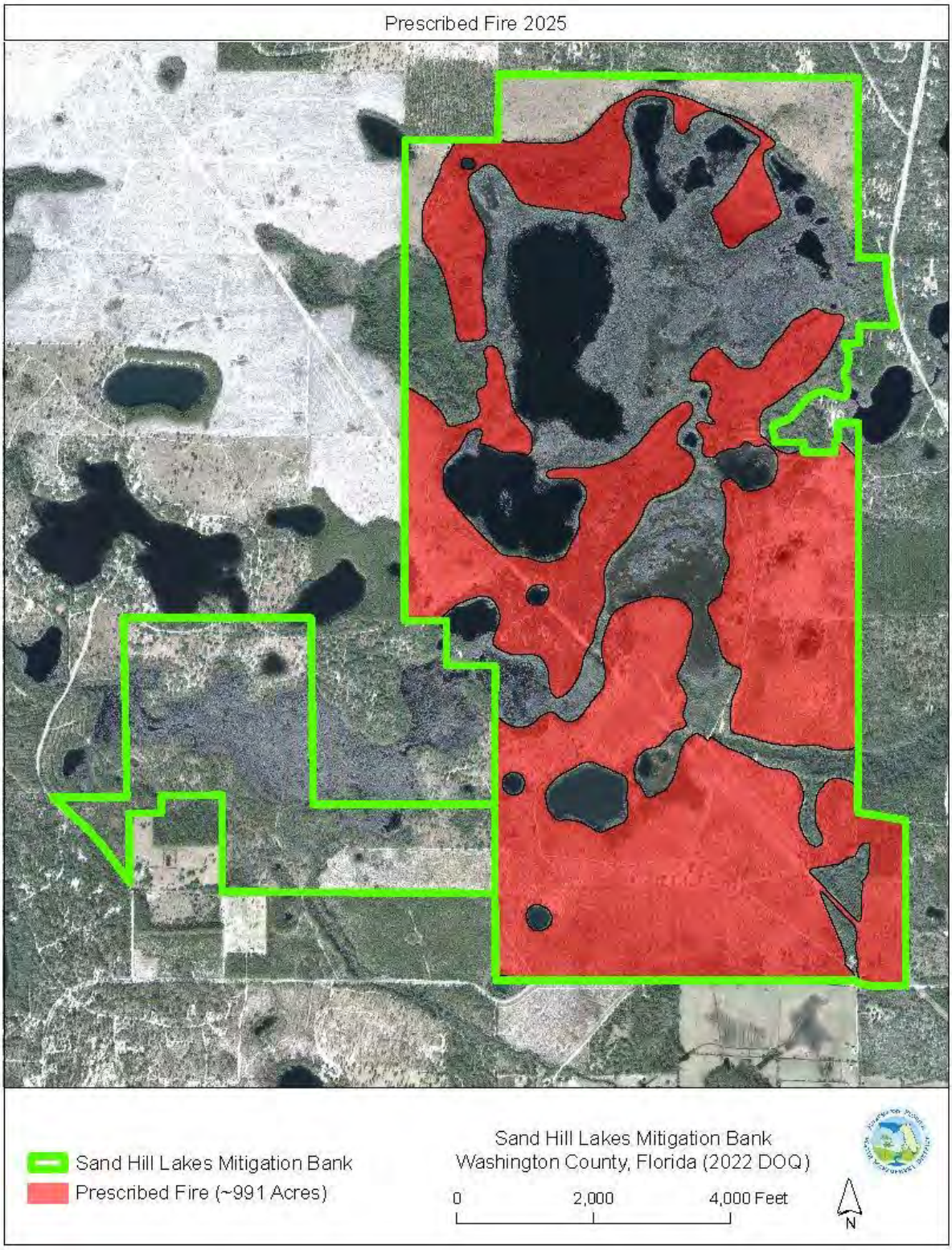


FIGURE 8. PRESCRIBED FIRE 2025

Site Management and Maintenance (Exotic and/or Invasive Vegetation and Fauna; Nuisance Vegetation; Reforestation; Fencing; Security; Public Use Data)

Specific Condition 25 (FDEP Permit)

Surveys of exotic and/or invasive vegetation are conducted throughout the year. In 2025, minor occurrences of exotic vegetation (including cogongrass) were identified and treated with herbicides (Figure 9). Surveys shall continue in 2026.

Efforts to limit damage to vegetation at SHLMB by feral hogs and beavers are ongoing. Contract 24-060 with USDA APHIS-WS (Animal and Plant Health Inspection Service – Wildlife Services) to manage feral hog and beaver populations was executed on 2/15/2024 and remains in effect through 9/30/2026. Hog sign and disturbance are being continuously monitored, and the successful trapping efforts in 2024 kept hog activity to a minimum. As a result, no hogs were trapped in 2025.

A total of 145.45 acres of hydric pine flatwoods within SHLMB were planted with longleaf pine at a rate of 726 trees per acre (Figure 10).

Perimeter fencing is inspected in accordance with permit conditions. In addition, herbicides have been applied to the exterior fences to control nuisance vegetation, thereby facilitating future repairs and preventing further damage.

The NWFWMD maintains a cooperative agreement with the Florida Fish and Wildlife Conservation Commission (FWC) to manage public access and site security (limited hunting, fishing, other passive public usage, patrols); collect biological data on harvested game and fish; monitor hunting and fishing pressures on natural resources; man a Check Station on all days the site is open to the public; and other duties such as keeping management access roads mowed. The most recent FWC report is available online at https://nwfwater.com/water-resources/regional-wetland-mitigation-program/regional-mitigation-plan/nwfwmd-mitigation-sites/choctawhatchee-watershed-mitigation-sites/sand-hill-lakes-mitigation-bank/fwc-reports/.

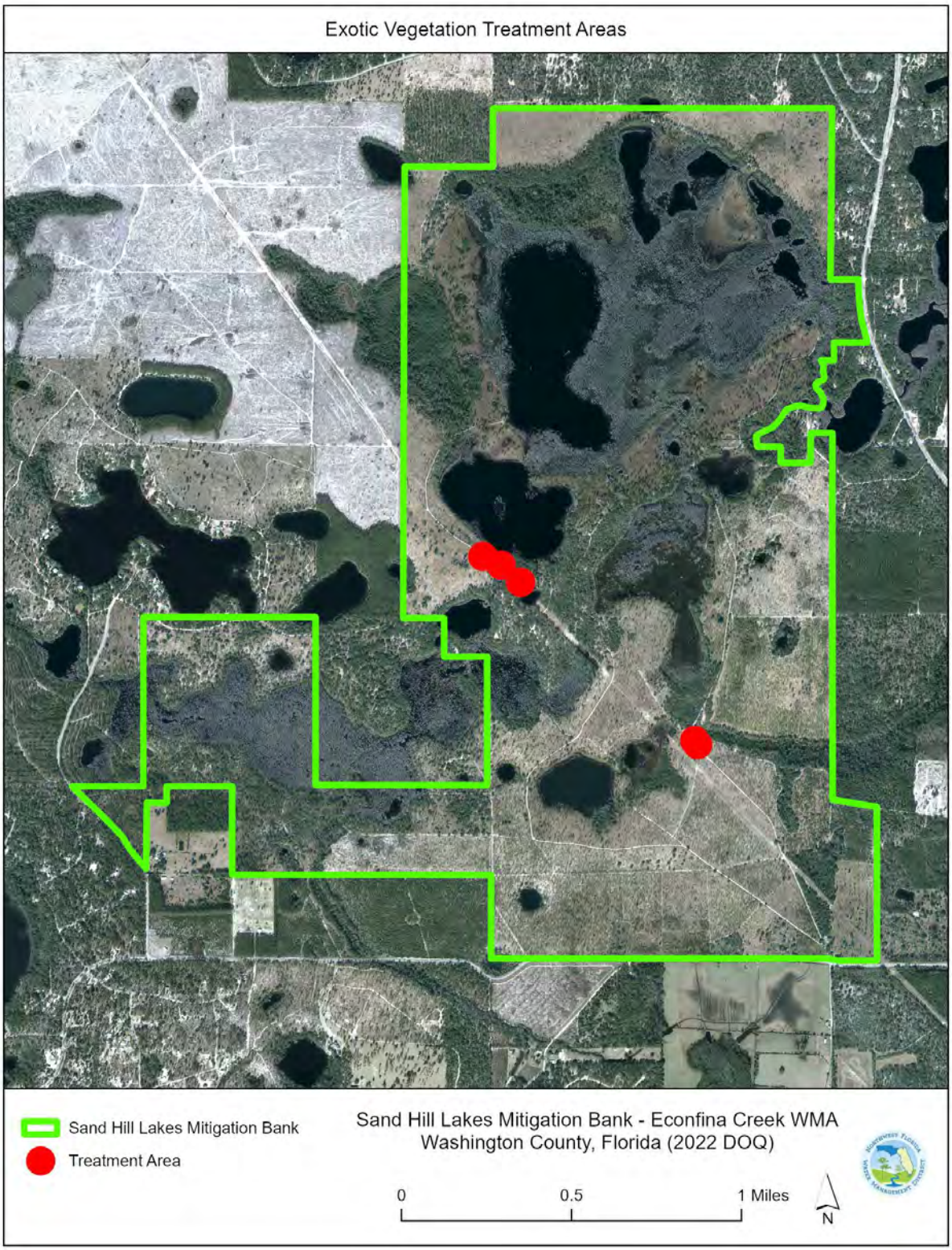


FIGURE 9. EXOTIC VEGETATION TREATMENT AREAS

FIGURE 10. REFORESTATION

Water Level Staff Gages

Specific Condition 12 (FDEP Permit)

Water level gages were installed at 10 locations in 2005 and are read monthly by Florida Fish and Wildlife Conservation Commission (FWC) staff (Figure 12). Data are reported in Appendix C.

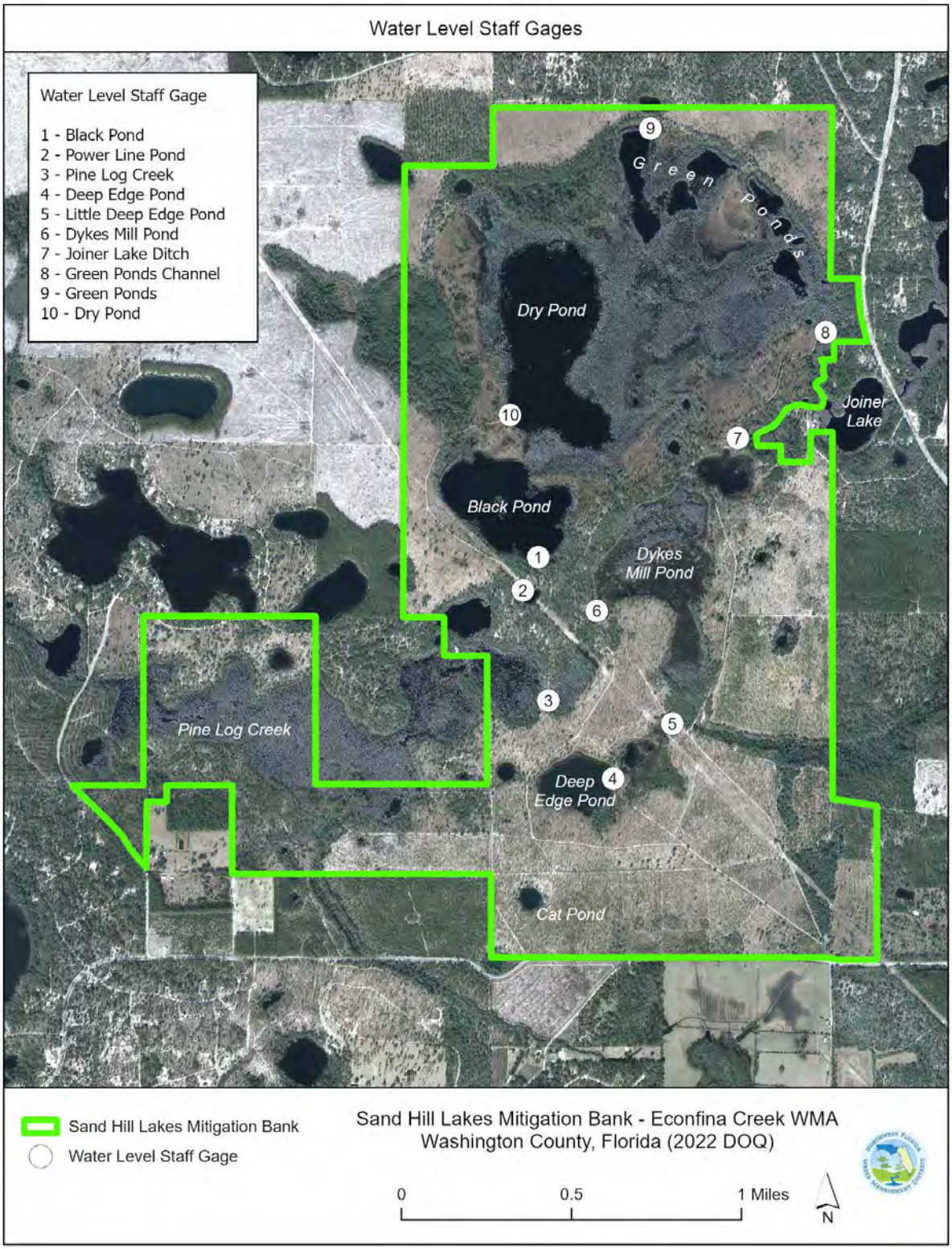


FIGURE 11. WATER LEVEL STAFF GAGES

Appendix A (Quantitative and Qualitative Vegetation Monitoring)

Vegetation Monitoring at Sand Hill Lakes Mitigation Bank Northwest Florida Water Management District

Fall 2025

Kimberely Alexander
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Gwen Iacona
Amy Jenkins
Leyla Wilson

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Tallahassee, FL 32303
Frank Price, Director

Funding for this project was provided by the Northwest Florida Water Management District under the Purchase Order #00260037-000 with the Florida Natural Areas Inventory
Florida State University

ANNUAL MONITORING INTRODUCTION

Annual fall vegetation monitoring of the Sand Hill Lakes Mitigation Bank (SHLMB) was conducted in October 2025, by the Florida Natural Areas Inventory (FNAI). Prior to 2023, the site vegetation was monitored by the Northwest Florida Water Management District (NWFWMD). This report satisfies Condition 26 of the 2006 Mitigation Bank Instrument for SHLMB.

Quantitative and qualitative monitoring was used to document the current plant species composition and vegetation structure of different habitats, and belt transects were used to measure longleaf pine (*Pinus palustris*) seedling survival in sandhill restoration and enhancement areas. Fall monitoring methods and data analysis are described below. Pedestrian surveys were conducted for both wetland and uplands. The pedestrian surveys are particularly useful in providing detailed species lists and help in determining community diversity. Species diversity is good to excellent throughout the SHLMB and is significantly higher than baseline.

The dates of annual sampling for the 2025 annual report were October 6-9, 2025. All quantitative and qualitative sampling was completed by FNAI botanists Kim Alexander, Allie Heiker, Gwen Iacona, Amy Jenkins, and Leyla Wilson. Philip Garrett and Robert Lide (NWFWMD) assisted with access. Plant taxonomy throughout this monitoring report follows Weakley, A.S., and Southeastern Flora Team. 2023. Flora of the southeastern United States: Florida. University of North Carolina Herbarium, North Carolina Botanical Garden, Chapel Hill, U.S.A. This is a change from the 2023 monitoring report, which followed Wunderlin, R. P., B.F. Hansen, A.R. Franck, and F.B. Essig. 2017. Atlas of Florida Plants (htpp://florida.plantatlas.usf.edu/), Institute for Systematic Botany, University of South Florida, Tampa.

QUANTITATIVE MONITORING

METHODS

Quantitative monitoring has been conducted in accordance with the methods described in Attachment H – Monitoring Plan. Quantitative vegetation monitoring occurred at the end of the growing season. This is the fifteenth annual monitoring report for the SHLMB.

The percent vegetation cover was monitored at transect locations shown in Figure 1. One-meter square quadrats were established along 600-foot transects at 20-foot intervals. The start point of each transect is a permanent marker, except for Transect 8 where the permanent marker is located in the center. The approximate transect bearing was determined from prior monitoring reports. A 300-foot tape measure was used to establish the transect, taken in two parts. In 2025, we established a new transect in the far southwestern portion of the property, an area that is part of Management Unit 11 according to the 2005 mitigation bank permit.

Along each transect, quadrats were sampled beginning at 20 feet and were always located along the left side of the tape. Data recorded in each quadrat consisted of the visually estimated percent cover of each plant species including individuals rooted in the the quadrat as well as overhanging. Cover was

estimated using a modified Daubenmire cover scale with 8 categories. Canopy over 2 m in height was excluded from cover estimates. Only the lower 2 m portions of larger individuals were counted as cover, including the lower portions of tree trunks rooted in quadrats. Lichen cover and exposed bare mineral soil cover were also estimated using this scale. Cover categories were converted to mid-point values and averaged across each transect. In addition to cover by species, cover was also estimated as a whole number for all plants, all herbs, and all shrubs. Relative covers for each plant species were calculated as a portion of the total plant cover.

For each quad, the height of shrubs was recorded in centimeters. The observer used a measuring poled marked in decimeters and estimated the average height over the quad. Woody vines and tree species were omitted from this measurement.

To measure the success of longleaf pine plantings in Sandhill and Hydric Pine Flatwoods restoration and enhancement areas, trees were measured using the “line strip” (belt transect) technique at all sandhill and hydric pine flatwoods transects, with the exception of the newly established Transect 10. Belt transects measuring 30 feet by 600 feet were co-located along each quantitative vegetation transect, using the measuring tape as the center line. All trees with a measurable diameter at breast height (DBH) were counted. The height of each tree was measured using a range finder and/or visual estimation, and a measuring tape was used to record DBH. Values are reported as a tally by height class. Longleaf pines that did not have a measurable DBH (shorter than 1.4 m) were simply tallied as seedlings. The resulting total longleaf pine count was converted to trees per acre.

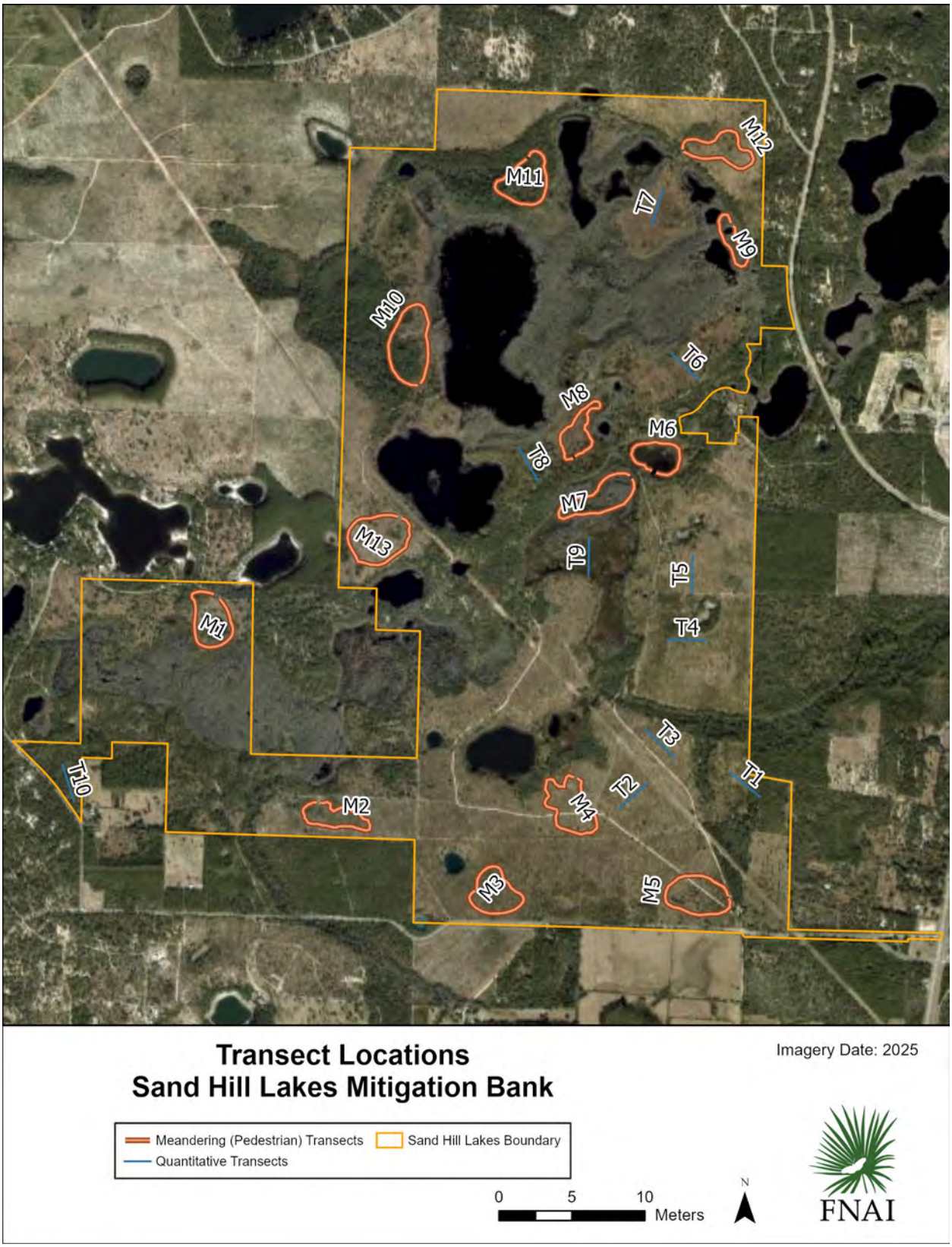


Figure 1. Location of quantitative and meandering transects at Sand Hill Lakes Mitigation Bank.

RESULTS AND DISCUSSION

Belt Transects (Planted Longleaf Pines)

Tree tallies from all belt transects are listed in Table 1. These results are discussed in the Management Unit sections immediately following.

Table 1. Longleaf pines recorded along Belt Transects 1-8 on October 6-9, 2025, and tallied by height (ft).

Transect	LLP stems/acre	0-5'	5-10'	11-15'	16-20'	21-25'	26-30'	31-35'	36-39'	Total LLP	Hardwood	Slash Pine	Slash Pine Seedlings
1	92	0	1	0	2	1	9	16	9	38	1	0	0
2	177	0	1	9	11	43	9	0	0	73	2	0	0
3	143	0	2	1	3	29	23	1	0	59	7	1	0
4	230	0	3	10	17	44	18	3	0	95	0	0	0
5	114	2	2	14	12	11	5	1	0	47	18	0	0
6	295	122	0	0	0	0	0	0	0	122	1	35	404
7	511	211	0	0	0	0	0	0	0	211	5	6	35
8	227	94	0	0	0	0	0	0	0	94	0	30	7

Management Unit 11, UMAM Polygon II, Sand Pine Plantation (Transects #1, #2 and #4)

UMAM Polygon II, Management Unit 11, consists of 367 acres of planted sand pine plantation that have been restored to sandhills. Baseline conditions indicated a sand pine canopy with 100 percent canopy closure and an average of 880 sand pine trees per acre in the sand pine plantations. Removal of the sand pine was completed in November 2007 followed by planting of longleaf pine at 436 trees per acre. In 2021, eight sandhill species (145,450 plugs) were planted in the sandhill adjacent to Little Deep Edge Pond. It is hoped that these species will help augment the developing sandhill diversity.

Quantitative Transects

Results for the Fall 2025 quantitative monitoring in Management Unit 11 are given in Tables 2-9 and Figures 2-5. Transects 1, 2, and 4 were affected by a growing season burn earlier in 2025. Transect 10 was established this year in the small, southwesternmost section of the unit. Vegetation along the transect varies from sandhill, through pine flatwoods, and then transitioning to a small drainageway.

Transect 1

Table 2. Summary of metrics recorded in the past 3 years for Transect 1 – Sandhill Restoration. Baseline monitoring (2006) identified 10 species.

Metric	2023	2024	2025	Definition
Total species	50	50	50	Total species detected along transect
Species per quad	*	*	8	Average number of species found in each 1-m^2 quad
Total Plant Cover (%)	80	75	57	All plants up to 2 m tall
Total Shrub Cover (%)	*	6	2	Shrubs and subshrubs (excludes vine or tree species)
Ave Shrub Height (cm)	*	*	14	Estimated average height of shrub species
Total Herb Cover (%)	*	64	56	All non-woody plants
Wiregrass Cover (%)	43	44	34	*Aristida beyrichiana* cover
Mineral Soil Cover (%)	*	*	27	Exposed mineral soil

* Not measured

Table 3. Percent cover of plant species in Transect 1 - Sandhill Restoration sampled on October 7, 2025.

Scientific name	Common name	Growth Form	Woody/ Non-Woody	Average percent cover per quadrat
Acalypha gracilens	slender threeseed mercury	Forb/herb	non-woody	0.10
Andropogon gyrans	Elliott's bluestem	Graminoid	non-woody	0.02
***Andropogon* sp.**	bluestem	Graminoid	non-woody	0.18
Aristida beyrichiana	Southern wiregrass	Graminoid	non-woody	34.00
Aristida purpurascens	arrowfeather threeawn	Graminoid	non-woody	0.67
Baptisia lanceolata	gopherweed	Forb/herb	non-woody	0.12
Bulbostylis ciliatifolia	capillary hairsedge	Graminoid	non-woody	0.23
Bulbostylis stenophylla	sandyfield hairsedge	Graminoid	non-woody	0.05
Chrysoma pauciflosculosa	woody goldenrod	Subshrub, Shrub	woody	0.12
Coleataenia anceps	beaked panicum	Graminoid	non-woody	0.12
Commelina erecta* var. *angustifolia	whitemouth dayflower	Forb/herb	non-woody	0.08
Crocanthemum carolinianum	Carolina frostweed	Forb/herb	non-woody	0.03
Crotalaria rotundifolia	rabbitbells	Forb/herb	non-woody	0.07
Croton glandulosus	vente conmigo	Forb/herb	non-woody	0.10
Cyperus retrorsus	pineland flatsedge	Graminoid	non-woody	0.58
Dichanthelium aciculare	needleleaf witchgrass	Graminoid	non-woody	0.28
Dichanthelium portoricense* ssp. *patulum	Nash's witchgrass	Graminoid	non-woody	0.05
***Dichanthelium* sp.**	witchgrass	Graminoid	non-woody	0.07
Dichanthelium strigosum	roughhair witchgrass	Graminoid	non-woody	0.02
Digitaria ciliaris	Southern crabgrass	Graminoid	non-woody	1.37
***Digitaria* sp.**	crabgrass	Graminoid	non-woody	0.02
Digitaria villosa	shaggy crabgrass	Graminoid	non-woody	0.37
Diospyros virginiana	common persimmon	Tree	woody	0.02
Eremochloa ophiuroides	centipede grass	Graminoid	non-woody	0.45
Eupatorium compositifolium	yankeeweed	Forb/herb	non-woody	0.93
Euphorbia floridana	greater Florida spurge	Forb/herb	non-woody	0.08
***Euphorbia* sp.**	spurges	Forb/herb	non-woody	0.02
***Galactia* sp.**	milkpea	Forb/herb	non-woody	2.28

Scientific name	Common name	Growth Form	Woody/ Non-Woody	Average percent cover per quadrat
Hieracium gronovii	queen-devil	Forb/herb	non-woody	0.02
Houstonia procumbens	roundleaf bluet	Forb/herb	non-woody	0.03
Hypoxis juncea	fringed yellow stargrass	Forb/herb	non-woody	0.02
Lespedeza hirta* var. *hirta	hairy lespedeza	Forb/herb	non-woody	0.05
***Liatris* sp.**	blazing star	Forb/herb	non-woody	0.02
Liatris tenuifolia	shortleaf gayfeather	Forb/herb	non-woody	0.02
Muhlenbergia capillaris	hairawn muhly	Graminoid	non-woody	0.58
Opuntia mesacantha* ssp. *lata	pricklypear	Shrub	woody	0.03
Paspalum setaceum	thin paspalum	Graminoid	non-woody	0.30
***Physalis* sp.**	groundcherry	Forb/herb	non-woody	0.05
Pinus palustris	longleaf pine	Tree	woody	0.13
Pityopsis aspera* var. *adenolepis	pineland silkgrass	Forb/herb	non-woody	1.17
Pityopsis graminifolia	narrowleaf silkgrass	Forb/herb	non-woody	0.02
***Polygala* sp.**	milkwort	Forb/herb	non-woody	0.02
Quercus geminata	sand live oak	Tree	woody	0.02
Quercus hemisphaerica	laurel oak	Tree	woody	1.12
Rhynchosia cytisoides	royal snoutbean	Forb/herb	non-woody	0.03
Rubus cuneifolius	sand blackberry	Subshrub	woody	2.37
***Schizachyrium* sp.**	bluestem	Graminoid	non-woody	0.12
Schizachyrium stoloniferum	creeping little bluestem	Graminoid	non-woody	2.13
Smilax auriculata	earleaf greenbriar	Vine	woody	0.02
Stylisma patens	coastalplain dawnflower	Forb/herb	non-woody	0.03
Tragia urens	wavyleaf noseburn	Forb/herb	non-woody	0.02
Unknown herb		Forb/herb	non-woody	0.02
Open (no plant cover)				42.70

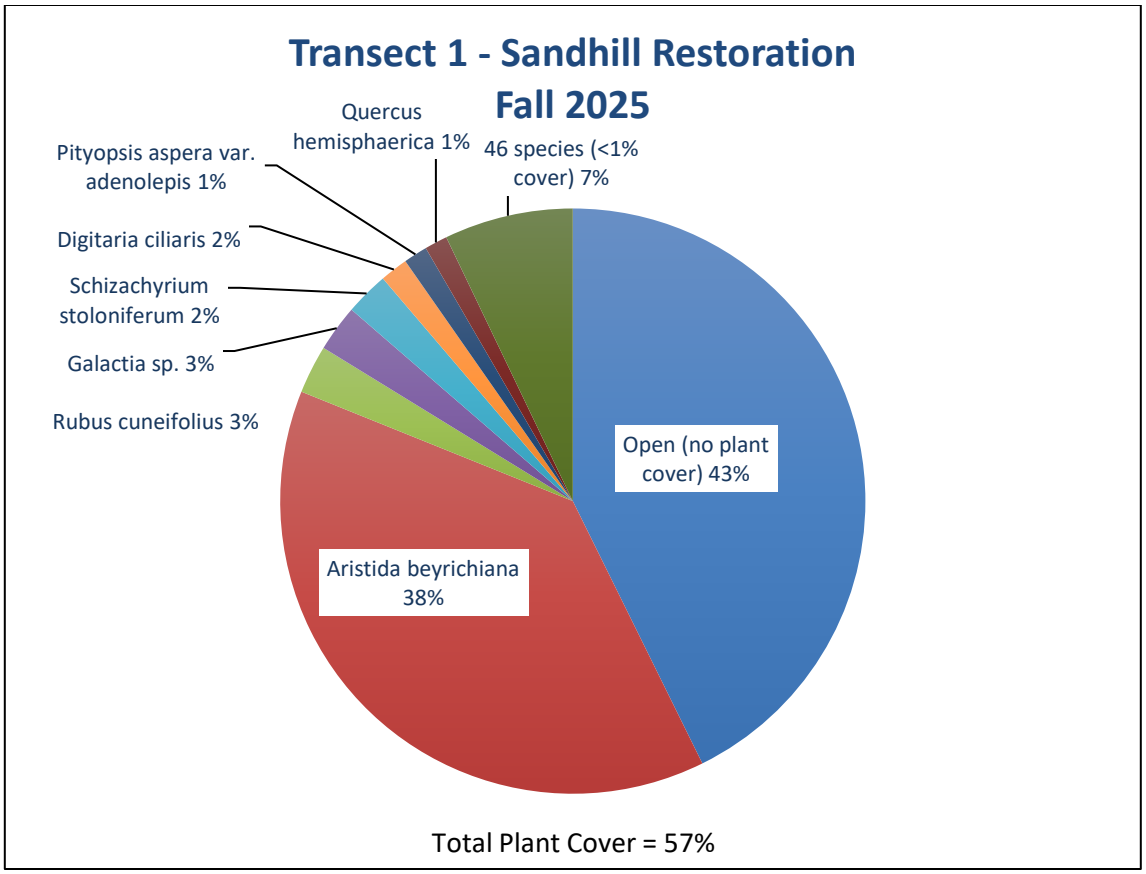


Figure 2. Percent relative cover of plant species in Transect T1 – Sandhill Restoration

Transect 2

Table 4. Summary of metrics recorded in the past 3 years for Transect 2 – Sandhill Restoration. Baseline monitoring (2006) identified 16 species.

Metric	2023	2024	2025	Definition
Total species	47	52	43	Total species detected along transect
Species per quad	*	*	7	Average number of species found in each 1-m^2 quad
Total Plant Cover (%)	50	50	35	All plants up to 2 m tall
Total Shrub Cover (%)	*	6	5	Shrubs and subshrubs (excludes vine or tree species)
Ave Shrub Height (cm)	*	*	15	Estimated average height of shrub species
Total Herb Cover (%)	*	39	29	All non-woody plants
Wiregrass Cover (%)	23	27	24	*Aristida beyrichiana* cover
Mineral Soil Cover (%)	*	*	55	Exposed mineral soil

* Not measured

Table 5. Percent cover of plant species in Transect 2 - Sandhill Restoration sampled on October 6, 2025.

Scientific name	Common name	Growth Form	Woody/ Non-Woody	Average percent cover per quadrat
Andropogon gyrans	Elliott's bluestem	Graminoid	non-woody	0.10

Scientific name	Common name	Growth Form	Woody/ Non-Woody	Average percent cover per quadrat
***Andropogon* sp.**	bluestem	Graminoid	non-woody	0.45
Andropogon ternarius	splitbeard bluestem	Graminoid	non-woody	0.25
Aristida beyrichiana	Southern wiregrass	Graminoid	non-woody	24.33
Aristida tenuispica	Southern arrowfeather	Graminoid	non-woody	0.12
Bulbostylis ciliatifolia	capillary hairsedge	Graminoid	non-woody	0.22
Chrysoma pauciflosculosa	woody goldenrod	Subshrub, Shrub	woody	0.38
Cyperus filiculmis	wiry flatsedge	Graminoid	non-woody	0.05
Dalea pinnata	summer farewell	Forb/herb	non-woody	0.07
Dichanthelium aciculare	needleleaf witchgrass	Graminoid	non-woody	0.10
Dichanthelium angustifolium	narrowleaf witchgrass	Graminoid	non-woody	0.02
Dichanthelium malacon	dehiscent witchgrass	Graminoid	non-woody	0.10
Dichanthelium meridionale	matting witchgrass	Graminoid	non-woody	0.10
Dichanthelium ovale	oval-flowered witchgrass	Graminoid	non-woody	0.10
***Dichanthelium* sp.**	witchgrass	Graminoid	non-woody	0.22
Eriogonum tomentosum	dogtongue wild buckwheat	Forb/herb	non-woody	0.12
Eupatorium compositifolium	yankeeweed	Forb/herb	non-woody	0.08
Euphorbia exserta	coastal sand spurge	Forb/herb	non-woody	0.15
***Euphorbia* sp.**	spurges	Forb/herb	non-woody	0.02
***Galactia* sp.**	milkpea	Forb/herb	non-woody	0.72
Gaylussacia dumosa	dwarf huckleberry	Subshrub, Shrub	woody	0.35
Ilex vomitoria	yaupon	Shrub	woody	1.25
Lechea sessiliflora	pineland pinweed	Forb/herb	non-woody	0.50
Liatris gracilis	slender gayfeather	Forb/herb	non-woody	0.05
Liatris tenuifolia	shortleaf gayfeather	Forb/herb	non-woody	0.05
Mimosa microphylla	sensitive briar	Forb/herb	non-woody	0.07
Opuntia mesacantha* ssp. *lata	pricklypear	Shrub	woody	0.03
Paspalum setaceum	thin paspalum	Graminoid	non-woody	0.02
Pityopsis aspera* var. *adenolepis	pineland silkgrass	Forb/herb	non-woody	0.52
***Pityopsis* sp.**	silkgrass	Forb/herb	non-woody	0.02
Pteridium pseudocaudatum	tailed bracken	Forb/herb	non-woody	0.02
Quercus laevis	turkey oak	Tree	woody	3.50
Rhynchosia cytisoides	royal snoutbean	Forb/herb	non-woody	0.17
Rhynchospora grayi	Gray's beaksedge	Graminoid	non-woody	0.12
Schizachyrium stoloniferum	creeping little bluestem	Graminoid	non-woody	0.43
Schizachyrium tenerum	slender bluestem	Graminoid	non-woody	0.58
Solidago odora	sweet goldenrod	Forb/herb	non-woody	0.20
Stipulicida setacea	pineland scalypink	Forb/herb	non-woody	0.02
Stylisma patens	coastalplain dawnflower	Forb/herb	non-woody	0.45
Tephrosia chrysophylla	scurf hoary-pea	Forb/herb	non-woody	0.02
Tragia urens	wavyleaf noseburn	Forb/herb	non-woody	0.08
Triplasis purpurea* var. *purpurea	purple sandgrass	Graminoid	non-woody	0.02
Vaccinium arboreum	sparkleberry	Shrub	woody	0.05
Open (no plant cover)				65.33

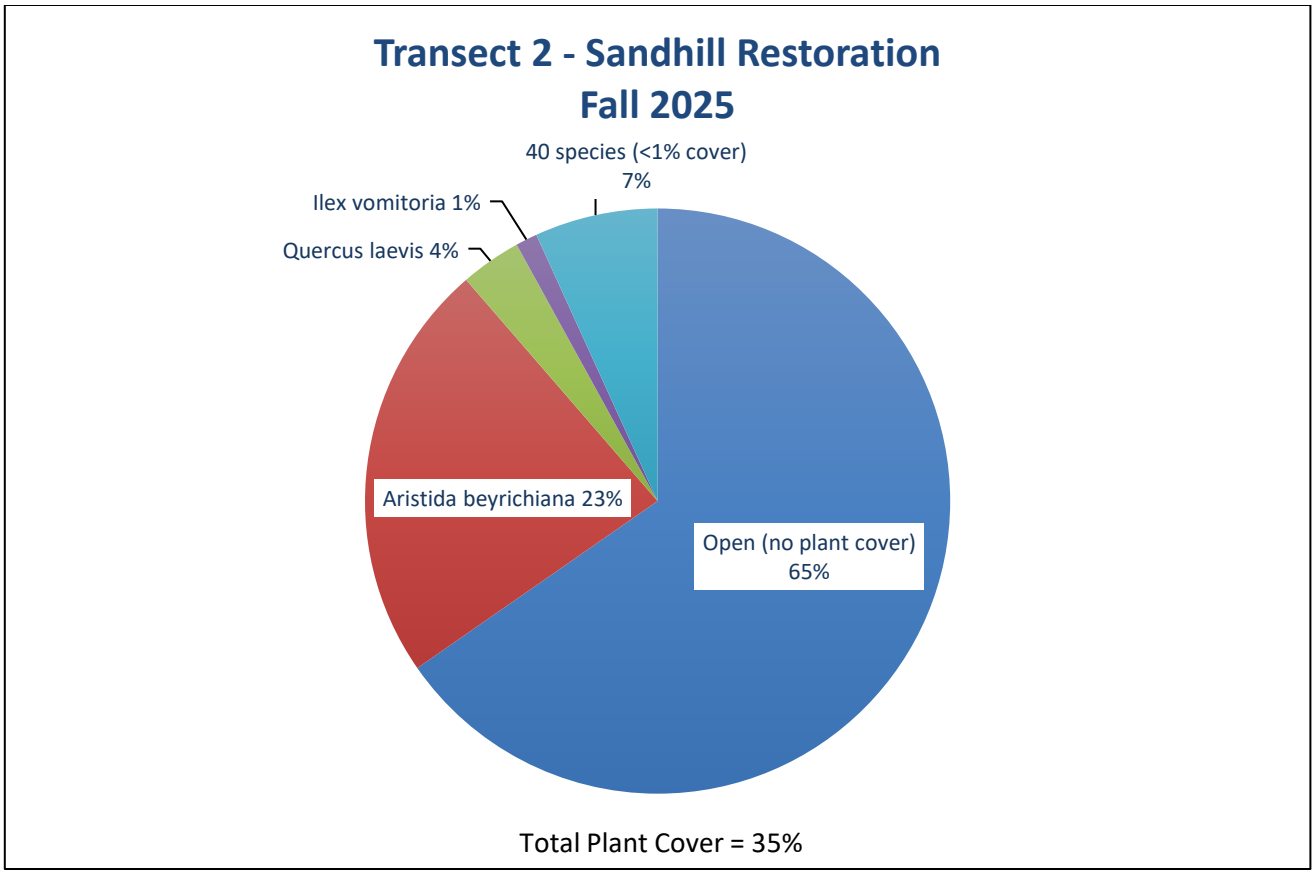


Figure 3. Percent relative cover of plant species in Transect T2 – Sandhill Restoration

Transect 4

Table 6. Summary of metrics recorded in the past 3 years for Transect 4 – Sandhill Restoration. Baseline monitoring (2006) identified 20 species.

Metric	2023	2024	2025	Definition
Total species	43	53	50	Total species detected along transect
Species per quad	*	*	9	Average number of species found in each 1-m^2 quad
Total Plant Cover (%)	58	69	65	All plants up to 2 m tall
Total Shrub Cover (%)	*	5	4	Shrubs and subshrubs (excludes vine or tree species)
Ave Shrub Height (cm)	*	*	14	Estimated average height of shrub species
Total Herb Cover (%)	*	63	62	All non-woody plants
Wiregrass Cover (%)	52	52	48	*Aristida beyrichiana* cover
Mineral Soil Cover (%)	*	*	21	Exposed mineral soil

* Not measured

Table 7. Percent cover of plant species in Transect 4 - Sandhill Restoration sampled on October 6, 2025.

Scientific name	Common name	Growth Form	Woody/ Non-Woody	Average percent cover per quadrat
Acalypha gracilens	slender threeseed mercury	Forb/herb	non-woody	0.02

Scientific name	Common name	Growth Form	Woody/ Non-Woody	Average percent cover per quadrat
***Andropogon* sp.**	bluestem	Graminoid	non-woody	0.13
Andropogon ternarius	splitbeard bluestem	Graminoid	non-woody	0.02
Aristida beyrichiana	Southern wiregrass	Graminoid	non-woody	47.75
Aristida purpurascens	arrowfeather threeawn	Graminoid	non-woody	0.02
Baptisia lanceolata	gopherweed	Forb/herb	non-woody	0.05
Bulbostylis ciliatifolia	capillary hairsedge	Graminoid	non-woody	0.05
Centrosema virginianum	spurred butterfly pea	Forb/herb	non-woody	0.03
Chrysoma pauciflosculosa	woody goldenrod	Subshrub, Shrub	woody	0.02
Commelina erecta* var. *angustifolia	whitemouth dayflower	Forb/herb	non-woody	0.20
Crotalaria rotundifolia	rabbitbells	Forb/herb	non-woody	0.52
Ctenodon viscidulus	sticky jointvetch	Forb/herb	non-woody	0.03
Cyperus filiculmis	wiry flatsedge	Graminoid	non-woody	0.15
Cyperus ovatus	pinebarren flatsedge	Graminoid	non-woody	0.18
Dichanthelium aciculare	needleleaf witchgrass	Graminoid	non-woody	0.10
Dichanthelium meridionale	matting witchgrass	Graminoid	non-woody	0.02
***Dichanthelium* sp.**	witchgrass	Graminoid	non-woody	0.07
Digitaria ciliaris	Southern crabgrass	Graminoid	non-woody	0.05
Diospyros virginiana	common persimmon	Tree	woody	0.43
Eremochloa ophiuroides	centipede grass	Graminoid	non-woody	0.07
Eupatorium compositifolium	yankeeweed	Forb/herb	non-woody	0.35
***Euphorbia* sp.**	spurges	Forb/herb	non-woody	0.02
Froelichia floridana	cottonweed	Forb/herb	non-woody	0.05
***Galactia* sp.**	milkpea	Forb/herb	non-woody	2.48
Hexasepalum teres	poor joe	Forb/herb	non-woody	1.22
Houstonia procumbens	roundleaf bluet	Forb/herb	non-woody	0.23
Ilex vomitoria	yaupon	Shrub	woody	0.12
Lechea sessiliflora	pineland pinweed	Forb/herb	non-woody	0.47
Liatris tenuifolia	shortleaf gayfeather	Forb/herb	non-woody	0.05
Mimosa microphylla	sensitive briar	Forb/herb	non-woody	0.20
Opuntia mesacantha* ssp. *lata	pricklypear	Shrub	woody	0.13
Paspalum setaceum	thin paspalum	Graminoid	non-woody	0.07
Penstemon multiflorus	manyflower beardtongue	Forb/herb	non-woody	0.60
***Physalis* sp.**	groundcherry	Forb/herb	non-woody	0.02
Pinus palustris	longleaf pine	Tree	woody	0.40
Pityopsis aspera* var. *adenolepis	pineland silkgrass	Forb/herb	non-woody	0.05
Pityopsis graminifolia	narrowleaf silkgrass	Forb/herb	non-woody	0.05
***Pityopsis* sp.**	silkgrass	Forb/herb	non-woody	0.03
Quercus geminata	sand live oak	Tree	woody	0.05
Quercus virginiana	live oak	Tree	woody	0.02
Rhynchosia cytisoides	royal snoutbean	Forb/herb	non-woody	0.40
Rubus cuneifolius	sand blackberry	Subshrub	woody	2.35
Smilax auriculata	earleaf greenbriar	Vine	woody	0.12
Stylisma patens	coastalplain dawnflower	Forb/herb	non-woody	0.12
Tephrosia chrysophylla	scurf hoary-pea	Forb/herb	non-woody	0.42
***Tephrosia* sp.**	hoary-pea	Forb/herb	non-woody	0.02
Tragia urens	wavyleaf noseburn	Forb/herb	non-woody	0.02
Vaccinium elliottii	Elliott's blueberry	Shrub	woody	0.05
Vaccinium stamineum	deerberry	Shrub	woody	0.12

Scientific name	Common name	Growth Form	Woody/ Non-Woody	Average percent cover per quadrat
Yucca filamentosa	Adam's needle	Shrub	woody	1.37
Open (no plant cover)				34.83

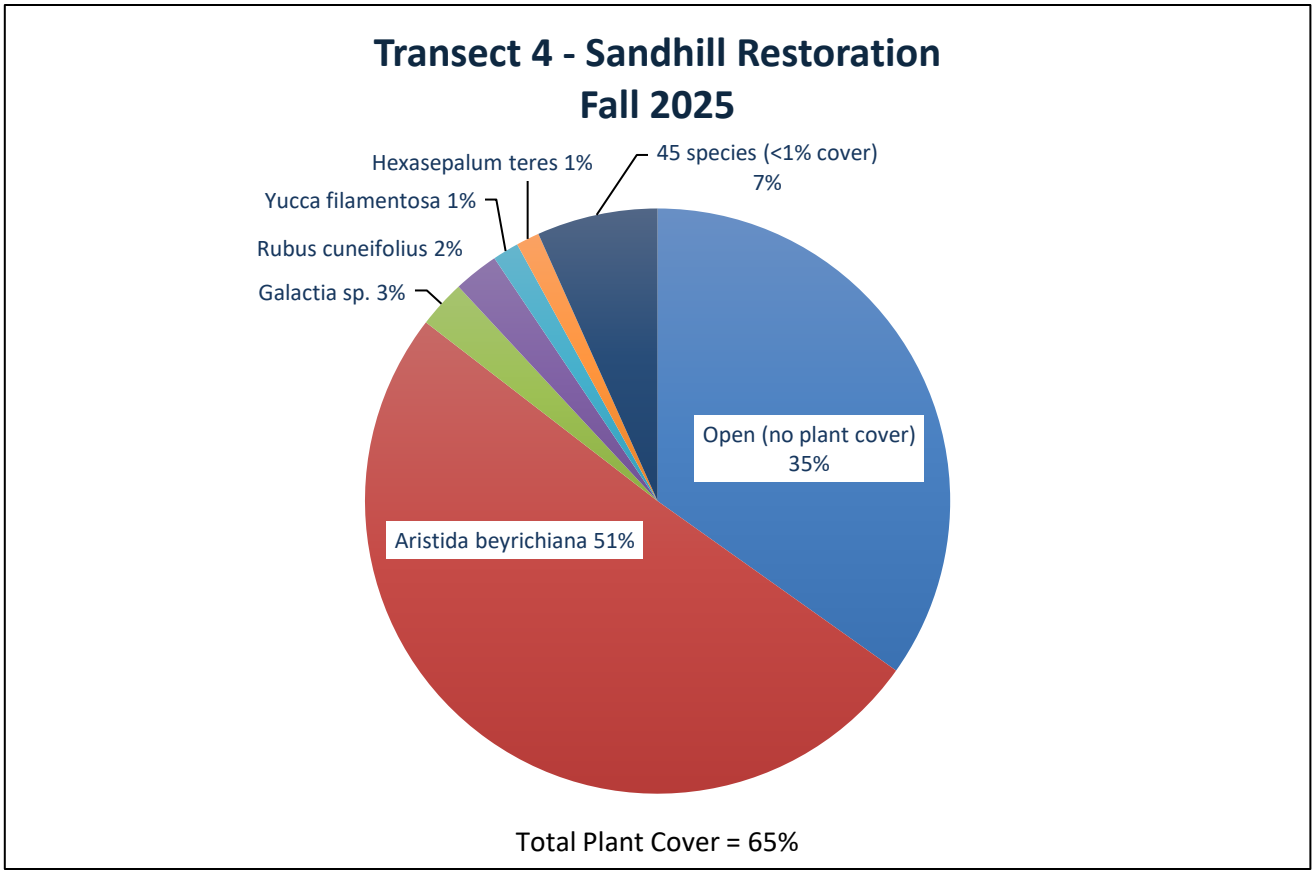


Figure 4. Percent relative cover of plant species in Transect T4 – Sandhill Restoration

Transect 10

Table 8. Summary of metrics recorded in Fall 2025 for Transect 10 – Sandhill Restoration. New transect established this year.

Metric	2025	Definition
Total species	72	Total species detected along transect
Species per quad	11	Average number of species found in each 1-m^2 quad
Total Plant Cover (%)	72	All plants up to 2 m tall
Total Shrub Cover (%)	49	Shrubs and subshrubs (excludes vine or tree species)
Ave Shrub Height (cm)	106	Estimated average height of shrub species
Total Herb Cover (%)	26	All non-woody plants
Wiregrass Cover (%)	15	*Aristida beyrichiana* cover
Mineral Soil Cover (%)	1	Exposed mineral soil

* Not measured

Table 9. Percent cover of plant species in Transect 10 - Sandhill Restoration sampled on October 9, 2025.

Scientific name	Common name	Growth Form	Woody/ Non-Woody	Average percent cover per quadrat
Andropogon arctatus	pinewoods bluestem	Graminoid	non-woody	0.05
Andropogon capillipes	dryland white bluestem	Graminoid	non-woody	0.40
***Andropogon* sp.**	bluestem	Graminoid	non-woody	0.48
Aristida beyrichiana	Southern wiregrass	Graminoid	non-woody	14.52
Aristida purpurascens	arrowfeather threeawn	Graminoid	non-woody	0.25
Aronia arbutifolia	red chokeberry	Shrub	woody	0.05
Asteraceae		Forb/herb	non-woody	0.15
Burmannia biflora	bluethread	Forb/herb	non-woody	0.02
Centella erecta	spadeleaf	Forb/herb	non-woody	0.28
***Chamaecrista* sp.**	sensitive pea	Forb/herb	non-woody	0.02
Chrysoma pauciflosculosa	woody goldenrod	Subshrub, Shrub	woody	0.32
Chrysopsis lanuginosa	Lynn Haven goldenaster	Forb/herb	non-woody	0.08
Cliftonia monophylla	black titi	Shrub	woody	4.42
Ctenium aromaticum	toothache grass	Graminoid	non-woody	0.83
Cyrilla parvifolia	littleleaf titi	Shrub	woody	3.70
***Dichanthelium* sp.**	witchgrass	Graminoid	non-woody	0.60
Dichanthelium sphaerocarpon	roundseed witchgrass	Graminoid	non-woody	0.02
Dichanthelium strigosum	roughhair witchgrass	Graminoid	non-woody	0.55
Diospyros virginiana	common persimmon	Tree	woody	0.03
Drosera capillaris	pink sundew	Forb/herb	non-woody	0.03
Edrastima uniflora	oldenlandia	Forb/herb	non-woody	0.05
***Eragrostis* sp.**	lovegrass	Graminoid	non-woody	0.02
Erigeron vernus	early whitetop fleabane	Forb/herb	non-woody	0.25
Eriocaulon decangulare	tenangle pipewort	Forb/herb	non-woody	0.07
Eupatorium rotundifolium	roundleaf thoroughwort	Forb/herb	non-woody	0.03
***Eupatorium* sp.**	thoroughwort	Forb/herb	non-woody	0.02
Gelsemium sempervirens	yellow jessamine	Vine	woody	1.87
Geobalanus oblongifolius	gopher apple	Subshrub, Shrub	woody	0.35
Helianthus angustifolius	narrowleaf sunflower	Forb/herb	non-woody	0.02
Hypericum cistifolium	roundpod St. John's wort	Subshrub, Shrub	woody	0.02
Hypericum crux-andreae	St. Peter's wort	Subshrub, Shrub	woody	0.12
Hypericum gentianoides	orangegrass	Forb/herb	non-woody	0.02
***Hypericum* sp.**	St. John's wort	Subshrub,Shrub	woody	0.02
Ilex coriacea	large gallberry	Shrub	woody	3.13
Ilex glabra	gallberry	Shrub	woody	26.78
Ilex myrtifolia	myrtle-leaved holly	Tree	woody	0.65
Ilex vomitoria	yaupon	Shrub	woody	3.08
Kellochloa verrucosa	warty panicgrass	Graminoid	non-woody	0.07
Lachnocaulon anceps	whitehead bogbutton	Forb/herb	non-woody	0.32
Lechea sessiliflora	pineland pinweed	Forb/herb	non-woody	0.05
Lobelia georgiana	Southern lobelia	Forb/herb	non-woody	0.07
Lycopodiella alopecuroides	foxtail club-moss	Forb/herb	non-woody	0.03
Morella cerifera	Southern bayberry	Subshrub, Shrub	woody	0.12
moss		n/a	n/a	0.02
Muscadinia rotundifolia	muscadine	Vine	woody	0.25
Panicum virgatum	switchgrass	Graminoid	non-woody	0.07

Scientific name	Common name	Growth Form	Woody/ Non-Woody	Average percent cover per quadrat
Paspalum setaceum	thin paspalum	Graminoid	non-woody	0.05
Pinus palustris	longleaf pine	Tree	woody	0.63
Pityopsis graminifolia	narrowleaf silkgrass	Forb/herb	non-woody	0.12
***Pityopsis* sp.**	silkgrass	Forb/herb	non-woody	1.10
Poaceae		Graminoid	non-woody	0.02
Polygala lutea	orange milkwort	Forb/herb	non-woody	0.02
Polygala polygama	racemed milkwort	Forb/herb	non-woody	0.02
Quercus geminata	sand live oak	Tree	woody	0.02
Quercus hemisphaerica	laurel oak	Tree	woody	0.23
Rhexia alifanus	savannah meadowbeauty	Forb/herb	non-woody	0.03
Rhexia mariana	pale meadowbeauty	Forb/herb	non-woody	0.70
Rhexia petiolata	fringed meadowbeauty	Forb/herb	non-woody	0.32
***Rhexia* sp.**	meadowbeauty	Forb/herb	non-woody	0.13
Rhus copallinum* var. *copallinum	winged sumac	Shrub	woody	0.12
Rhynchospora chapmanii	Chapman's beaksedge	Graminoid	non-woody	0.03
Rhynchospora ciliaris	fringed beaksedge	Graminoid	non-woody	0.02
Rhynchospora oligantha	featherbristle beaksedge	Graminoid	non-woody	0.02
***Rhynchospora* sp.**	beaksedge	Graminoid	non-woody	0.02
Rubus cuneifolius	sand blackberry	Subshrub	woody	0.02
***Schizachyrium* sp.**	bluestem	Graminoid	non-woody	0.05
Schizachyrium stoloniferum	creeping little bluestem	Graminoid	non-woody	0.88
Scleria ciliata	fringed nutrush	Graminoid	non-woody	0.02
***Scleria* sp.**	nutrush	Graminoid	non-woody	0.12
Smilax auriculata	earleaf greenbriar	Vine	woody	0.55
Smilax glauca	cat greenbriar	Vine	woody	0.03
Solidago pulverulenta	downy goldenrod	Forb/herb	non-woody	0.18
***Solidago* sp.**	goldenrod	Forb/herb	non-woody	0.02
Solidago virgata	wand goldenrod	Forb/herb	non-woody	0.02
***Sphagnum* sp.**	sphagnum moss	n/a	n/a	0.05
Sporobolus floridanus	Florida dropseed	Graminoid	non-woody	0.60
Stylisma patens	coastalplain dawnflower	Forb/herb	non-woody	0.02
Symphyotrichum dumosum	rice button aster	Forb/herb	non-woody	0.08
Tragia urens	wavyleaf noseburn	Forb/herb	non-woody	0.02
Trilisa odoratissima	vanillaleaf	Forb/herb	non-woody	0.15
Vaccinium arboreum	sparkleberry	Shrub	woody	0.12
Vaccinium elliottii	Elliott's blueberry	Shrub	woody	0.72
Vaccinium myrsinites	shiny blueberry	Shrub	woody	0.12
***Vaccinium* sp.**	blueberry	Shrub,Subshrub	woody	0.05
Viola vittata	Southern water violet	Forb/herb	non-woody	0.03
Xyris caroliniana	Carolina yellow-eyed grass	Forb/herb	non-woody	0.02
***Xyris* sp.**	yellow-eyed grass	Forb/herb	non-woody	0.05
Open (no plant cover)				28.23

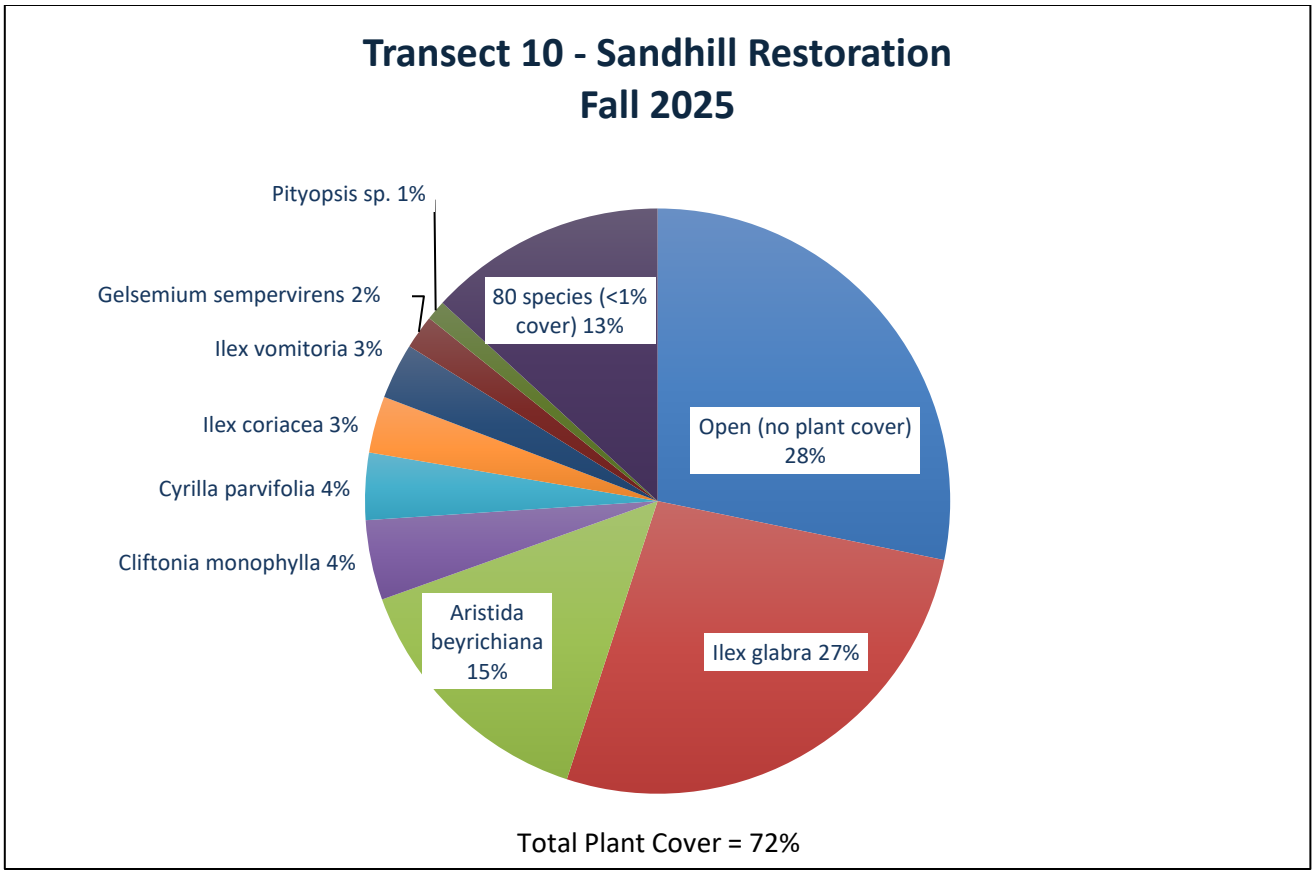


Figure 5. Percent relative cover of plant species in Transect T10 – Sandhill Restoration

Planted Longleaf Pines

In 2025, the survival of longleaf pine seedlings along each transect was observed to be between 92 and 230 trees per acre, similar to the last two years (2024 – 62 to 251 trees/acre; 2023 – 87 to 264 trees/acre). Trees averaged 23 feet in height, and the average DBH was 5.0 inches (Table 1). Overall health of the planted pines was excellent. However, trees along Transect 1 were impacted in recent years, possibly by a hot fire, and live pines have been reduced in the area. Seven standing dead pines were observed in the transect, and several more have fallen since last year.

Hardwood species were also noted. The recent growing season fire in 2025 has reduced hardwood encroachment this year. Transect 1 had only 1 mostly dead hardwood, compared with 15 last year. Transect 2 had only 2 hardwoods (both turkey oaks), much reduced from the 25 observed last year. The single persimmon found last year along Transect 4 was also killed by the recent burn.

Final Success Criteria

The sand pine plantations were harvested in 2007. Site preparation burns were conducted during the winter of 2008 and planted with longleaf pine in the winter of 2008-2009. Wiregrass plugs were planted on 3-foot centers in the former sand pine plantations in 2008 and completed in 2010. The area is burned on a two-year rotation.

Wiregrass continues to be the dominant species along Transects 1, 2, and 4, and was in bloom during the fall sampling. Transects 1 and 4 have herbaceous cover nearing the target cover of 70%, although these areas were affected by a 2025 growing season burn. Herbaceous cover is expected to increase by next year.

Shrub cover is low across all transects and much less than the maximum of 20% allowed in the Final Succcess Criteria with the exception of the newly established Transect 10 which is more similar to pine flatwoods and has a high cover of gallberry.

On average, planted longleaf pine densities remain near or below 200 trees per acre. Trees are healthy and vigorous, although there has been some loss of canopy along Transect 1 in the past several years. Bahia and centipede grass cover continues to be monitored and treated as needed. Only a very small amount of centipede grass was detected in Transects 1 and 4.

Management Unit 12, UMAM Polygon I, Sandhill Enhancement (Transects #3 and #5)

UMAM Polygon I, Management Unit 12, consists of 263.52 acres. At the time of purchase, the sandhill overstory was dominated by turkey and live oaks with scattered remnant longleaf pine and an understory dominated by hardwood shrubs, woody goldenrod, wiregrass, and a variety of herbaceous species. Reclamation activities included reintroduction of fire, thinning of oaks to less than 150 trees per acre, and reestablishment of longleaf pine. Fire was reintroduced during the winter of 2004. Currently, longleaf pines dominate the overstory with scattered turkey, sand live oak, and bluejack oak. The understory is dominated by wiregrass.

Quantitative Transects

Results for the Fall 2025 quantitative monitoring in Management Unit 12 are given in Tables 10-13 and Figures 6-7. Both transects were affected by a growing season burn earlier in 2025.

Transect 3

Table 10. Summary of metrics recorded in the past 3 years for Transect 3 – Sandhill Enhancement. Baseline monitoring (2006) identified 23 species.

Metric	2023	2024	2025	Definition
Total species	51	54	42	Total species detected along transect
Species per quad	*	*	9	Average number of species found in each 1-m^2 quad
Total Plant Cover (%)	43	53	42	All plants up to 2 m tall
Total Shrub Cover (%)	*	13	5	Shrubs and subshrubs (excludes vine or tree species)
Ave Shrub Height (cm)	*	*	15	Estimated average height of shrub species
Total Herb Cover (%)	*	35	38	All non-woody plants
Wiregrass Cover (%)	19	18	22	*Aristida beyrichiana* cover
Mineral Soil Cover (%)	*	*	60	Exposed mineral soil

* Not measured

Table 11. Percent cover of plant species in Transect 3 - Sandhill Enhancement sampled on October 6, 2025.

Scientific name	Common name	Growth Form	Woody/ Non-Woody	Average percent cover per quadrat
Andropogon gyrans	Elliott's bluestem	Graminoid	non-woody	0.32
***Andropogon* sp.**	bluestem	Graminoid	non-woody	0.07
Aristida beyrichiana	Southern wiregrass	Graminoid	non-woody	21.73
Baptisia lanceolata	gopherweed	Forb/herb	non-woody	0.05
Bulbostylis ciliatifolia	capillary hairsedge	Graminoid	non-woody	0.23
Bulbostylis coarctata	Elliott's hairsedge	Graminoid	non-woody	0.25
Chrysoma pauciflosculosa	woody goldenrod	Subshrub, Shrub	woody	1.27
Commelina erecta* var. *angustifolia	whitemouth dayflower	Forb/herb	non-woody	0.02
Croton argyranthemus	silver croton	Forb/herb	non-woody	0.07
Cyperus filiculmis	wiry flatsedge	Graminoid	non-woody	0.03
Dalea pinnata	summer farewell	Forb/herb	non-woody	0.28
Dichanthelium ovale	oval-flowered witchgrass	Graminoid	non-woody	0.03
***Dichanthelium* sp.**	witchgrass	Graminoid	non-woody	0.08
Diodia virginiana	Virginia buttonweed	Forb/herb	non-woody	0.12
Diospyros virginiana	common persimmon	Tree	woody	0.67
Eriogonum tomentosum	dogtongue wild buckwheat	Forb/herb	non-woody	0.12
Euphorbia exserta	coastal sand spurge	Forb/herb	non-woody	0.12
Euphorbia floridana	greater Florida spurge	Forb/herb	non-woody	0.03
***Euphorbia* sp.**	spurges	Forb/herb	non-woody	0.03
***Galactia* sp.**	milkpea	Forb/herb	non-woody	0.30
Gaylussacia dumosa	dwarf huckleberry	Subshrub, Shrub	woody	0.68
Gaylussacia nana	dwarf dangleberry	Shrub	woody	0.12
Geobalanus oblongifolius	gopher apple	Subshrub, Shrub	woody	0.30
Lechea sessiliflora	pineland pinweed	Forb/herb	non-woody	1.20
Liatris gracilis	slender gayfeather	Forb/herb	non-woody	3.68
Liatris tenuifolia	shortleaf gayfeather	Forb/herb	non-woody	0.38
Mimosa microphylla	sensitive briar	Forb/herb	non-woody	0.05
Opuntia mesacantha* ssp. *lata	pricklypear	Shrub	woody	0.18
Pinus palustris	longleaf pine	Tree	woody	0.12
Pityopsis aspera* var. *adenolepis	pineland silkgrass	Forb/herb	non-woody	0.75
***Pityopsis* sp.**	silkgrass	Forb/herb	non-woody	0.02
Pteridium pseudocaudatum	tailed bracken	Forb/herb	non-woody	0.28
Quercus incana	bluejack oak	Tree	woody	0.63
Quercus laevis	turkey oak	Tree	woody	0.28
Rhynchosia cytisoides	royal snoutbean	Forb/herb	non-woody	0.03
Schizachyrium stoloniferum	creeping little bluestem	Graminoid	non-woody	0.67
Smilax auriculata	earleaf greenbriar	Vine	woody	0.05
Solidago odora	sweet goldenrod	Forb/herb	non-woody	0.68
Sporobolus junceus	pineywoods dropseed	Graminoid	non-woody	1.42
Stylisma patens	coastalplain dawnflower	Forb/herb	non-woody	0.07
Tephrosia chrysophylla	scurf hoary-pea	Forb/herb	non-woody	0.08
Tragia urens	wavyleaf noseburn	Forb/herb	non-woody	0.03
Vaccinium darrowii	Darrow's blueberry	Subshrub, Shrub	woody	1.88
Open (no plant cover)				58.40

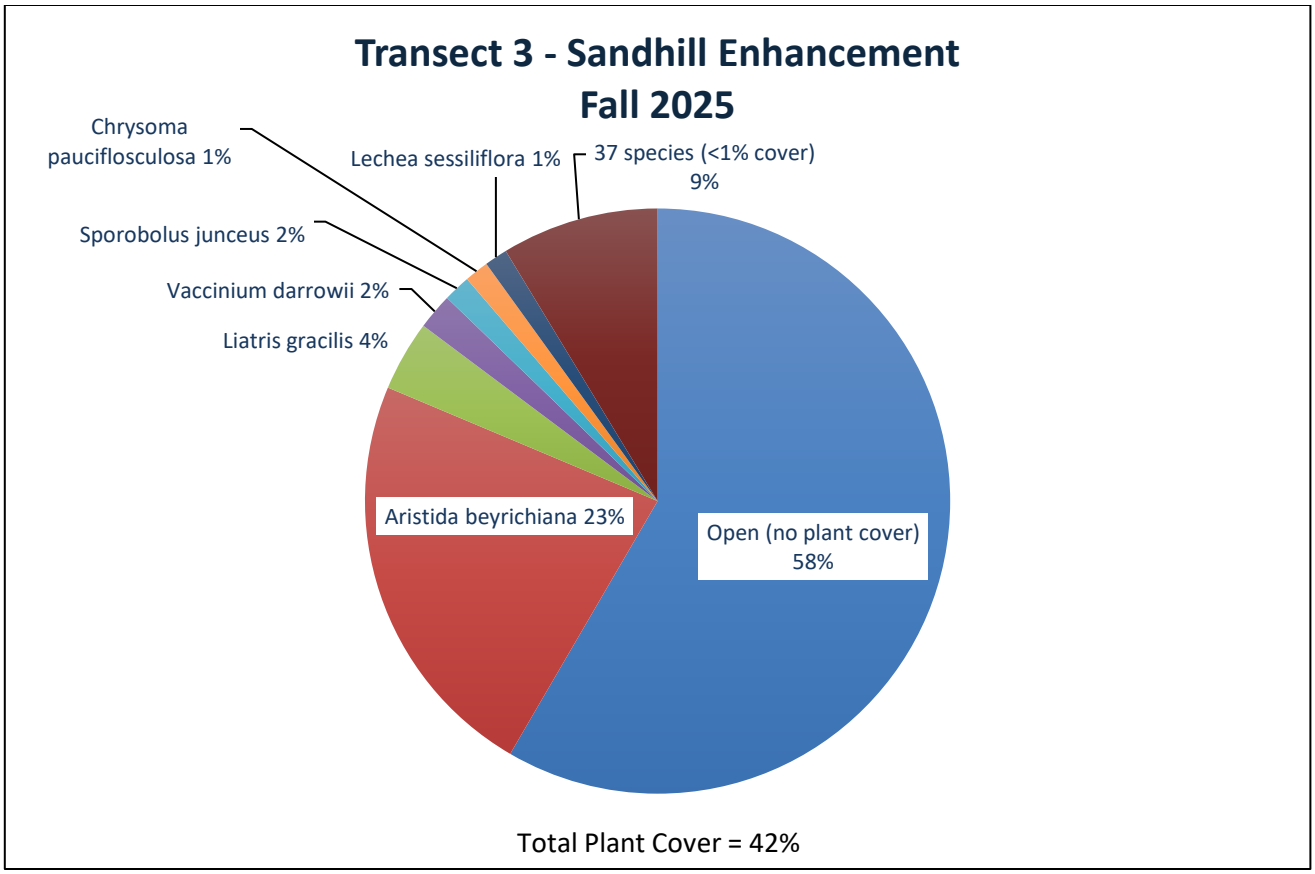


Figure 6. Percent relative cover of plant species in Transect T3 – Sandhill Enhancement

Transect 5

Table 12. Summary of metrics recorded in the past 3 years for Transect 5 – Sandhill Enhancement. Baseline monitoring (2006) identified 31 species.

Metric	2023	2024	2025	Definition
Total species	45	66	57	Total species detected along transect
Species per quad	*	*	11	Average number of species found in each 1-m^2 quad
Total Plant Cover (%)	57	51	46	All plants up to 2 m tall
Total Shrub Cover (%)	*	2	1	Shrubs and subshrubs (excludes vine or tree species)
Ave Shrub Height (cm)	*	*	4	Estimated average height of shrub species
Total Herb Cover (%)	*	42	42	All non-woody plants
Wiregrass Cover (%)	25	24	20	*Aristida beyrichiana* cover
Mineral Soil Cover (%)	*	*	46	Exposed mineral soil

* Not measured

Table 13. Percent cover of plant species in Transect 5 - Sandhill Enhancement sampled on October 7, 2025.

Scientific name	Common name	Growth Form	Woody/ Non-Woody	Average percent cover per quadrat
Andropogon gyrans	Elliott's bluestem	Graminoid	non-woody	0.03

Scientific name	Common name	Growth Form	Woody/ Non-Woody	Average percent cover per quadrat
***Andropogon* sp.**	bluestem	Graminoid	non-woody	0.12
Aristida beyrichiana	Southern wiregrass	Graminoid	non-woody	19.53
Bulbostylis ciliatifolia	capillary hairsedge	Graminoid	non-woody	0.02
Bulbostylis coarctata	Elliott's hairsedge	Graminoid	non-woody	0.60
Centrosema virginianum	spurred butterfly pea	Forb/herb	non-woody	0.02
Chamaecrista fasciculata	partridge pea	Forb/herb	non-woody	0.02
***Chamaecrista* sp.**	sensitive pea	Forb/herb	non-woody	0.03
Chrysoma pauciflosculosa	woody goldenrod	Subshrub, Shrub	woody	0.02
Commelina erecta* var. *angustifolia	whitemouth dayflower	Forb/herb	non-woody	0.22
***Crataegus* sp.**	hawthorn	Tree	woody	0.03
Crotalaria purshii	Pursh's rattlebox	Forb/herb	non-woody	0.03
Crotalaria rotundifolia	rabbitbells	Forb/herb	non-woody	0.03
Croton argyranthemus	silver croton	Forb/herb	non-woody	0.10
Cyperus retrorsus	pineland flatsedge	Graminoid	non-woody	0.12
***Cyperus* sp.**	flatsedge	Graminoid	non-woody	0.03
Dichanthelium angustifolium	narrowleaf witchgrass	Graminoid	non-woody	0.02
Dichanthelium ovale	oval-flowered witchgrass	Graminoid	non-woody	0.02
***Dichanthelium* sp.**	witchgrass	Graminoid	non-woody	0.28
Diospyros virginiana	common persimmon	Tree	woody	2.35
Endodeca serpentaria	Virginia snakeroot	Forb/herb	non-woody	0.02
***Euphorbia* sp.**	spurges	Forb/herb	non-woody	0.02
Froelichia floridana	cottonweed	Forb/herb	non-woody	0.20
Galactia erecta	erect milkpea	Forb/herb	non-woody	0.03
***Galactia* sp.**	milkpea	Forb/herb	non-woody	0.33
Geobalanus oblongifolius	gopher apple	Subshrub, Shrub	woody	1.35
Hexasepalum teres	poor joe	Forb/herb	non-woody	0.27
Hieracium gronovii	queen-devil	Forb/herb	non-woody	0.02
Houstonia procumbens	roundleaf bluet	Forb/herb	non-woody	0.03
Ilex vomitoria	yaupon	Shrub	woody	0.05
Lechea sessiliflora	pineland pinweed	Forb/herb	non-woody	0.12
Lespedeza hirta* var. *hirta	hairy lespedeza	Forb/herb	non-woody	0.05
Liatris gracilis	slender gayfeather	Forb/herb	non-woody	2.17
Liatris tenuifolia	shortleaf gayfeather	Forb/herb	non-woody	0.45
Mimosa microphylla	sensitive briar	Forb/herb	non-woody	1.08
Opuntia mesacantha* ssp. *lata	pricklypear	Shrub	woody	0.07
Panicum virgatum	switchgrass	Graminoid	non-woody	0.10
Penstemon multiflorus	manyflower beardtongue	Forb/herb	non-woody	0.08
Pityopsis aspera* var. *adenolepis	pineland silkgrass	Forb/herb	non-woody	6.12
Pteridium pseudocaudatum	tailed bracken	Forb/herb	non-woody	0.33
Quercus geminata	sand live oak	Tree	woody	0.05
Quercus hemisphaerica	laurel oak	Tree	woody	0.02
Quercus incana	bluejack oak	Tree	woody	1.08
Quercus laevis	turkey oak	Tree	woody	0.28
Rhynchosia cytisoides	royal snoutbean	Forb/herb	non-woody	0.02
Rhynchosia reniformis	dollarleaf	Forb/herb	non-woody	0.02
Rhynchospora grayi	Gray's beaksedge	Graminoid	non-woody	0.12
Ruellia ciliosa	ciliate wild petunia	Forb/herb	non-woody	0.02
Schizachyrium scoparium	little bluestem	Graminoid	non-woody	0.02

Scientific name	Common name	Growth Form	Woody/ Non-Woody	Average percent cover per quadrat
Schizachyrium stoloniferum	creeping little bluestem	Graminoid	non-woody	2.40
Smilax auriculata	earleaf greenbriar	Vine	woody	0.20
Solidago odora	sweet goldenrod	Forb/herb	non-woody	0.93
Stylisma patens	coastalplain dawnflower	Forb/herb	non-woody	0.17
***Stylisma* sp.**	dawnflower	Forb/herb	non-woody	0.02
Stylosanthes biflora	sidebeak pencil flower	Forb/herb	non-woody	0.12
Symphyotrichum concolor* var. *devestitum	Gulf Coast silver aster	Forb/herb	non-woody	0.38
***Symphyotrichum* sp.**	aster	Forb/herb	non-woody	0.02
Tephrosia chrysophylla	scurf hoary-pea	Forb/herb	non-woody	0.43
Tragia urens	wavyleaf noseburn	Forb/herb	non-woody	0.02
Open (no plant cover)				53.77

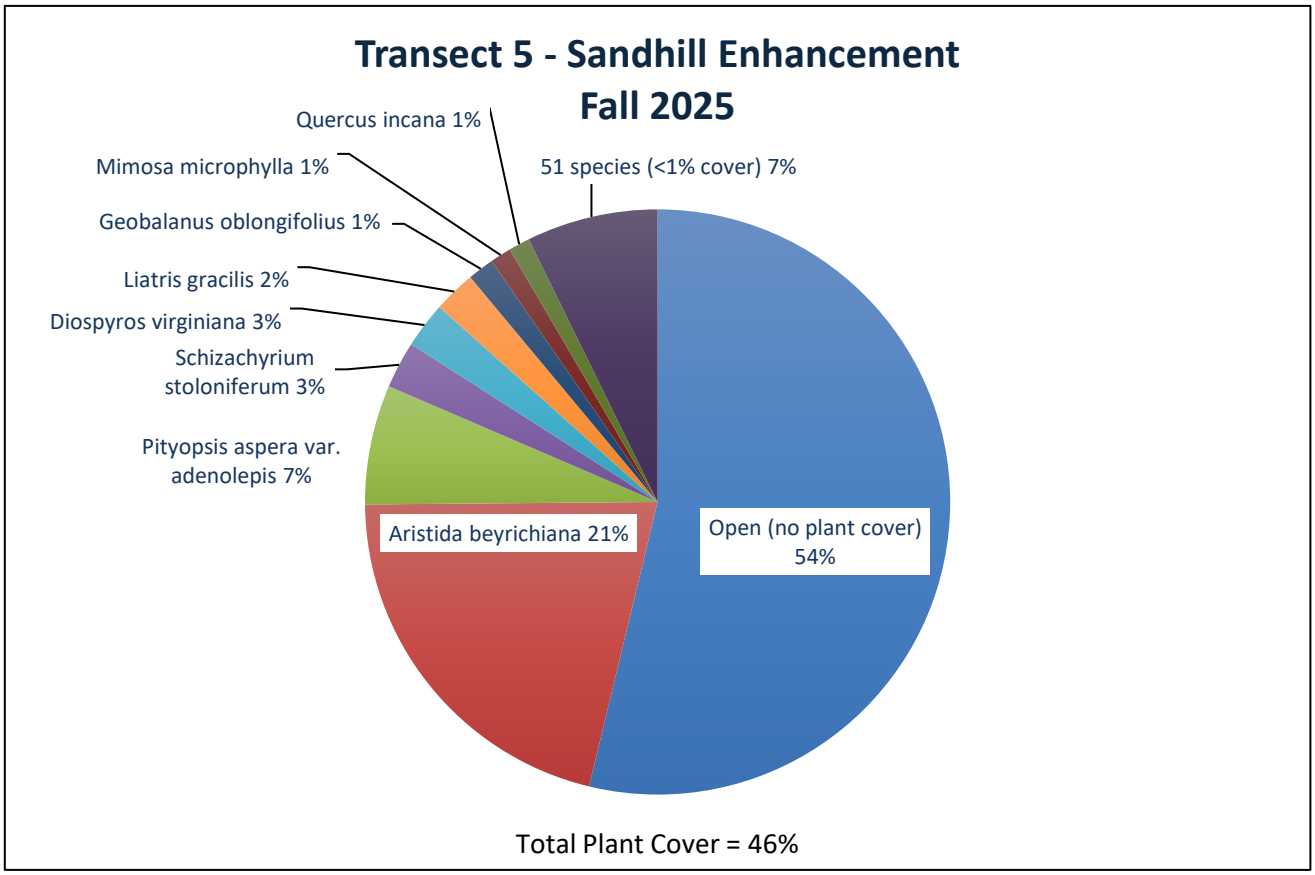


Figure 7. Percent relative cover of plant species in Transect T5 – Sandhill Enhancement

Planted Longleaf Pines

Longleaf pine seedlings were planted in the sandhills at a rate of 436 trees per acre.

In 2025, the survival of planted longleaf pines was measured at 143 trees per acre in Transect 3 and 114 trees per acre in Transect 5, compared with 142 trees per acre in Transect 3 and 89 trees per acre in Transect 5 in

2024. Overall health of the planted pines was excellent. Trees averaged 21 feet in height, and the average DBH was 4.3 inches (Table 1).

Hardwood species and standing dead pines in each belt transect as well as longleaf pine seedlings were also noted. Transect 3 had 7 hardwoods (a mix of turkey and bluejack oaks), no dead longleaf pines, and no longleaf pine seedlings. Transect 5 had 18 hardwoods (a mix of sandhill oaks, i.e., turkey and bluejack, sand live oak, and persimmon), no dead longleaf pines, and two longleaf pine seedlings. The recent growing season fire significantly reduced hardwood stem densities from last year. Only 3 hardwoods measured along either transect were greater than 1 inch DBH.

Final Success Criteria

The interim success criteria have been met for UMAM I Polygon I. Fire was re-introduced to the site, turkey and live oaks were thinned to less than 150 trees per acre and longleaf pines were planted. No nuisance or exotic species were observed and fire-adapted species dominate the vegetative cover.

Wiregrass continues to be the dominant species and was in bloom during the fall sampling. Herbaceous cover is below the final target cover of 70%, but diversity is high. Shrub cover negligible, much less than the maximum of 20% allowed in the Final Succcess Criteria.

On average, planted longleaf pine densities remain between 100-200 trees per acre. Trees are healthy and vigorous, and some regeneration is detected as planted trees become reproductive. Bahia and centipede grass cover continues to be monitored and treated as needed. Only small amounts of these pasture grasses were seen near the transects.

Management Unit 3, UMAM Polygon VII, Planted Slash Pine Plantation (Transect #8)

UMAM Polygon VII, Management Unit 3, consists of 11.5 acres of bedded planted slash pine restored to a hydric pine flatwood. The overstory was dominated by planted slash pine at 880 trees per acre. The shrub layer was well developed, and the understory largely absent due to the coverage of the trees and shrubs. Pines were thinned to 400 trees per acre in 2007. Trees were harvested again in 2012 to 200 trees per acre. Shrubs were eradicated using herbicide for two years. In winter 2012, wiregrass and toothache grass plugs were planted on three-foot centers. The restored slash pine plantation is burned annually starting in 2019. Longleaf pines were planted on the site in 2025.

Quantitative Transects

Results for the Fall 2025 quantitative monitoring in Management Unit 3 are given in Tables 14-15 and Figure 8. The marker for the transect is located at the mid-point, so the placement in relation to last year is less precise.

Transect 8

Table 14. Summary of metrics recorded in the past 3 years for Transect 8 – Hydric Pine Flatwoods Restoration. Baseline monitoring (2006) identified 17 species.

Metric	2023	2024	2025	Definition
Total species	51	65	90	Total species detected along transect
Species per quad	*	*	15	Average number of species found in each 1-m^2 quad
Total Plant Cover (%)	58	77	74	All plants up to 2 m tall
Total Shrub Cover (%)	*	12	5	Shrubs and subshrubs (excludes vine or tree species)
Ave Shrub Height (cm)	*	*	21	Estimated average height of shrub species
Total Herb Cover (%)	38	62	71	All non-woody plants
Graminoid Cover (%)	*	46	35	All graminoids (grasses, sedges, rushes)
Bluestem Cover (%)	*	12	11	All pioneer *Andropogon*
Mineral Soil Cover (%)	*	*	4	Exposed mineral soil

* Not measured

Table 15. Percent cover of plant species in Transect 8 - Hydric Pine Flatwoods Restoration sampled on October 9, 2025.

Scientific name	Common name	Growth Form	Woody/ Non-Woody	Average percent cover per quadrat
Anchistea virginica	Virginia chain fern	Forb/herb	non-woody	0.38
Andropogon capillipes	dryland white bluestem	Graminoid	non-woody	0.25
Andropogon cretaceus	purple bluestem	Graminoid	non-woody	10.12
***Andropogon* sp.**	bluestem	Graminoid	non-woody	0.55
Aristida beyrichiana	Southern wiregrass	Graminoid	non-woody	8.75
Aristida purpurascens	arrowfeather threeawn	Graminoid	non-woody	0.07
***Aristida* sp.**	threeawn	Graminoid	non-woody	0.02
Burmannia biflora	bluethread	Forb/herb	non-woody	0.03
Calamovilfa curtissii	Curtiss' sandgrass	Graminoid	non-woody	0.02
***Carex* sp.**	sedge	Graminoid	non-woody	0.18
Centella erecta	spadeleaf	Forb/herb	non-woody	2.20
Chamaecrista nictitans	sensitive pea	Forb/herb	non-woody	0.08
Cliftonia monophylla	black titi	Shrub	woody	0.02
Coleataenia longifolia	ciliate redtop panicum	Graminoid	non-woody	2.50
Coreopsis linifolia	Texas tickseed	Forb/herb	non-woody	0.02
Ctenium aromaticum	toothache grass	Graminoid	non-woody	2.45
Cyperus ovatus	pinebarren flatsedge	Graminoid	non-woody	0.05
Cyperus retrorsus	pineland flatsedge	Graminoid	non-woody	0.25
***Cyperus* sp.**	flatsedge	Graminoid	non-woody	0.03
Cyrilla racemiflora	titi	Shrub	woody	0.55
***Dichanthelium* sp.**	witchgrass	Graminoid	non-woody	1.80
Drosera capillaris	pink sundew	Forb/herb	non-woody	0.18
Edrastima uniflora	oldenlandia	Forb/herb	non-woody	0.97
***Eragrostis* sp.**	lovegrass	Graminoid	non-woody	0.05
Erigeron vernus	early whitetop fleabane	Forb/herb	non-woody	0.05
Eupatorium mohrii	Mohr's thoroughwort	Forb/herb	non-woody	0.83

Scientific name	Common name	Growth Form	Woody/ Non-Woody	Average percent cover per quadrat
Euthamia caroliniana	slender flattop goldenrod	Forb/herb	non-woody	0.33
Gaylussacia mosieri	woolly huckleberry	Shrub	woody	0.02
Gaylussacia tomentosa	blue huckleberry	Shrub	woody	0.25
Hypericum cistifolium	roundpod St. John's wort	Subshrub, Shrub	woody	0.12
Hypericum crux-andreae	St. Peter's wort	Subshrub, Shrub	woody	0.02
Hypericum fasciculatum	peelbark St. John's wort	Shrub	woody	1.25
Hypericum microsepalum	flatwoods St. John's wort	Shrub, Subshrub	woody	2.77
Ilex coriacea	large gallberry	Shrub	woody	0.02
Ilex glabra	gallberry	Shrub	woody	2.08
Ilex myrtifolia	myrtle-leaved holly	Tree	woody	0.07
Juncus scirpoides	needlepod rush	Graminoid	non-woody	0.18
Kellochloa verrucosa	warty panicgrass	Graminoid	non-woody	2.25
Lachnanthes caroliniana	Carolina redroot	Forb/herb	non-woody	1.53
Lachnocaulon anceps	whitehead bogbutton	Forb/herb	non-woody	0.05
Lechea torreyi	sandhill pinweed	Forb/herb	non-woody	0.77
Lorinseria areolata	netted chain fern	Forb/herb	non-woody	0.02
Ludwigia maritima	seaside primrosewillow	Forb/herb	non-woody	0.02
***Ludwigia* sp.**	primrosewillow	Forb/herb	non-woody	0.08
Lycopodiella alopecuroides	foxtail club-moss	Forb/herb	non-woody	0.45
Lycopodiella appressa	Southern club-moss	Forb/herb	non-woody	0.02
***Lycopodiella* sp.**	club-moss	Forb/herb	non-woody	0.12
Lycopus rubellus	taperleaf waterhorehound	Forb/herb	non-woody	0.02
Magnolia virginiana* var. *australis	sweetbay	Tree	woody	0.05
Morella cerifera	Southern bayberry	Subshrub, Shrub	woody	0.12
moss	moss	n/a	n/a	0.02
Panicum virgatum	switchgrass	Graminoid	non-woody	0.02
Paspalum setaceum	thin paspalum	Graminoid	non-woody	0.03
Pinus elliottii	slash pine	Tree	woody	0.02
Pinus palustris	longleaf pine	Tree	woody	0.18
***Pinus* sp.**	pine	Tree	woody	0.03
Poaceae		Graminoid	non-woody	0.02
Polygala lutea	orange milkwort	Forb/herb	non-woody	0.03
Rhexia mariana	pale meadowbeauty	Forb/herb	non-woody	0.65
Rhexia nashii	maid marian	Forb/herb	non-woody	0.03
Rhexia petiolata	fringed meadowbeauty	Forb/herb	non-woody	0.20
***Rhexia* sp.**	meadowbeauty	Forb/herb	non-woody	0.03
Rhus copallinum* var. *copallinum	winged sumac	Shrub	woody	0.02
Rhynchospora cephalantha* var. *cephalantha	bunched beaksedge	Graminoid	non-woody	1.25
Rhynchospora chalarocephala	loosehead beaksedge	Graminoid	non-woody	0.12
Rhynchospora ciliaris	fringed beaksedge	Graminoid	non-woody	0.08
Rhynchospora fascicularis	fascicled beaksedge	Graminoid	non-woody	1.12
Rhynchospora gracilenta	slender beaksedge	Graminoid	non-woody	0.37
Rhynchospora microcarpa	Southern beaksedge	Graminoid	non-woody	0.12
Rhynchospora microcephala	bunched beaksedge	Graminoid	non-woody	0.67
***Rhynchospora* sp.**	beaksedge	Graminoid	non-woody	0.95
Rubus pensilvanicus	sawtooth blackberry	Subshrub	woody	0.02
Sabatia stellaris	rose-of-Plymouth	Forb/herb	non-woody	0.02

Scientific name	Common name	Growth Form	Woody/ Non-Woody	Average percent cover per quadrat
Scleria reticularis	netted nutrush	Graminoid	non-woody	0.32
Smilax auriculata	earleaf greenbriar	Vine	woody	0.07
Smilax glauca	cat greenbriar	Vine	woody	0.02
Solidago fistulosa	pinebarren goldenrod	Forb/herb	non-woody	1.07
***Sphagnum* sp.**	sphagnum moss	n/a	n/a	10.78
Syngonanthus flavidulus	yellow hatpins	Forb/herb	non-woody	0.23
Tamala palustris	swamp bay	Tree/shrub	woody	0.05
Trilisa odoratissima	vanillaleaf	Forb/herb	non-woody	4.12
Vaccinium darrowii	Darrow's blueberry	Subshrub, Shrub	woody	0.02
Vaccinium fuscatum	hairy highbush blueberry	Shrub	woody	0.12
Vaccinium stamineum	deerberry	Shrub	woody	0.05
Xyris brevifolia	shortleaf yellow-eyed grass	Forb/herb	non-woody	0.03
Xyris elliottii	Elliott's yellow-eyed grass	Forb/herb	non-woody	1.63
Xyris fimbriata	fringed yellow-eyed grass	Forb/herb	non-woody	0.07
Xyris platylepis	tall yellow-eyed grass	Forb/herb	non-woody	0.10
***Xyris* sp.**	yellow-eyed grass	Forb/herb	non-woody	0.42
Xyris stricta	pineland yellow-eyed grass	Forb/herb	non-woody	0.33
Open (no plant cover)				25.73

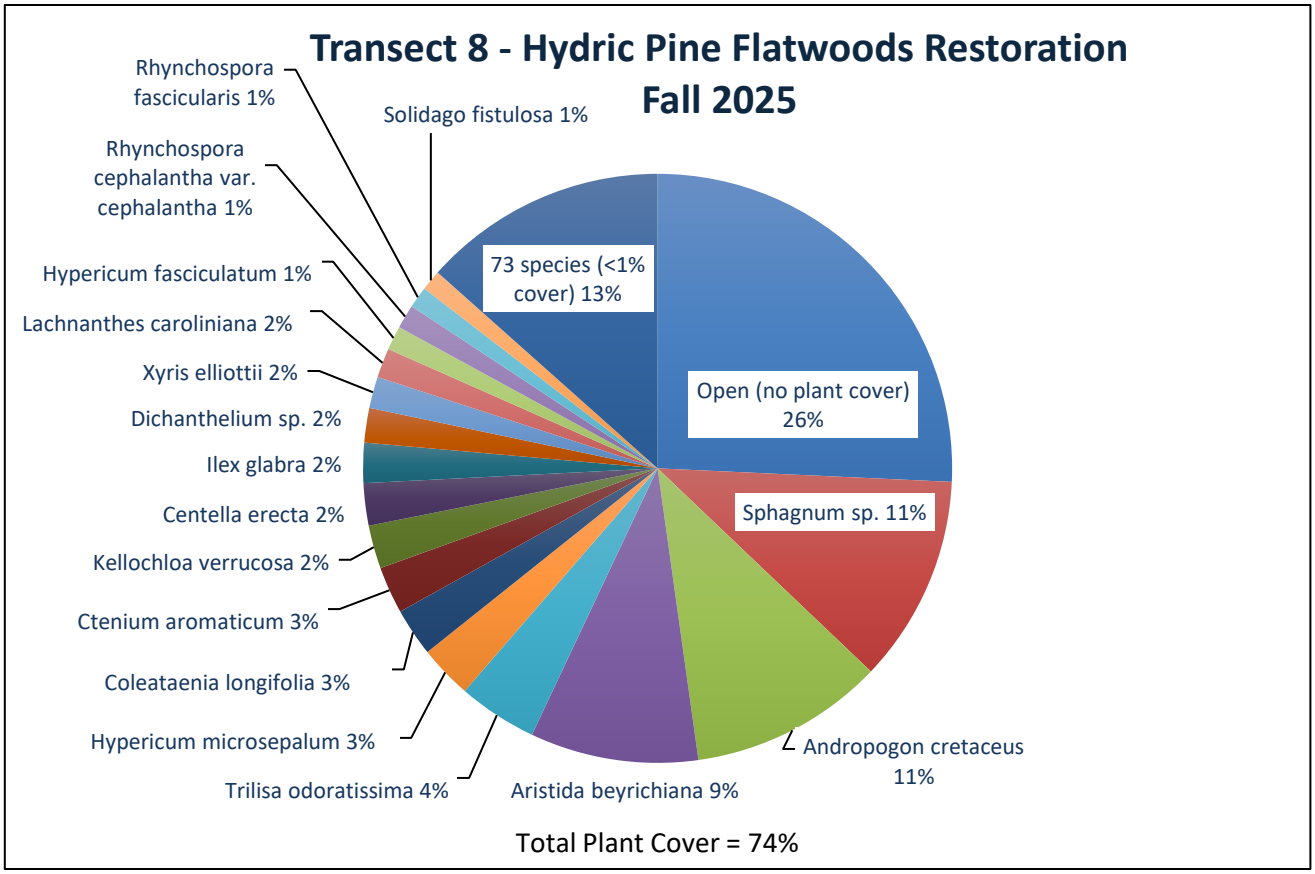


Figure 8. Percent relative cover of plant species in Transect T8 – Hydric Pine Flatwoods Restoration

Planted Longleaf Pines

In 2025, longleaf pines were planted in Management Unit 3. These are still grass-stage and often difficult to detect among dense grasses. We counted 94 seedlings along the belt transect (227 per acre; Table 1). These were mainly in good health, i.e. not visibly yellowing or browning.

Slash pine is the only other trees species found along belt transect 8. A few seedlings were detected, but also 30 trees, many quite large. These had an average DBH of 10.5 inches and ranged from 9 to 78 feet tall.

Final Success Criteria

The management activities used to restore UMAM VII, Management Unit 3 have been completed as of 2025. A diverse wet flatwoods understory continues to develop.

Overall herbacous cover was measured this year to be greater than the minimum Final Success Criteria of 55%. Graminoid cover as a percentage of herbaceous cover also met the criteria (at least 60%). Andropogon cover as a percentage of graminoid cover is just over the maximum Final Criteria of no more than 25%. Overall diversity is very high, and both wiregrass and the rare Curtiss' sandgrass were observed along the transect. Shrub heights along the transect were very low, averaging less than half a meter.

Management Unit 2, UMAM Polygon V, Hydric Pine Flatwoods (Transects #6 and #7)

UMAM Polygon V, Management Unit 2 consists of 163.88 acres of fire suppressed shrub dominated hydric pine flatwoods that have been restored to a hydric pine flatwood. The overstory was dominated by a near impenetrable shrub layer and absent herbaceous layer. Reclamation activities within this polygon included removal of shrub overstory utilizing a Gyro-Trac followed treatment with selective herbicides, re-introduction of fire, and planting wiregrass plugs on 3' centers. Longleaf pines were planted on the site in 2025.

Quantitative Transects

Results for the Fall 2025 quantitative monitoring in Management Unit 12 are given in Tables 16-19 and Figures 9-10.

Transect 6

Table 16. Summary of metrics recorded in the past 3 years for Transect 6 – Hydric Pine Flatwoods. Baseline monitoring (2006) identified 14 species.

Metric	2023	2024	2025	Definition
Total species	47	40	54	Total species detected along transect
Species per quad	*	*	11	Average number of species found in each 1-m^2 quad
Total Plant Cover (%)	46	72	65	All plants up to 2 m tall
Total Shrub Cover (%)	*	5	3	Shrubs and subshrubs (excludes vine or tree species)
Ave Shrub Height (cm)	*	*	10	Estimated average height of shrub species
Total Herb Cover (%)	38	61	62	All non-woody plants
Graminoid Cover (%)	*	42	30.37	All graminoids (grasses, sedges, rushes)
Bluestem Cover (%)	*	24	10.82	All pioneer *Andropogon*
Mineral Soil Cover (%)	*	*	2	Exposed mineral soil

* Not measured

Table 17. Percent cover of plant species in Transect 6 - Hydric Pine Flatwoods sampled on October 8, 2025.

Scientific name	Common name	Growth Form	Woody/ Non-Woody	Average percent cover per quadrat
Anchistea virginica	Virginia chain fern	Forb/herb	non-woody	0.32
Andropogon cretaceus	purple bluestem	Graminoid	non-woody	8.35
***Andropogon* sp.**	bluestem	Graminoid	non-woody	0.93
Andropogon virginicus	broomsedge bluestem	Graminoid	non-woody	1.53
Aristida beyrichiana	Southern wiregrass	Graminoid	non-woody	4.13
Centella erecta	spadeleaf	Forb/herb	non-woody	0.65
Coleataenia longifolia	ciliate redtop panicum	Graminoid	non-woody	1.27
Ctenium aromaticum	toothache grass	Graminoid	non-woody	0.05
Cyrilla racemiflora	titi	Shrub	woody	0.08
Dichanthelium ensifolium	small-leaved witchgrass	Graminoid	non-woody	2.48
***Dichanthelium* sp.**	witchgrass	Graminoid	non-woody	0.05
Edrastima uniflora	oldenlandia	Forb/herb	non-woody	1.00
Eleocharis melanocarpa	blackfruit spikerush	Graminoid	non-woody	0.12
***Eleocharis* sp.**	spikerush	Graminoid	non-woody	0.23
Eubotrys racemosus	swamp doghobble	Shrub	woody	1.25
Eupatorium mohrii	Mohr's thoroughwort	Forb/herb	non-woody	0.68
Euthamia caroliniana	slender flattop goldenrod	Forb/herb	non-woody	2.43
Gaylussacia dumosa	dwarf huckleberry	Subshrub, Shrub	woody	0.02
Hypericum cistifolium	roundpod St. John's wort	Subshrub, Shrub	woody	0.02
Hypericum microsepalum	flatwoods St. John's wort	Shrub, Subshrub	woody	0.30
Ilex glabra	gallberry	Shrub	woody	0.60
Kellochloa verrucosa	warty panicgrass	Graminoid	non-woody	3.82
Lachnanthes caroliniana	Carolina redroot	Forb/herb	non-woody	7.77
***Liatris* sp.**	blazing star	Forb/herb	non-woody	0.02
Lyonia lucida	fetterbush	Shrub	woody	1.40
Paspalum setaceum	thin paspalum	Graminoid	non-woody	0.13
Pinus elliottii	slash pine	Tree	woody	0.27

Scientific name	Common name	Growth Form	Woody/ Non-Woody	Average percent cover per quadrat
Pinus palustris	longleaf pine	Tree	woody	0.20
***Pinus* sp.**	pine	Tree	woody	0.03
Rhexia mariana	pale meadowbeauty	Forb/herb	non-woody	1.43
Rhexia mariana* var. *exalbida	white meadowbeauty	Forb/herb	non-woody	0.02
Rhexia virginica	handsome harry	Forb/herb	non-woody	0.17
Rhynchospora chalarocephala	loosehead beaksedge	Graminoid	non-woody	0.72
Rhynchospora fascicularis	fascicled beaksedge	Graminoid	non-woody	1.28
Rhynchospora glomerata	clustered beaksedge	Graminoid	non-woody	0.12
Rhynchospora gracilenta	slender beaksedge	Graminoid	non-woody	2.80
Rhynchospora microcephala	bunched beaksedge	Graminoid	non-woody	0.88
Rhynchospora pleiantha	coastal beaksedge	Graminoid	non-woody	0.83
***Rhynchospora* sp.**	beaksedge	Graminoid	non-woody	0.23
Rubus pensilvanicus	sawtooth blackberry	Subshrub	woody	0.02
Scleria muehlenbergii	pitted nutrush	Graminoid	non-woody	0.02
***Scleria* sp.**	nutrush	Graminoid	non-woody	0.38
Smilax glauca	cat greenbriar	Vine	woody	0.07
Solidago fistulosa	pinebarren goldenrod	Forb/herb	non-woody	2.00
***Sphagnum* sp.**	sphagnum moss	n/a	n/a	7.93
Vaccinium arboreum	sparkleberry	Shrub	woody	0.02
Vaccinium elliottii	Elliott's blueberry	Shrub	woody	0.05
***Vaccinium* sp.**	blueberry	Shrub,Subshrub	woody	0.02
Viola lanceolata	bog white violet	Forb/herb	non-woody	0.22
Xyris brevifolia	shortleaf yellow-eyed grass	Forb/herb	non-woody	0.22
Xyris caroliniana	Carolina yellow-eyed grass	Forb/herb	non-woody	0.18
Xyris elliottii	Elliott's yellow-eyed grass	Forb/herb	non-woody	0.92
Xyris fimbriata	fringed yellow-eyed grass	Forb/herb	non-woody	1.23
***Xyris* sp.**	yellow-eyed grass	Forb/herb	non-woody	0.45
Open (no plant cover)				35.07

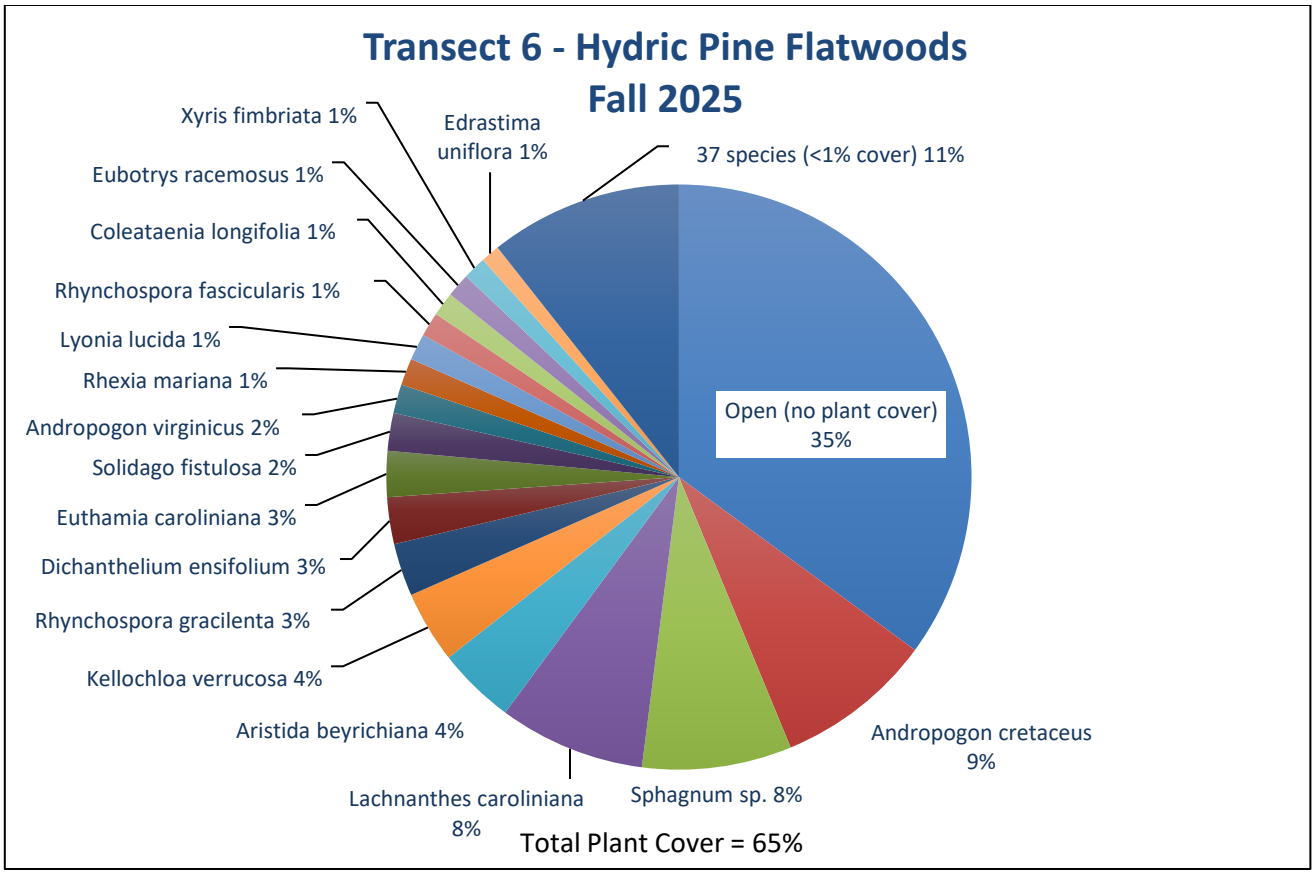


Figure 9. Percent relative cover of plant species in Transect T6 – Hydric Pine Flatwoods

Transect 7

Table 18. Summary of metrics recorded in the past 3 years for Transect 7 – Hydric Pine Flatwoods. Baseline monitoring (2006) identified 16 species.

Metric	2023	2024	2025	Definition
Total species	38	29	36	Total species detected along transect
Species per quad	*	*	7	Average number of species found in each 1-m^2 quad
Total Plant Cover (%)	49	73	65	All plants up to 2 m tall
Total Shrub Cover (%)	*	8	8	Shrubs and subshrubs (excludes vine or tree species)
Ave Shrub Height (cm)	*	*	22	Estimated average height of shrub species
Total Herb Cover (%)	31	65	54	All non-woody plants
Graminoid Cover (%)	*	17	15.85	All graminoids (grasses, sedges, rushes)
Bluestem Cover (%)	*	10	9.28	All pioneer *Andropogon*
Mineral Soil Cover (%)	*	*	11	Exposed mineral soil

* Not measured

Table 19. Percent cover of plant species in Transect 7 - Hydric Pine Flatwoods sampled on October 7, 2025.

Scientific name	Common name	Growth Form	Woody/ Non-Woody	Average percent cover per quadrat
Agalinis fasciculata	beach false foxglove	Forb/herb	non-woody	0.12
Anchistea virginica	Virginia chain fern	Forb/herb	non-woody	0.85
Andropogon cretaceus	purple bluestem	Graminoid	non-woody	8.40
***Andropogon* sp.**	bluestem	Graminoid	non-woody	0.52
Andropogon virginicus	broomsedge bluestem	Graminoid	non-woody	0.37
Aristida beyrichiana	Southern wiregrass	Graminoid	non-woody	0.53
Centella erecta	spadeleaf	Forb/herb	non-woody	0.03
Coleataenia anceps	beaked panicum	Graminoid	non-woody	0.58
Coleataenia longifolia	ciliate redtop panicum	Graminoid	non-woody	0.12
Cyrilla racemiflora	titi	Shrub	woody	1.47
Dichanthelium ensifolium	small-leaved witchgrass	Graminoid	non-woody	2.87
***Dichanthelium* sp.**	witchgrass	Graminoid	non-woody	0.05
Edrastima uniflora	oldenlandia	Forb/herb	non-woody	0.02
Eubotrys racemosus	swamp doghobble	Shrub	woody	2.62
Eupatorium mohrii	Mohr's thoroughwort	Forb/herb	non-woody	0.25
Euthamia caroliniana	slender flattop goldenrod	Forb/herb	non-woody	0.67
***Hypericum* sp.**	St. John's wort	Subshrub,Shrub	woody	0.05
Ilex myrtifolia	myrtle-leaved holly	Tree	woody	0.12
Kellochloa verrucosa	warty panicgrass	Graminoid	non-woody	1.43
Lachnanthes caroliniana	Carolina redroot	Forb/herb	non-woody	27.07
Lyonia lucida	fetterbush	Shrub	woody	3.08
Phytolacca rigida	American pokeweed	Forb/herb	non-woody	2.08
Pinus elliottii	slash pine	Tree	woody	0.02
Pinus palustris	longleaf pine	Tree	woody	0.28
Rhexia mariana	pale meadowbeauty	Forb/herb	non-woody	0.77
Rhus copallinum* var. *copallinum	winged sumac	Shrub	woody	0.22
Rhynchospora fascicularis	fascicled beaksedge	Graminoid	non-woody	0.98
Rubus cuneifolius	sand blackberry	Subshrub	woody	0.23
Solidago fistulosa	pinebarren goldenrod	Forb/herb	non-woody	2.17
***Sphagnum* sp.**	sphagnum moss	n/a	n/a	0.78
Tamala palustris	swamp bay	Tree/shrub	woody	0.58
Vaccinium fuscatum	hairy highbush blueberry	Shrub	woody	0.05
Xyris brevifolia	shortleaf yellow-eyed grass	Forb/herb	non-woody	0.02
Xyris elliottii	Elliott's yellow-eyed grass	Forb/herb	non-woody	1.17
Xyris fimbriata	fringed yellow-eyed grass	Forb/herb	non-woody	0.18
***Xyris* sp.**	yellow-eyed grass	Forb/herb	non-woody	0.15
Open (no plant cover)				35.27

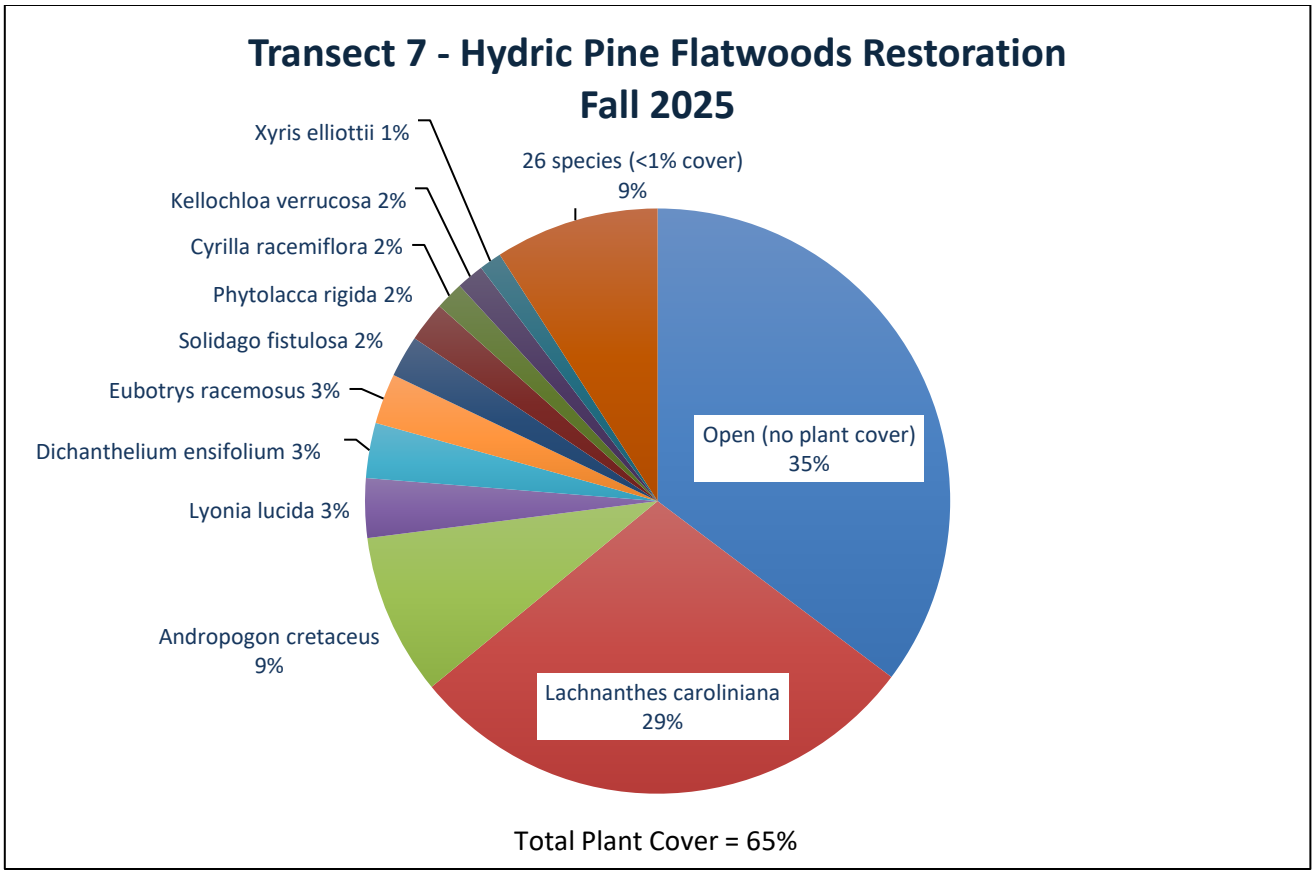


Figure 10. Percent relative cover of plant species in Transect T7 – Hydric Pine Flatwoods

Planted Longleaf Pines

In 2025, longleaf pines were planted in Management Unit 2. These are still grass-stage and often difficult to detect among dense grasses. We counted 122 seedlings along belt transect 6 (295 per acre), and 211 along belt transect 7 (511 per acre; Table 1). These were mainly in good health, although a few were visibly yellowing.

Slash pine is the main tree species along both transects. Transect 6 has an abundance of slash pine seedlings (404 detected) and 35 trees, mostly small, with an average DBH of 3.2 inches and ranging from 4 to 60 feet tall. Six standing dead slash pines were also seen. These smaller trees appear to have been managed by fire. Transect 7 has fewer slash pine seedlings (35 detected) and only 6 trees, mostly small.

There are very few hardwoods along either transect. These are mostly myrtle holly and coppicing swamp bay and sweetbay.

Final Success Criteria

Most restoration activities for UMAM V, Management Unit 2 were completed by 2007. Fire was introduced in 2005. A Gyro-Trac shrub reduction was initiated in April 2007 and completed in August 2008. Longleaf pines were planted in 2025.

Current monitoring shows that herbaceous cover meets Final Success Criteria (total herb cover > 55%). Graminoid cover is near acceptable limits (>60% of total herbs) along Transect 6, but lower on Transect 7. Bluestem cover is around 10 percent, and quite high in relation to total graminoid cover, particularly along Transect 7. However, there was a marked decrease in bluestem cover this year along Transect 6. The prevalence of Carolina redroot on Transect 7 reduces the relative cover of graminoids to herbs and may be due to hog rooting in the area that promotes weedy pioneer species. Shrub heights along the transect were very low, averaging less than half a meter.

Management Unit 5, UMAM Polygon V1, Inland Ponds, and Sloughs (Transect #9)

UMAM Polygon V1, Management Unit 5 consists of 24.880 acres of a dammed slough (Dykes Mill Pond) restored to slough/marsh. Reclamation activities within this polygon include the removal of Dykes Mill Pond dam, spanning the gap with a railcar bridge, and planting of cypress and swamp tupelo saplings. Dykes Mill Pond was removed in August of 2006 and bridge construction completed in April 2007. Planting of cypress and swamp tupelo trees occurred in fall of 2007. Since the removal of the dam, water levels have been reduced by two feet in depth.

Quantitative Transects

Most of Dykes Mill Pond is dominated by water lilies and other aquatic submerged vegetation. Cypress trees are scattered around the edge of the pond and also form a stand in the north half of the pond. Large, floating mats of vegetation are common.

Results for the Fall 2025 quantitative monitoring in Management Unit 5 are given in Table 20 and Figure 11.

Transect 9

During the 2025 monitoring, water levels were 3-5 feet deep along the transect with dense waterlilies. We completed the transect sampling using a 2-person kayak and a GPS unit to judge position. Estimates of cover and bare ground are difficult due to the multilayered cover in the water column as well as limited visibility. We observed 19 species in Transect 9, similar to the previous 2 years. Submerged vegetation consisted of algal bulrush with bladderworts sometimes intermixed, but these two may be indistinguishable. White waterlily was abundant all along the transect, with smaller amounts of spatterdock occasional. Mats of floating vegetation were dominated by spikerushes and fringed yellow-eyed grass. The state-listed threatened spoon-leaved sundew was also common on floating mats.

Table 20. Percent cover of plant species in Transect 9 - Inland Ponds and Sloughs sampled on October 8, 2025.

Scientific name	Common name	Average percent cover per quadrat
Andropogon sp.	bluestem	0.13
Cyrilla racemiflora	titi	0.02
Drosera intermedia	spoon-leaved sundew	0.27
Eleocharis confervoides	algal bulrush	24.92
Eleocharis elongata	slim spikerush	0.88

Scientific name	Common name	Average percent cover per quadrat
Eleocharis equisetoides	jointed spikerush	0.02
Lachnanthes caroliniana	Carolina redroot	0.38
Nymphaea odorata ssp. odorata	white waterlily	28.02
Rhynchospora chalarocephala	loosehead beaksedge	0.12
Rhynchospora inundata	narrowfruit horned beaksedge	3.47
Rhynchospora sp.	beaksedge	0.42
Syngonanthus flavidulus	yellow hatpins	0.12
Triadenum virginicum	Virginia marsh St. John's wort	0.05
Utricularia gibba	humped bladderwort	0.02
Utricularia juncea	Southern bladderwort	0.15
Utricularia purpurea	Eastern purple bladderwort	0.38
Xyris fimbriata	fringed yellow-eyed grass	3.00
Xyris sp.	yellow-eyed grass	0.30
Xyris stricta	pineland yellow-eyed grass	0.83
Open (no plant cover)/Water		26.83

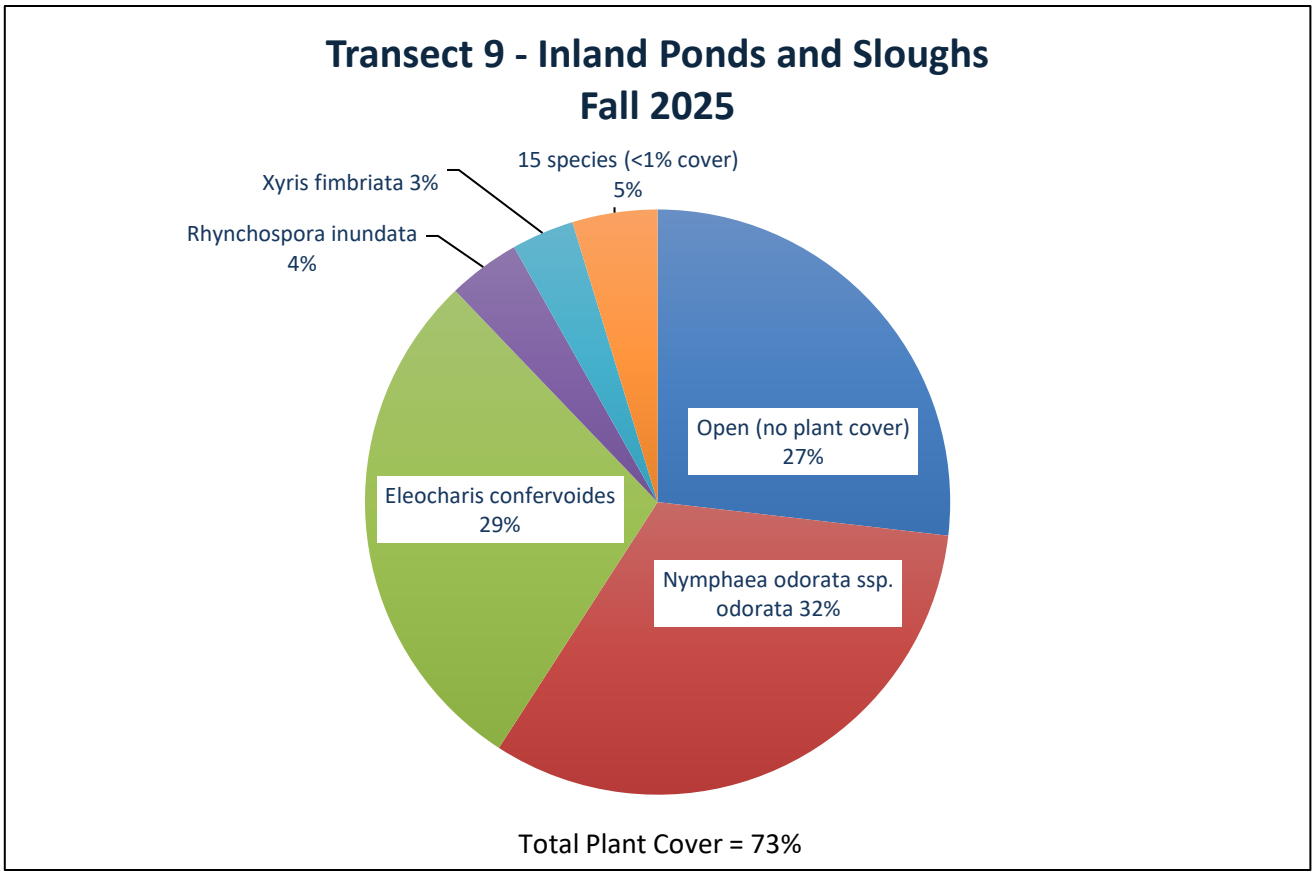


Figure 11. Percent relative cover of plant species in Transect T9 – Inland Ponds and Sloughs

QUALITATIVE MONITORING

METHODS

Qualitative vegetation monitoring includes an assessment of the vegetation, both ground cover and planted trees, wildlife use observations, and general habitat health. Pedestrian surveys increase site coverage and use a pre-selected meandering walk-path. Meander lines were provided by NWFWMD and loaded onto Trimble TDC 600 dataloggers using ESRI Field Maps software for navigation in the field. FNAI biologists also consulted the species lists for each walk-path from 2012. All accessible portions of the walk-path were traversed, as well as some adjacent areas. All plant species detected along the walk-path were identified to species if possible, or higher taxon if not. General observations on community structure and health as well as incidental wildlife observations were recorded for each walk-path. Figure 1 provides the location and coverage of transects.

RESULTS AND DISCUSSION

A total of 13 pedestrian transects were located at the SHLMB (Figure 1). Two pedestrian transects are in Management Unit 1 (portions of UMAM Polygon IV), two in Management Unit 2 (UMAM Polygon V), four in Management Unit 10 (UMAM Polygon III), one in Management Unit 11, (UMAM Polygon II), two in Management Unit 12 (UMAM Polygon I), and two in Management Unit 14 (portions of UMAM Polygon IV).

A total of 322 plant taxa were recorded in meandering transects during the Fall 2025 monitoring at Sand Hill Lakes Mitigation Bank (Table 21). Taxonomy follows Weakley, A.S., and Southeastern Flora Team. 2023. Flora of the southeastern United States: Florida. University of North Carolina Herbarium, North Carolina Botanical Garden, Chapel Hill, U.S.A.

Table 21. Plant species observed along meandering transects 1-13 at Sand Hill Lakes Mitigation Bank on October 6-9, 2025. (* = State listed Rare, † = FISC Non-native Invasive)

Scientific Name	Common Name	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
Acalypha gracilens	slender threeseed mercury	X				X	X						X		4
Agalinis divaricata	pineland false foxglove	X	X			X									3
Agalinis sp.	false foxglove												X		1
†Albizia julibrissin	mimosa			X											1
Amphicarpum muehlenbergianum	blue maidencane	X					X	X							3
Anchistea virginica	Virginia chain fern						X	X	X	X	X	X			6
Andropogon capillipes	dryland white bluestem	X	X	X	X	X		X							6
Andropogon cretaceus	purple bluestem								X	X	X	X			4
Andropogon glomeratus	bushy bluestem							X							1
Andropogon gyrans	Elliott's bluestem	X		X										X	3
Andropogon ternarius	splitbeard bluestem													X	1
Andropogon virginicus	broomsedge bluestem	X				X	X		X		X	X	X		7
Andropogon virginicus var. virginicus	broomsedge bluestem		X												1

Scientific Name	Common Name	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
Anthenantia villosa	green silkyscale				X										1
Aristida beyrichiana	Southern wiregrass	X	X	X	X	X	X		X		X	X	X	X	11
Aristida purpurascens	arrowfeather threeawn												X		1
Aristida tenuispica	Southern arrowfeather	X											X		2
Arundinaria tecta	small cane										X				1
Asclepias humistrata	pinewoods milkweed			X	X	X							X	X	5
Asclepias sp.	milkweed				X										1
Asimina spatulata	paw paw		X	X	X	X									4
Balduina angustifolia	coastalplain honeycomb-head	X											X		2
Baptisia lanceolata	gopherweed	X	X	X	X	X							X	X	7
Berlandiera pumila var. pumila	soft greeneyes			X	X	X									3
Bidens alba var. radiata	beggarticks					X									1
Bidens laevis	smooth beggarticks									X					1
Bidens mitis	smallfruit beggarticks							X	X	X	X				4
Brasenia schreberi	watershield						X	X		X	X				4
Bulbostylis ciliatifolia	capillary hairsedge	X	X	X	X	X							X	X	7
Bulbostylis coarctata	Elliott's hairsedge												X	X	2
Burmannia capitata	Southern bluethread						X								1
*Calamovilfa curtissii	Curtiss' sandgrass								X		X	X			3
Callicarpa americana	American beautyberry		X	X		X			X		X		X	X	7
Carex glaucescens	clustered sedge							X		X		X			3
Cartrema americanum	wild olive												X		1
Centella erecta	spadeleaf	X				X	X	X	X	X	X	X			8
Centrosema virginianum	spurred butterfly pea					X							X		2
Cephalanthus occidentalis	common buttonbush						X	X		X					3
Chamaecrista fasciculata	partridge pea		X		X	X									3
Chrysoma pauciflosculosa	woody goldenrod	X	X	X	X	X							X	X	7
Chrysopsis lanuginosa	Lynn Haven goldenaster	X	X										X	X	4
Chrysopsis mariana	Maryland goldenaster					X									1
Cirsium horridulum	purple thistle				X	X									2
Clethra alnifolia	sweet pepperbush						X			X		X			3
Clethra tomentosa	downy sweet pepperbush							X							1
Cliftonia monophylla	black titi						X		X		X	X			4
Cnidoscolus stimulosus	tread softly	X		X	X								X	X	5
Coleataenia longifolia	ciliate redtop panicum							X	X		X				3
Commelina erecta var. angustifolia	whitemouth dayflower				X										1
Crataegus lassa var. lassa	sandhill hawthorn				X										1
Crotalaria rotundifolia	rabbitbells												X	X	2
Croton argyranthemus	silver croton	X		X	X	X							X	X	6
Croton michauxii	Michaux's croton	X													1
Ctenium aromaticum	toothache grass								X						1
Cuscuta sp.	dodder											X			1
Cyperus filiculmis	wiry flatsedge	X												X	2

Scientific Name	Common Name	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
Cyperus ovatus	pinebarren flatsedge													X	1
Cyperus plukenetii	Plukenet's flatsedge			X		X									2
Cyperus retrorsus	pineland flatsedge						X					X			2
Cyperus sp.	flatsedge	X			X								X		3
Cyrilla parvifolia	littleleaf titi									X					1
Cyrilla racemiflora	titi	X					X	X	X	X	X	X			7
Dalea pinnata	summer farewell	X	X		X	X									4
Dalea pinnata var. trifoliata	summer farewell			X											1
Desmodium laevigatum	smooth tick-trefoil					X									1
Desmodium lineatum	sand tick-trefoil					X									1
Desmodium marilandicum	smooth tick-trefoil													X	1
Desmodium sp.	tick-trefoil				X										1
Desmodium strictum	pinebarren tick-trefoil				X	X							X		3
Desmodium viridiflorum	velvetleaf tick-trefoil				X										1
Dichanthelium aciculare	needleleaf witchgrass	X	X			X							X	X	5
Dichanthelium angustifolium	narrowleaf witchgrass	X			X									X	3
Dichanthelium ensifolium	small-leaved witchgrass	X					X		X		X	X			5
Dichanthelium ovale	oval-flowered witchgrass		X	X	X	X									4
Dichanthelium sp.	witchgrass						X	X					X		3
Dichanthelium sphaerocarpon	roundseed witchgrass													X	1
Digitaria ciliaris	Southern crabgrass												X		1
Digitaria filiformis var. filiformis	slender crabgrass					X								X	2
Digitaria sp.	crabgrass		X												1
Diodia virginiana	Virginia buttonweed		X		X	X		X							4
Diospyros virginiana	common persimmon	X	X	X	X	X		X					X	X	8
Drosera capillaris	pink sundew						X	X	X						3
*Drosera intermedia	spoon-leaved sundew							X		X					2
Dulichium arundinaceum var. arundinaceum	threeway sedge								X	X	X				3
Edrastima uniflora	oldenlandia					X	X	X	X		X				5
Eleocharis elongata	slim spikerush							X							1
Eleocharis sp.	spikerush							X		X					2
Elephantopus elatus	tall elephantsfoot			X		X			X		X				4
Eragrostis sp.	lovegrass	X	X	X			X				X		X	X	7
Eremochloa ophiuroides	centipede grass				X										1
Erigeron canadensis	Canadian horseweed	X	X	X	X	X							X		6
Erigeron sp.	fleabane												X		1
Eriocaulon compressum	flattened pipewort							X							1
Eriogonum tomentosum	dogtongue wild buckwheat		X	X	X	X							X	X	6
Eryngium yuccifolium	button rattlesnakemaster			X	X	X									3
Eubotrys racemosus	swamp doghobble							X	X	X	X	X			5
Eupatorium capillifolium	dogfennel					X		X							2
Eupatorium compositifolium	yankeeweed	X	X	X	X	X	X				X		X	X	9

Scientific Name	Common Name	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
Eupatorium leptophyllum	falsefennel	X					X		X						3
Eupatorium linearifolium	waxy thoroughwort			X											1
Eupatorium mohrii	Mohr's thoroughwort						X	X	X		X				4
Eupatorium pilosum	rough boneset										X				1
Eupatorium rotundifolium	roundleaf thoroughwort												X		1
Eupatorium sp.	thoroughwort										X		X		2
Euphorbia discoidalis	summer spurge					X									1
Euphorbia exserta	coastal sand spurge				X									X	2
Euphorbia floridana	greater Florida spurge	X	X	X	X									X	5
Euphorbia sp.	spurges	X													1
Euthamia caroliniana	slender flattop goldenrod	X					X	X	X			X		X	6
Froelichia floridana	cottonweed				X	X							X	X	4
Fuirena breviseta	saltmarsh umbrellasedge							X							1
Galactia erecta	erect milkpea													X	1
Galactia sp.	milkpea	X	X		X								X	X	5
Gamochaeta antillana	Caribbean purple everlasting		X												1
Gaylussacia dumosa	dwarf huckleberry		X	X	X	X									4
Gaylussacia mosieri	woolly huckleberry						X		X		X				3
Gaylussacia nana	dwarf dangleberry						X								1
Gaylussacia tomentosa	blue huckleberry					X									1
Gelsemium sempervirens	yellow jessamine			X	X	X	X	X	X	X		X	X	X	10
Geobalanus oblongifolius	gopher apple	X	X	X	X	X							X	X	7
Gordonia lasianthus	loblolly bay										X				1
Habenaria repens	waterspider false rein orchid							X		X					2
Habenaria sp.	false rein orchid									X					1
Helianthus angustifolius	narrowleaf sunflower					X	X				X				3
Helianthus radula	stiff sunflower						X								1
Hexasepalum teres	poor joe	X											X	X	3
Hieracium gronovii	queen-devil				X	X							X	X	4
Houstonia procumbens	roundleaf bluet	X	X	X									X		4
Hymenachne hemitoma	maidencane						X	X		X	X				4
Hypericum cistifolium	roundpod St. John's wort						X		X		X				3
Hypericum crux-andreae	St. Peter's wort	X					X	X	X						4
Hypericum fasciculatum	peelbark St. John's wort						X	X	X			X			4
Hypericum gentianoides	orangegrass	X											X	X	3
Hypericum hypericoides	St. Andrew's cross					X	X	X		X		X	X	X	7
*Hypericum lissophloeus	smoothbark St. John's wort	X					X								2
Hypericum microsepalum	flatwoods St. John's wort								X						1
Hypericum tetrapetalum	fourpetal St. John's wort					X									1
Ilex coriacea	large gallberry							X			X				2
Ilex glabra	gallberry	X	X	X	X	X		X	X			X			8
Ilex myrtifolia	myrtle-leaved holly	X					X	X	X	X	X	X			7
Ilex opaca	American holly		X			X		X					X		4

Scientific Name	Common Name	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
Ilex vomitoria	yaupon	X	X	X	X	X	X	X					X	X	9
Ionactis repens	flaxleaf aster					X									1
Itea virginica	Virginia willow							X		X	X				3
Juncus pelocarpus	annual rush						X								1
Juncus repens	lesser creeping rush							X	X			X			3
Juncus scirpoides	needlepod rush						X	X	X		X				4
Juncus sp.	rush	X													1
Kellochloa verrucosa	warty panicgrass					X	X	X	X	X	X	X			7
Lachnanthes caroliniana	Carolina redroot						X	X	X	X	X	X			6
Lachnocaulon anceps	whitehead bogbutton					X	X	X	X						4
Lachnocaulon minus	Small's bogbutton	X													1
Lechea sessiliflora	pineland pinweed	X	X	X	X								X	X	6
Leersia hexandra	Southern cutgrass						X	X		X					3
Lespedeza capitata	roundhead lespedeza												X		1
Lespedeza hirta var. curtissii	hairy lespedeza	X		X		X									3
Lespedeza hirta var. hirta	hairy lespedeza												X	X	2
Lespedeza sp.	lespedeza					X									1
Liatris gracilis	slender gayfeather	X	X	X	X	X			X		X		X	X	9
Liatris resinosa	dense gayfeather								X			X			2
Liatris tenuifolia	shortleaf gayfeather	X	X	X	X	X					X		X	X	8
Liquidambar styraciflua	sweetgum									X		X			2
Lobelia brevifolia	shortleaf lobelia					X									1
Lorinseria areolata	netted chain fern						X	X		X		X			4
Ludwigia lanceolata	lanceleaf primrosewillow										X				1
Ludwigia linearis	narrowleaf primrosewillow						X	X							2
Ludwigia maritima	seaside primrosewillow					X	X		X						3
Ludwigia pilosa	hairy primrosewillow						X								1
Lupinus sp.	lupine	X			X								X		3
*Lupinus westianus	Gulf Coast lupine													X	1
Lycopodiella alopecuroides	foxtail club-moss						X	X	X						3
Lycopodiella appressa	Southern club-moss						X	X	X		X				4
Lycopus rubellus	taperleaf waterhorehound						X	X	X	X	X				5
†Lygodium japonicum	Japanese climbing fern					X									1
Lyonia lucida	fetterbush						X	X	X	X	X	X			6
Magnolia virginiana var. australis	sweetbay								X		X				2
Mayaca fluviatilis	stream bogmoss						X			X					2
Mimosa microphylla	sensitive briar	X		X	X	X							X	X	6
Morella cerifera	Southern bayberry						X	X		X	X				4
Muscadinia rotundifolia	muscadine	X	X	X	X	X	X	X	X	X	X	X	X	X	13
Nuphar advena	broadleaf pondlily						X	X	X	X					4
Nymphaea odorata ssp. odorata	white waterlily						X	X		X	X				4
Nymphoides cordata	little floatingheart						X								1
Nyssa biflora	swamp tupelo						X	X	X	X	X	X			6

Scientific Name	Common Name	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
Opuntia mesacantha ssp. lata	pricklypear	X	X	X	X	X							X	X	7
*Osmundastrum cinnamomeum	cinnamon fern						X	X	X						3
Oxydendrum arboreum	sourwood											X			1
Panicum virgatum	switchgrass	X	X	X		X						X	X	X	7
Paronychia rugelii	Rugel's nailwort		X												1
Paronychia sp.	nailwort												X		1
Paspalum notatum	bahiagrass				X										1
Paspalum setaceum	thin paspalum	X			X	X							X	X	5
Pediomelum canescens	buckroot			X											1
Peltandra sagittifolia	spoon-flower										X				1
Penstemon multiflorus	manyflower beardtongue	X	X	X		X							X	X	6
Physalis sp.	groundcherry				X										1
Pieris phillyreifolia	climbing fetterbush						X			X					2
Pinus clausa	sand pine	X	X		X								X	X	5
Pinus elliottii	slash pine						X	X	X	X	X	X			6
Pinus palustris	longleaf pine	X	X	X	X	X	X		X			X	X	X	10
Pinus taeda	loblolly pine							X	X			X			3
Pityopsis aspera var. adenolepis	pineland silkgrass	X		X	X			X					X	X	6
Pityopsis graminifolia	narrowleaf silkgrass	X				X	X								3
Pleopeltis polypodioides	tropical resurrection fern												X		1
Pluchea longifolia	longleaf camphorweed								X						1
Polygala lutea	orange milkwort							X	X		X	X			4
Polygonella gracilis	tall jointweed	X	X		X								X	X	5
Polygonella polygama	october flower	X	X		X									X	4
Polypremum procumbens	rustweed					X									1
Pontederia cordata	pickerelweed						X	X		X					3
Prunus serotina var. serotina	Eastern wild black cherry												X	X	2
Pseudognaphalium obtusifolium	sweet everlasting												X		1
Pteridium pseudocaudatum	tailed bracken		X		X			X							3
Pterocaulon pycnostachyum	blackroot					X	X		X						3
Quercus elliottii	runner oak		X												1
Quercus geminata	sand live oak	X	X	X		X	X	X	X				X	X	9
Quercus hemisphaerica	laurel oak	X	X			X			X			X	X	X	7
Quercus incana	bluejack oak	X	X	X	X	X							X	X	7
Quercus laevis	turkey oak	X	X	X	X	X							X	X	7
Quercus laurifolia	swamp laurel oak	X					X	X			X			X	5
Quercus margaretiae	sand post oak		X	X	X	X							X		5
Quercus minima	dwarf live oak			X		X									2
Quercus nigra	water oak		X									X			2
Quercus stellata	post oak		X										X		2
Quercus virginiana	live oak	X	X		X	X		X				X	X	X	8
Rhexia mariana	pale meadowbeauty		X			X						X			3
Rhexia mariana var. exalbida	white meadowbeauty						X	X	X		X				4

Scientific Name	Common Name	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
Rhexia mariana var. mariana	pale meadowbeauty	X					X			X				X	4
Rhexia nashii	maid marian								X						1
Rhexia petiolata	fringed meadowbeauty						X		X		X				3
Rhexia virginica	handsome harry								X	X	X	X			4
Rhus copallinum var. copallinum	winged sumac	X		X	X	X			X		X		X	X	8
Rhynchosia cytisoides	royal snoutbean	X	X	X	X								X	X	6
Rhynchosia reniformis	dollarleaf			X	X	X							X	X	5
Rhynchospora cephalantha var. cephalantha	bunched beaksedge						X		X	X					3
Rhynchospora chalarocephala	loosehead beaksedge							X	X	X	X	X			5
Rhynchospora ciliaris	fringed beaksedge								X						1
Rhynchospora debilis	savannah beaksedge								X						1
Rhynchospora fascicularis	fascicled beaksedge						X	X	X		X	X			5
Rhynchospora filifolia	threadleaf beaksedge						X			X					2
Rhynchospora gracilenta	slender beaksedge											X		X	2
Rhynchospora grayi	Gray's beaksedge	X											X		2
Rhynchospora inundata	narrowfruit horned beaksedge							X		X					2
Rhynchospora megalocarpa	sandyfield beaksedge			X											1
Rhynchospora microcephala	bunched beaksedge						X		X		X				3
Rhynchospora pleiantha	coastal beaksedge						X								1
Rhynchospora sp.	beaksedge										X				1
Rubus argutus	sawtooth blackberry										X				1
Rubus cuneifolius	sand blackberry	X	X			X	X		X		X		X	X	8
Ruellia ciliosa	ciliate wild petunia				X	X								X	3
Sacciolepis striata	American cupscale						X			X					2
Sagittaria graminea	grassy arrowhead						X								1
Sagittaria latifolia	common arrowhead							X		X					2
Salvia azurea var. azurea	azure blue sage			X											1
Salvia lyrata	lyreleaf sage									X					1
Schizachyrium stoloniferum	creeping little bluestem	X	X	X	X	X	X				X		X	X	9
Schizachyrium tenerum	slender bluestem	X													1
Scleria ciliata	fringed nutrush				X	X		X				X			4
Scleria muehlenbergii	pitted nutrush						X	X		X					3
Scleria reticularis	netted nutrush						X				X				2
Scleria sp.	nutrush			X	X										2
Scleria triglomerata	whip nutrush					X									1
Serenoa repens	saw palmetto	X	X	X	X	X	X	X	X		X		X	X	11
Sericocarpus tortifolius	whitetop aster			X	X	X									3
Seymeria pectinata ssp. pectinata	Piedmont blacksenna	X													1
Smilax auriculata	earleaf greenbriar	X	X	X	X	X	X	X		X	X		X	X	11
Smilax bona-nox	saw greenbriar												X		1
Smilax glauca	cat greenbriar						X	X	X	X	X	X			6
Smilax laurifolia	laurel greenbriar								X	X	X	X			4

Scientific Name	Common Name	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
Smilax walteri	coral greenbriar								X	X					2
Solidago fistulosa	pinebarren goldenrod						X		X		X				3
Solidago odora	sweet goldenrod	X		X	X	X		X					X	X	7
Sophronanthe hispida	rough hedgehyssop					X									1
Sorghastrum secundum	lopsided indiangrass	X													1
Sorghastrum sp.	indiangrass			X											1
Sphagnum sp.	sphagnum moss						X	X	X	X	X	X			6
Sporobolus junceus	pineywoods dropseed				X	X									2
Stillingia sylvatica	queen's delight			X	X	X									3
Strophostyles umbellata	pink fuzzybean													X	1
Stylisma patens	coastalplain dawnflower	X	X		X								X	X	5
Stylisma sp.	dawnflower			X											1
Stylosanthes biflora	sidebeak pencil flower			X	X	X								X	4
Symphyotrichum adnatum	scaleleaf aster			X		X									2
Symphyotrichum concolor var. devestitum	Gulf Coast silver aster			X	X	X									3
Symphyotrichum dumosum var. dumosum	long-stalked aster			X	X	X							X		4
Symplocos tinctoria	horse sugar							X							1
Syngonanthus flavidulus	yellow hatpins							X	X		X				3
Tamala borbonia	red bay												X		1
Tamala palustris	swamp bay					X	X	X		X	X	X			6
Taxodium ascendens	pond cypress						X		X	X	X	X			5
Tephrosia chrysophylla	scurf hoary-pea	X		X	X	X							X	X	6
Tephrosia spicata	spiked hoary-pea					X									1
Tillandsia usneoides	Spanish moss	X					X	X		X	X	X	X		7
Toxicodendron radicans var. radicans	Eastern poison ivy						X				X				2
Tragia smallii	Small's noseburn				X	X									2
Tragia urens	wavyleaf noseburn		X			X									2
Triadenum virginicum	Virginia marsh St. John's wort							X		X		X			3
Trichostema dichotomum	forked bluecurls					X							X		2
Trichostema setaceum	narrowleaf bluecurls			X		X							X		3
Trilisa odoratissima	vanillaleaf			X		X	X	X	X			X			6
Triplasis americana	perennial sandgrass	X													1
Utricularia gibba	humped bladderwort										X				1
Utricularia juncea	Southern bladderwort						X	X							2
Utricularia sp.	bladderwort							X		X					2
Vaccinium arboreum	sparkleberry	X	X	X	X	X		X	X			X	X	X	10
Vaccinium darrowii	Darrow's blueberry	X	X	X	X	X		X					X	X	8
Vaccinium elliottii	Elliott's blueberry	X	X	X	X	X	X	X	X	X		X	X	X	12
Vaccinium fuscatum	hairy highbush blueberry	X					X	X	X		X	X		X	7
Vaccinium myrsinites	shiny blueberry	X	X			X							X	X	5
Vaccinium stamineum	deerberry	X	X				X						X	X	5
Vernonia angustifolia var. mohrii	tall ironweed					X									1
Viola lanceolata	bog white violet						X								1

Scientific Name	Common Name	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
Viola sp.	violet			X		X									2
Xyris brevifolia	shortleaf yellow-eyed grass								X			X			2
Xyris caroliniana	Carolina yellow-eyed grass								X						1
Xyris elliottii	Elliott's yellow-eyed grass						X	X	X		X	X			5
Xyris fimbriata	fringed yellow-eyed grass						X	X	X	X	X	X			6
Xyris platylepis	tall yellow-eyed grass								X						1
Xyris sp.	yellow-eyed grass							X							1
Xyris stricta	pineland yellow-eyed grass										X				1
Total number of taxa: 322		**90**	**66**	**74**	**83**	**110**	**96**	**92**	**83**	**60**	**77**	**58**	**93**	**82**	**1064**

Management Unit 1, UMAM Polygon IV, Preserved High Quality Forested and Herbaceous Wetlands (M9)

Management Unit 1, UMAM Polygon IV consists of 574.839 acres of a wide variety of preserved wetland habitats including FLUCCS: 621 – Cypress, 617 – Mixed Wetland Hardwoods, 644 – Emergent Aquatic Wetlands, 611 – Bay Swamps, 641 – Freshwater Marshes, 616 – Inland Ponds and Sloughs, 640 – and Vegetated Non-Forested Wetlands. The management goal for this polygon is preservation of the existing high-quality wetlands. According to the prior monitoring reports, two of the pedestrian survey paths (M8 and M9) in Management Unit I, UMAM Polygon IV, were in cypress dominated wetlands. However, after reexamination of the original permit and meander transect locations given by the NWFWMD, we determined that M8 is actually located in Management Unit 2 and has been moved to that section of the report. During the baseline monitoring, 32 species were observed in M9. Wildlife was abundant.

Fall 2024 Monitoring:

In 2024, a total of 52 species were observed along M9.

Fall 2025 Monitoring:

In 2025, a total of 60 species were detected along M9. The pond seems largely unchanged since last year. Despite a very dry summer, water levels did not appear to have dropped. There is a dense canopy of pond cypress and swamp tupelo. The pondshore has a thicket of titi and buttonbush, while other areas have tall shrubs dominated by yaupon and sweet pepperbush. Vines are common. The pond edge has open water, but also herbs such as water lilies, maidencane, spikerush, and pickerelweed. There is a dense cover of leaf litter.

Final Success Criteria

Success criteria have been met for this area. These include exotic vegetation cover < 1 percent per acre, nuisance vegetation cover < 5 percent per acre, and maintaining or improving in ecological function.

Management Unit 2, UMAM Polygon V, Hydric Pine Flatwoods (M8, M10 and M11)

Management Unit 2, UMAM Polygon V consists of 146.678 acres of FLUCCS 635 hydric pine flatwoods. The management goal for this polygon includes the enhancement and restoration of the degraded hydric pine

flatwoods. Three pedestrian transects (M8, M10 and M11) are located in Management Unit 2, UMAM Polygon V. Each of these degraded hydric pine flatwoods were dominated by dense shrub cover and species during baseline monitoring. M8 originally had 38 species (see the previous section for notes on the placement of this transect). The location for M11 may have been altered at some time following the baseline survey, but we are unaware of the new location and instead followed the transect given in Figure 1, only recording species in what was clearly hydric pine flatwoods.

Fall 2024 Monitoring:

In 2024, a total of 58 species were observed along M8, a total of 84 species were observed along M10, and 39 species along M11. The state-listed commercially exploited cinnamon fern was seen along M8 and M10. The state-listed threatened Curtiss'sandgrass was occasional on M8 and M11.

Fall 2025 Monitoring:

In 2025, a total of 83 species were observed along M8. This transect has a sparse canopy of slash pine with scattered swamp tupeloes. Pines become denser towards the road. The area is recently burned, open, and easy to traverse. Tall shrubs consist of scattered ericads (fetterbush, huckleberry, blueberry, etc), gallberry, and swamp bay, while short shrubs are mainly St. Johns wort and blueberry. Herbs consist of mainly graminoids. Open ground has a layer of pine litter and occasionally patches of sphagnum moss. The state-listed threatened Curtiss'sandgrass and the state-listed commercially exploited cinnamon fern were both seen along M8.

A total of 77 species were observed along M10. The transect was walked in an area north of the road leading to Dry Lake. An old vehicle trail runs north from this road. Along the western side of the trail, tall shrubs of titi and other wetland species are dense. East of the trail, stands of dense shrubs are also common, but there are also open areas of bluestem and redroot. The state-listed commercially exploited cinnamon fern was seen along M10. The area south of the road to Dry Lake may have been included in species lists from 2022 and before. This area will be examined in the next monitoring cycle.

Transect M11 had 58 species. The small area sampled has a canopy of scattered mature slash pines with some water oak and live oak as subcanopy. The understory is mostly open, composed of fringed yellow-eyed grass and bluestems with scattered patches of shrubs and trees with burn scars. Shrub thickets appear to have been greatly reduced. Clumps of the state-listed threatened Curtiss'sandgrass are scattered throughout the sampled area of M11, but a large patch is located on the east side.

Final Success Criteria

Interim success criteria have been met for this area. No exotic species were observed.

Management Unit 10, UMAM Polygon III, Xeric and Live Oak (M1, M2, M12, and M13)

Management Unit 10, UMAM Polygon III consists of 493.852 acres of FLUCCS 421 – Xeric Oak and 427 – Live Oak. Management goals include preservation, reintroduction of fire, removal of oaks and hardwoods, planting of longleaf pine, and exotic species control. Four transects were located within Polygon 10, M1, M2, M12 and M13). During baseline monitoring, 44 species were observed along M1, as were 29 species within

M2, 26 species within M12, and 54 species within M13. In Transect M1, Florida threatened species, Gulf coast lupine (*Lupinus westianus*), and Gopher tortoise burrows have been observed scattered throughout the xeric communities.

Fall 2024 Monitoring:

A total of 82 species were observed along M1. This transect traverses successional hardwoods, sandhill, and karst pond habitats. The M1 transect also had the state listed rare species, smoothbark St. John's wort. The rare karst pond Xyris has been found along this transect but was not identifiable to species this year. Possible Gulf Coast lupines were found but could only be identified to genus.

A total of 72 species were found along M2. Transect M12 had 79 species, while Transect M13 had 72 species. The state-listed threatened Gulf Coast lupine was found on Transect M13, as well as Gulf coast silvery aster, an endemic species tracked by FNAI.

Fall 2025 Monitoring:

A total of 90 species were observed along M1. This transect traverses successional hardwoods, sandhill, and karst pond habitats. The M1 transect also had the state listed rare species, smoothbark St. John's wort. Again, possible Gulf Coast lupines were found, but could only be identified to genus. The canopy is longleaf pine, with a few interspersed turkey oaks and sand live oaks. Woody species along the transect are mostly younger canopy species. There is a diverse sandhill herb layer dominated by wiregrass with open bare patches and sparse litter cover.

A total of 66 species were found along M2. There is a canopy of young, planted longleaf pines, and a few dense patches of short runner oak and woody goldenrod. Otherwise, the groundcover is a mix of wiregrass, little bluestem, and summer's farewell, ranging from sparse to dense. Open areas are either bare sand or covered with fruticose lichens and pine litter. The site was not burned this year, resulting in heavier pine needle accumulation, and the southwest edge of the transect is becoming increasingly shrubby.

Transect M12 had 93 species. There is an open canopy of younger longleaf pines with just a few older individuals. Woody shrub cover is low, and the groundcover is highly diverse. The site was not burned in 2025.

Transect M13 had 82 species. The state-listed threatened Gulf Coast lupine was again found along Transect M13. The canopy is open with scattered longleaf pines and live oaks. Bluejack oak, turkey oak, and sand live oak are dominant in the open tall and short shrub layers. Woody goldenrod and gopherweed are also common in the short shrubs. The dominant herbs include wiregrass and little bluestem. Scattered patches of bare ground are common and generally associated with pocket gopher mounds. Litter is sparse. The site was burned in 2025.

Final Success Criteria

Success criteria have been met for this area. No nuisance native or exotic vegetation have been observed. Diversity is good and continued burns within these areas will maintain a healthy sandhill community.

Wiregrass cover is excellent and oaks and other hardwood cover have been reduced to appropriate levels throughout most of the areas.

Management Unit 11, UMAM Polygon II, Upland Sand Pine or Slash Pine Plantations (M5)

Management Unit 11, UMAM Polygon II consists of 383.484 acres of FLUCCS 411, Longleaf Pine/Wiregrass restored from slash or sand pine plantations.

The restoration goal for this area is to restore the sites to a sandhill community from a slash pine plantation. Management activities included the removal of planted sand pines, reintroduction of burns, re-planting with longleaf pine, and the addition of wiregrass as needed. Slash and sand pine trees were harvested from April to November 2007 followed by winter burns. Transect M5 is located within Management Unit 11, UMAM Polygon II. Observations from the baseline monitoring in 2006, indicated six trees, seven shrubs, two vines, and 35 herbaceous species.

Fall 2024 Monitoring:

A total of 89 species were observed along M5. The non-native invasive Japanese climbing fern present in 2023 was not found. We observed Gulf coast silvery aster, an endemic species tracked by FNAI.

Fall 2025 Monitoring:

A total of 110 species were observed along M5. The canopy and subcanopy consists of young longleaf pines and a few larger live oaks. Tall and short shrubs consist of scattered sandhill oaks such as bluejack and turkey oaks, as well as a few yaupon and gallberry. The diverse herb layer is dominated by wiregrass with little bluestem, pineland silkgrass, and sweet goldenrod also abundant. Litter cover is sparse. The site was burned this year and in very good condition. We did detect some non-native invasive Japanese climbing fern (also present in 2023). We observed Gulf coast silvery aster, an endemic species tracked by FNAI, along M5.

Final Success Criteria

The interim success criteria have been met for this area. The non-native invasive Japanese climbing fern is present, but cover is negligible. Wiregrass is the dominant species throughout most of the transect. The ground cover is diverse and typical of a sandhill, and the planted longleaf pines are between 100-200 trees per acre.

Management Unit 12, UMAM Polygon 1, Sandhill (M3 and M4)

Management Unit 12, UMAM Polygon 1 consists of 263.52 acres of FLUCCS: 411 – Longleaf Pine / Wiregrass (Mesic Pine Flatwoods) restored from 421 – Xeric Oak habitat.

The goal for this polygon was to restore a diverse sandhill. Fire was reintroduced in 2004 and the once dominant woody goldenrod and oak cover has been replaced by wiregrass and diverse sandhill species. Removal of oaks ≤ 12 inches DBH occurred in the summer of 2005 and the area was replanted with longleaf pine. The sandhill is diverse and high quality with an excellent herbaceous species composition. Two transects (M3 and M4) were located within this polygon. Baseline documentation in 2006 observed a total of 35 species (seven trees, two shrubs, two vines, and 24 herbs) within pedestrian Transect M3, while 68

species (eight trees, nine shrubs, two vines and 49 herbs) were observed within M4. These two areas are the two most diverse upland areas of the bank and often have over 90 species observed. Floristically, they are typical of high quality sandhills within the region.

Fall 2024 Monitoring:

A total of 72 species were observed along M3, and 68 species were observed along M4. We observed Gulf coast silvery aster, an endemic species tracked by FNAI, along both transects. The non-native invasive mimosa was also seen on M3.

Fall 2025 Monitoring:

A total of 74 species were observed along M3. The non-native invasive mimosa was found along M3 this year.

A total of 68 species were observed along M4. We observed Gulf coast silvery aster, an endemic species tracked by FNAI, along both transects.

Both areas have a sparse canopy of planted longleaf pine, and very few other woody species besides bolting pines and short turkey oaks, bluejack oaks, sand post oaks, and gopher apple. Herbs are highly diverse and dominated by wiregrass with occasional patches of little bluestem. Summer's farewell and pineland false foxglove are very common, and the site has many pocket goper mounds. The site was burned this year during the growing season and had an excellent wiregrass bloom response.

Final Success Criteria

This polygon has met the restoration goals set forth in the interim success criteria. Controlled burns within this polygon have greatly reduced the cover of woody goldenrod and oaks. Successive burns have increased diversity and wiregrass cover. Oaks have been reduced to less than 50 trees per acre as measured along the tree belt transects, and the herbaceous vegetation is dominated by wiregrass.

Management Unit 14, portions of UMAM Polygon IV, Lakes (M6 and M7)

Management Unit 14, portions of UMAM Polygon IV consists of 164.958 acres of FLUCCS 520, lakes. The goal for this polygon is the preservation of the lake and aquatic habitat. One pedestrian transect (M6) was placed within the polygon around Garret Pond and another M7 at Dykes Mill Pond. A zone of Smooth barked St. John's wort and seedlings was observed just above normal pool adjacent to Garret Pond.

In 2022, water levels were above normal pool for most of the year. A total of 81 species were observed along M6, while 48 species were observed along M7. Vegetation appeared healthy and vigorous.

Fall 2024 Monitoring:

A total of 84 species were observed along M6, while 68 species were observed along M7. Both ponds were full of water, with slightly deeper water than in 2023. Only a small portion of M7 was surveyable. The state-listed commercially exploited cinnamon fern was seen along M7. The M6 transect had the state-listed rare species, smoothbark St. John's wort. Karst pond Xyris is likely persisting around the edge of Garret Pond but

was not identifiable to species this year. The state-listed threatened spoonleaf sundew was spotted on both M6 and M7.

Fall 2025 Monitoring:

A total of 96 species were observed along M6, while 92 species were observed along M7. Both ponds were full of water despite the very dry year. Only a small portion of M7 is surveyable. The state-listed commercially exploited cinnamon fern was seen along both M6 and M7. The M6 transect had the state-listed rare species, smoothbark St. John's wort. Karst pond Xyris is likely persisting around the edge of Garret Pond but was not identifiable to species this year. The state-listed threatened spoonleaf sundew was spotted on M7.

Final Success Criteria

Wetland vegetation is the dominant within both sites. Species appear healthy, diverse, and vigorous. No non-native invasive species were observed. Success criteria for this area have been met.

Appendix B (July – December 2025 Semiannual Report)

SAND HILL LAKES MITIGATION BANK
FDEP PERMIT NO. 0227351-001
SEMIANNUAL STATUS REPORT
PERIOD: JULY – DECEMBER 2025

For the period July – December 2025:

1. Efforts to limit damage to vegetation at SHLMB by feral hog are ongoing and appear successful. Under Contract 24-060 with USDA APHIS-WS (Animal and Plant Health Inspection Service – Wildlife Services), no feral hog activity was observed by USDA personnel and no feral hogs were trapped.
2. Perimeter fencing was inspected; vegetation growing on perimeter fencing was controlled through use of herbicides.
3. Mowing of nuisance shrubs adjacent to management access roads and in problematic restoration polygons was conducted.
4. Public fishing and hunting continued at the Sand Hill Lakes Mitigation Bank (SHLMB) in accordance with permit conditions. Records are maintained by FWC.
5. Security and law enforcement patrols continued in accordance with permit conditions; no known violations were reported.
6. Water level gages were read monthly in accordance with permit conditions. Data is available upon request.
7. Annual fall vegetation monitoring was conducted by the Florida Natural Areas Inventory (FNAI) of Florida State University in October.

Anticipated restoration and/or management anticipated for January – June 2026:

1. Sandhill (longleaf pine/wiregrass community) restoration polygons where oak/shrub densities exceed desired conditions will be managed with fire, herbicide, and/or mowing.
2. Water level gages will continue to be read monthly in accordance with permit conditions.
3. Security and law enforcement patrols will continue in accordance with permit conditions.
4. Public fishing and hunting, overseen by FWC, will continue in accordance with permit conditions.
5. Inspections of perimeter fencing will continue; repairs will be made as necessary. Application of herbicide to vegetation growing on perimeter fencing will be implemented as necessary.
6. Exotic vegetation, if observed by NWFWMD or FWC staff, will be treated with herbicides.
7. Management of any feral hog or beaver issues will continue under Contract 24-060 with USDA APHIS-WS (Animal and Plant Health Inspection Service – Wildlife Services).

Overall, the site is in excellent ecological condition. Management activities continue in accordance with permit conditions. Issues identified (e.g., minor occurrence of exotic and/or nuisance vegetation; feral hog populations; perimeter fencing maintenance; shrub and *Andropogon* spp. densities in selected polygons) will continue to be addressed.

Certification:

We certify, to the best of our knowledge, that this report represents a true and accurate description of the activities and site conditions at the time of this report. This semi-annual report was written in accordance with Specific Condition 27 of the permit.

Robert F. Lide

Robert F. Lide, Senior Environmental Scientist, QMS Team Member
23 January 2026

Philip Garrett

Philip Garrett, Senior Environmental Scientist, QMS Team Member
23 January 2026

Coakley Taylor

Coakley Taylor, Lands Manager, QMS Team Member
23 January 2026

Table 1. Recent Representative Photos

UMAM Polygon I (Sandhill Restoration)

UMAM Polygon II (Sandhill Restoration)

UMAM Polygon III (Sandhill Preservation)

UMAM Polygon III (Oak Preservation)

UMAM Polygon IV (Wetland Preservation)

UMAM Polygon V (Hydric Pine Flatwoods Restoration)

Appendix C (Water Level Staff Gage Readings)

APPEXDIX C
Sand Hill Lakes Mitigation Bank
Water Level Staff Gage Readings
JAN 2006 - DEC 2025
(All Readings are in Feet)

Date	Black Pond (Gage #1)	Power Line Pond (Gage #2)	Pine Log Creek (Gage #3)	Deep Edge Pond (Gage #4)	Little Deep Edge Pond (Gage #5)	Dykes Mill Pond (Gage #6)	Joiner Lake Canal (Gage #7)	Green Ponds Channel (Gage #8)	Green Ponds (Gage #9)	Dry Pond (Gage #10)
16-Jan-2006	3.60	3.54	2.14	3.10	3.00	3.58	2.90	3.58	3.60	4.18
2-Feb-2006	3.60	3.50	2.12	2.88	3.18	3.88	3.62	3.58	3.70	4.15
3-Mar-2006	3.74	3.80	2.00	2.74	3.02	4.38	3.44	3.78	3.70	4.32
3-Apr-2006	3.36	3.12	1.34	2.00	2.74	4.02	1.86	3.10	3.20	3.78
2-May-2006	2.92	2.46	DRY	1.32	2.58	3.72	0.54	2.74	2.58	3.34
2-Jun-2006	2.60	1.18	DRY	0.78	2.40	3.62	DRY	1.98	2.10	3.08
7-Jul-2006	1.68	<GAGE	DRY	<GAGE	1.80	2.90	DRY	DRY	0.60	2.30
9-Aug-2006	1.58	<GAGE	DRY	<GAGE	2.00	3.00	DRY	DRY	0.35	-
22-Sep-2006	0.76	<GAGE	DRY	<GAGE	-	-	DRY	DRY	<GAGE	-
16-Oct-2006	0.06	<GAGE	DRY	<GAGE	0.30	2.17	DRY	DRY	<GAGE	-
1-Nov-2006	0.20	<GAGE	DRY	<GAGE	0.60	2.50	DRY	DRY	<GAGE	-
3-Jan-2007	<GAGE	<GAGE	DRY	<GAGE	0.50	2.80	DRY	DRY	<GAGE	2.18
6-Feb-2007	<GAGE	<GAGE	DRY	<GAGE	0.60	3.18	DRY	DRY	<GAGE	-

Date	Black Pond (Gage #1)	Power Line Pond (Gage #2)	Pine Log Creek (Gage #3)	Deep Edge Pond (Gage #4)	Little Deep Edge Pond (Gage #5)	Dykes Mill Pond (Gage #6)	Joiner Lake Canal (Gage #7)	Green Ponds Channel (Gage #8)	Green Ponds (Gage #9)	Dry Pond (Gage #10)
5-Mar-2007	<GAGE	<GAGE	DRY	<GAGE	0.29	3.05	DRY	DRY	<GAGE	2.32
5-Apr-2007	<GAGE	<GAGE	DRY	<GAGE	<GAGE	2.48	DRY	DRY	<GAGE	1.80
3-May-2007	<GAGE	DRY	DRY	<GAGE	<GAGE	2.17	DRY	DRY	<GAGE	1.46
4-Jun-2007	<GAGE	<GAGE	DRY	<GAGE	<GAGE	0.95	DRY	DRY	<GAGE	0.58
30-Jan-2008	<GAGE	DRY	DRY	<GAGE	<GAGE	0.98	DRY	DRY	DRY	0.94
27-Feb-2008	<GAGE	DRY	DRY	<GAGE	0.30	3.30	DRY	1.30	<GAGE	3.00
2-Apr-2008	<GAGE	DRY	1.53	<GAGE	1.20	3.16	DRY	2.60	<GAGE	2.65
5-May-2008	<GAGE	DRY	DRY	<GAGE	1.12	2.92	DRY	DRY	<GAGE	2.30
6-Jun-2008	<GAGE	DRY	DRY	<GAGE	0.70	2.42	DRY	DRY	<GAGE	1.56
2-Jul-2008	<GAGE	DRY	DRY	<GAGE	1.30	3.34	DRY	DRY	<GAGE	2.00
1-Aug-2008	<GAGE	DRY	1.34	<GAGE	1.52	3.36	DRY	2.28	<GAGE	2.56
2-Sep-2008	<GAGE	DRY	2.20	<GAGE	2.50	3.38	DRY	2.90	<GAGE	3.16
2-Oct-2008	<GAGE	DRY	0.32	<GAGE	2.22	3.06	DRY	DRY	<GAGE	2.40
7-Nov-2008	<GAGE	DRY	DRY	<GAGE	1.98	3.06	DRY	DRY	<GAGE	2.00
5-Jan-2009	<GAGE	DRY	1.72	<GAGE	2.52	3.38	DRY	3.05	<GAGE	2.98
12-Feb-2009	<GAGE	DRY	0.30	<GAGE	2.15	3.13	DRY	<GAGE	<GAGE	2.60

Date	Black Pond (Gage #1)	Power Line Pond (Gage #2)	Pine Log Creek (Gage #3)	Deep Edge Pond (Gage #4)	Little Deep Edge Pond (Gage #5)	Dykes Mill Pond (Gage #6)	Joiner Lake Canal (Gage #7)	Green Ponds Channel (Gage #8)	Green Ponds (Gage #9)	Dry Pond (Gage #10)
3-Mar-2009	<GAGE	DRY	1.98	<GAGE	2.44	3.30	DRY	2.90	<GAGE	2.90
3-Apr-2009	1.80	<GAGE	3.78	<GAGE	2.72	4.40	4.26	3.52	3.30	3.92
1-May-2009	6.60	6.11	4.12	<GAGE	2.52	3.40	4.44	3.96	6.34	>GAGE
3-Jun-2009	6.37	5.89	3.88	<GAGE	2.52	3.42	4.58	3.74	6.13	6.70
7-Jul-2009	5.16	5.22	3.45	<GAGE	2.53	3.28	3.18	2.70	4.94	5.49
5-Aug-2009	4.58	4.60	2.88	<GAGE	2.50	3.27	2.52	<GAGE	4.31	4.79
1-Sep-2009	4.35	4.17	2.45	<GAGE	2.50	3.22	2.39	1.75	4.09	4.61
1-Oct-2009	4.60	4.29	2.58	<GAGE	2.42	3.29	3.09	<GAGE	4.30	4.90
2-Nov-2009	4.58	4.16	2.45	<GAGE	2.44	3.39	2.85	2.42	4.31	4.90
1-Dec-2009	4.45	3.89	2.18	<GAGE	2.42	3.30	2.50	2.38	4.20	4.75
4-Jan-2010	6.10	5.80	3.91	<GAGE	2.53	3.52	4.40	3.47	5.82	6.40
3-Feb-2010	>GAGE	6.42	4.36	<GAGE	2.74	3.60	4.96	4.78	>GAGE	>GAGE
1-Mar-2010	>GAGE	6.43	4.42	<GAGE	2.83	3.56	4.60	4.35	>GAGE	>GAGE
1-Apr-2010	6.30	5.82	3.92	<GAGE	2.82	3.50	4.16	3.68	6.06	6.62
3-May-2010	5.82	5.89	4.10	1.20	2.73	4.00	3.38	4.23	5.60	6.12
31-May-2010	5.92	5.60	3.70	1.90	2.67	3.49	3.99	3.32	5.71	6.28

Date	Black Pond (Gage #1)	Power Line Pond (Gage #2)	Pine Log Creek (Gage #3)	Deep Edge Pond (Gage #4)	Little Deep Edge Pond (Gage #5)	Dykes Mill Pond (Gage #6)	Joiner Lake Canal (Gage #7)	Green Ponds Channel (Gage #8)	Green Ponds (Gage #9)	Dry Pond (Gage #10)
2-Jul-2010	5.00	5.00	3.26	2.14	2.68	3.70	3.20	3.00	4.78	5.32
2-Aug-2010	4.52	4.36	2.52	1.90	2.48	3.36	3.05	<GAGE	4.30	4.84
1-Sep-2010	4.72	4.48	2.75	2.20	2.52	2.90	3.40	2.60	4.51	5.05
1-Oct-2010	4.45	4.14	2.48	2.12	2.62	3.80	2.90	2.00	4.22	4.67
1-Nov-2010	3.91	3.42	1.82	1.59	2.50	3.53	2.12	<GAGE	3.70	4.24
1-Dec-2010	3.75	3.21	1.76	1.26	2.50	3.41	0.80	<GAGE	3.50	4.05
3-Jan-2011	3.57	2.88	1.60	0.87	2.74	3.60	<GAGE	<GAGE	3.35	3.90
1-Feb-2011	3.48	2.65	1.35	0.58	2.76	3.68	<GAGE	2.00	3.30	3.80
1-Mar-2011	3.70	3.00	1.68	0.60	2.94	3.80	<GAGE	2.52	3.46	4.02
1-Apr-2011	3.65	3.02	2.00	0.50	2.98	3.74	2.34	3.10	3.42	3.98
2-May-2011	2.90	1.12	0.68	<GAGE	2.49	3.18	<GAGE	<GAGE	2.56	3.26
1-Jun-2011	1.00	<GAGE	<GAGE	<GAGE	1.80	2.55	<GAGE	<GAGE	1.16	2.52
1-Jul-2011	1.40	<GAGE	<GAGE	<GAGE	1.68	2.50	<GAGE	<GAGE	<GAGE	2.08
2-Aug-2011	1.20	<GAGE	<GAGE	<GAGE	1.97	3.00	<GAGE	<GAGE	<GAGE	2.20
1-Sep-2011	0.70	<GAGE	<GAGE	<GAGE	2.50	3.20	<GAGE	<GAGE	<GAGE	1.75
3-Oct-2011	0.10	<GAGE	<GAGE	<GAGE	1.90	3.80	<GAGE	<GAGE	<GAGE	1.30

Date	Black Pond (Gage #1)	Power Line Pond (Gage #2)	Pine Log Creek (Gage #3)	Deep Edge Pond (Gage #4)	Little Deep Edge Pond (Gage #5)	Dykes Mill Pond (Gage #6)	Joiner Lake Canal (Gage #7)	Green Ponds Channel (Gage #8)	Green Ponds (Gage #9)	Dry Pond (Gage #10)
2-Nov-2011	<GAGE	<GAGE	<GAGE	<GAGE	1.46	2.80	<GAGE	<GAGE	<GAGE	0.88
2-Jan-2012	<GAGE	<GAGE	<GAGE	<GAGE	1.09	2.80	<GAGE	<GAGE	<GAGE	0.60
1-Feb-2012	<GAGE	<GAGE	<GAGE	<GAGE	0.96	2.94	<GAGE	<GAGE	<GAGE	0.58
2-Mar-2012	<GAGE	<GAGE	<GAGE	<GAGE	1.15	3.22	<GAGE	2.40	<GAGE	0.90
2-Apr-2012	<GAGE	<GAGE	<GAGE	<GAGE	2.24	3.38	<GAGE	2.76	<GAGE	2.02
1-May-2012	<GAGE	<GAGE	<GAGE	<GAGE	1.80	3.00	<GAGE	<GAGE	<GAGE	1.42
1-Jun-2012	<GAGE	<GAGE	<GAGE	<GAGE	0.90	2.72	<GAGE	<GAGE	<GAGE	0.98
2-Jul-2012	<GAGE	<GAGE	<GAGE	<GAGE	0.98	2.94	<GAGE	<GAGE	<GAGE	1.02
1-Aug-2012	<GAGE	<GAGE	<GAGE	<GAGE	1.45	3.04	<GAGE	<GAGE	<GAGE	0.88
3-Sep-2012	<GAGE	<GAGE	<GAGE	<GAGE	2.16	3.45	<GAGE	<GAGE	<GAGE	1.35
1-Oct-2012	<GAGE	<GAGE	1.30	<GAGE	2.85	3.67	<GAGE	1.98	<GAGE	1.85
5-Nov-2012	<GAGE	<GAGE	<GAGE	<GAGE	2.40	3.32	<GAGE	<GAGE	<GAGE	1.35
3-Dec-2012	<GAGE	<GAGE	<GAGE	<GAGE	2.00	3.32	<GAGE	<GAGE	<GAGE	1.02
2-Jan-2013	<GAGE	<GAGE	<GAGE	<GAGE	2.06	3.40	<GAGE	<GAGE	<GAGE	1.24
1-Feb-2013	<GAGE	<GAGE	<GAGE	<GAGE	1.26	3.10	<GAGE	<GAGE	<GAGE	0.97
1-Mar-2013	<GAGE	<GAGE	1.39	<GAGE	2.60	3.82	<GAGE	3.38	<GAGE	2.25

Date	Black Pond (Gage #1)	Power Line Pond (Gage #2)	Pine Log Creek (Gage #3)	Deep Edge Pond (Gage #4)	Little Deep Edge Pond (Gage #5)	Dykes Mill Pond (Gage #6)	Joiner Lake Canal (Gage #7)	Green Ponds Channel (Gage #8)	Green Ponds (Gage #9)	Dry Pond (Gage #10)
1-Apr-2013	<GAGE	<GAGE	1.04	<GAGE	2.66	3.65	<GAGE	3.16	<GAGE	2.46
1-May-2013	<GAGE	<GAGE	1.92	<GAGE	2.76	3.78	<GAGE	3.44	<GAGE	2.96
3-Jun-2013	<GAGE	<GAGE	0.50	<GAGE	2.26	3.08	<GAGE	<GAGE	<GAGE	2.28
1-Jul-2013	<GAGE	<GAGE	1.08	<GAGE	2.50	3.54	<GAGE	<GAGE	<GAGE	2.50
1-Aug-2013	>GAGE	>GAGE	5.46	0.12	2.80	4.14	5.18	5.16	>GAGE	>GAGE
1-Sep-2013	>GAGE	>GAGE	5.35	2.95	2.78	4.20	5.25	5.30	>GAGE	>GAGE
1-Oct-2013	>GAGE	>GAGE	5.38	3.40	2.82	4.27	4.86	4.80	>GAGE	>GAGE
4-Nov-2013	6.12	5.62	5.35	3.38	2.79	4.32	3.78	3.50	5.90	6.45
3-Dec-2013	6.00	5.48	5.22	.	2.70	.	.	3.48	5.79	.
4-Dec-2013	.	.	.	3.46	.	.	.	.	.	.
5-Dec-2013	.	.	.	.	.	4.20	.	.	.	.
6-Dec-2013	.	.	.	.	.	.	4.00	.	.	.
7-Dec-2013	.	.	.	.	.	.	.	.	.	6.32
1-Jan-2014	6.31	5.76	5.29	3.40	2.68	4.20	4.25	3.70	6.10	6.67
5-Feb-2014	6.08	5.50	3.79	3.40	2.55	3.95	3.70	3.42	5.84	6.39
3-Mar-2014	6.55	5.84	3.94	3.38	2.60	4.02	4.36	3.90	6.35	>GAGE

Date	Black Pond (Gage #1)	Power Line Pond (Gage #2)	Pine Log Creek (Gage #3)	Deep Edge Pond (Gage #4)	Little Deep Edge Pond (Gage #5)	Dykes Mill Pond (Gage #6)	Joiner Lake Canal (Gage #7)	Green Ponds Channel (Gage #8)	Green Ponds (Gage #9)	Dry Pond (Gage #10)
1-Apr-2014	>GAGE	>GAGE	4.68	3.44	3.02	4.46	4.84	4.84	>GAGE	>GAGE
2-May-2014	>GAGE	>GAGE	>GAGE	3.60	3.00	4.62	6.36	6.42	>GAGE	>GAGE
2-Jun-2014	>GAGE	>GAGE	>GAGE	3.52	2.82	4.23	4.88	4.80	>GAGE	>GAGE
1-Jul-2014	6.57	5.44	5.33	3.40	2.71	3.34	4.06	3.92	>GAGE	>GAGE
1-Aug-2014	5.95	5.33	3.50	3.38	2.69	4.28	3.67	3.34	5.72	6.24
1-Sep-2014	5.06	4.56	2.94	3.38	2.65	4.14	3.00	2.98	4.98	5.40
6-Oct-2014	5.27	4.74	3.02	3.24	2.58	4.00	3.20	3.34	5.04	5.58
3-Nov-2014	5.23	4.92	2.97	3.13	2.44	3.95	3.03	2.80	5.02	5.54
1-Dec-2014	5.41	5.25	3.42	3.28	3.05	4.01	3.49	3.47	5.18	5.71
2-Jan-2015	5.88	5.37	3.94	3.34	3.54	4.54	4.09	3.53	5.65	6.20
2-Feb-2015	6.15	5.44	4.02	3.44	3.78	4.08	3.99	3.57	5.96	6.50
2-Mar-2015	5.86	5.14	3.26	3.36	3.83	3.97	3.64	3.46	5.64	6.18
1-Apr-2015	5.66	4.70	3.14	3.22	3.78	3.84	3.85	3.38	5.46	5.98
1-May-2015	6.68	5.50	3.44	3.64	3.66	4.12	4.70	4.06	6.48	>GAGE
2-Jun-2015	>GAGE	5.88	3.82	3.40	3.66	4.25	4.80	4.44	>GAGE	>GAGE
1-Jul-2015	6.48	5.38	3.44	3.35	3.58	4.34	4.10	3.84	6.26	>GAGE

Date	Black Pond (Gage #1)	Power Line Pond (Gage #2)	Pine Log Creek (Gage #3)	Deep Edge Pond (Gage #4)	Little Deep Edge Pond (Gage #5)	Dykes Mill Pond (Gage #6)	Joiner Lake Canal (Gage #7)	Green Ponds Channel (Gage #8)	Green Ponds (Gage #9)	Dry Pond (Gage #10)
31-Jul-2015	5.56	4.55	2.70	3.16	3.51	4.12	3.66	3.34	5.44	5.95
1-Sep-2015	5.06	3.84	2.12	2.66	3.40	3.92	3.07	2.75	4.86	5.37
1-Oct-2015	5.14	3.88	2.47	2.47	3.50	4.40	3.18	3.46	4.94	5.45
2-Nov-2015	4.86	3.65	2.18	2.02	3.50	4.10	2.85	3.07	4.64	5.16
1-Dec-2015	5.40	4.26	2.22	2.17	3.54	4.07	3.85	3.34	5.19	5.70
31-Dec-2015	6.20	5.13	3.12	2.62	3.60	4.48	4.75	3.66	5.97	6.48
1-Feb-2016	>GAGE	5.90	3.78	3.20	3.56	4.18	5.00	4.48	>GAGE	>GAGE
1-Mar-2016	>GAGE	5.64	3.70	3.36	3.60	4.03	4.78	4.18	6.60	>GAGE
1-Apr-2016	>GAGE	6.10	3.75	3.46	3.63	4.25	5.37	4.74	>GAGE	>GAGE
2-May-2016	>GAGE	5.78	3.78	3.45	3.48	4.40	4.92	4.40	>GAGE	>GAGE
1-Jun-2016	5.82	4.65	3.76	3.36	3.45	3.83	3.98	3.22	5.64	6.14
1-Jul-2016	5.62	4.42	2.42	3.36	3.50	4.14	3.96	3.34	5.40	5.94
1-Aug-2016	5.10	3.84	2.13	3.08	3.34	4.06	3.52	2.26	4.86	5.42
1-Sep-2016	5.55	4.35	2.49	3.12	3.42	4.17	4.37	3.36	5.33	5.86
3-Oct-2016	5.02	3.77	2.06	2.56	3.50	3.94	3.58	2.32	4.80	5.32
31-Oct-2016	4.48	3.00	1.36	1.86	3.12	3.68	2.88	0.00	4.32	4.84

Date	Black Pond (Gage #1)	Power Line Pond (Gage #2)	Pine Log Creek (Gage #3)	Deep Edge Pond (Gage #4)	Little Deep Edge Pond (Gage #5)	Dykes Mill Pond (Gage #6)	Joiner Lake Canal (Gage #7)	Green Ponds Channel (Gage #8)	Green Ponds (Gage #9)	Dry Pond (Gage #10)
1-Dec-2016	4.20	2.70	0.00	1.25	2.94	3.78	2.40	0.00	3.99	4.50
11-Jan-2017	5.76	4.72	2.81	2.44	3.38	4.22	4.86	3.81	5.54	6.08
1-Feb-2017	6.62	5.40	3.34	2.74	3.50	4.12	5.07	4.20	6.40	>GAGE
1-Mar-2017	6.26	5.12	3.13	2.89	3.54	4.06	4.72	3.72	6.04	6.58
30-Mar-2017	5.54	4.37	2.50	2.54	3.48	3.88	3.90	3.21	5.30	5.84
1-May-2017	5.36	4.18	2.31	2.48	4.46	3.88	3.88	2.98	5.12	5.64
2-Jun-2017	4.88	3.62	1.81	2.10	3.50	2.78	3.40	1.90	4.62	5.14
30-Jun-2017	6.49	5.28	3.20	3.02	3.60	4.32	5.43	4.50	6.28	>GAGE
1-Aug-2017	6.22	5.12	3.00	3.16	3.50	4.24	4.94	3.84	6.00	6.52
31-Aug-2017	5.66	4.58	2.70	3.18	3.70	4.38	4.38	3.52	5.46	5.98
2-Oct-2017	5.18	4.08	2.30	2.96	3.50	4.13	3.98	2.78	4.96	5.46
1-Nov-2017	4.70	3.50	1.86	2.54	3.42	4.00	3.40	1.95	4.60	5.06
5-Dec-2017	4.42	2.90	1.58	3.00	3.25	3.72	2.75	<GAGE	4.20	4.74
2-Jan-2018	4.48	3.00	1.62	1.64	3.22	3.80	2.70	1.65	4.28	4.80
1-Feb-2018	4.64	2.96	1.80	1.40	3.26	3.98	2.75	3.04	4.40	4.94
1-Mar-2018	>GAGE	5.84	3.64	2.64	3.58	4.10	5.20	4.56	>GAGE	>GAGE

Date	Black Pond (Gage #1)	Power Line Pond (Gage #2)	Pine Log Creek (Gage #3)	Deep Edge Pond (Gage #4)	Little Deep Edge Pond (Gage #5)	Dykes Mill Pond (Gage #6)	Joiner Lake Canal (Gage #7)	Green Ponds Channel (Gage #8)	Green Ponds (Gage #9)	Dry Pond (Gage #10)
4-Apr-2018	6.02	-	3.25	2.58	3.46	4.06	4.38	3.48	5.83	6.34
1-May-2018	5.62	4.54	2.64	2.42	3.36	3.94	4.18	3.18	5.42	5.96
1-Jun-2018	5.52	4.54	2.66	2.57	3.56	4.26	4.24	3.48	5.34	5.86
3-Jul-2018	5.96	4.82	2.86	2.96	3.56	4.31	4.48	3.47	5.65	6.17
2-Aug-2018	6.29	5.56	2.84	3.69	4.38	5.02	5.09	4.02	6.10	6.67
4-Sep-2018	6.68	5.75	2.50	3.55	4.33	4.34	5.25	4.28	6.78	7.00
1-Oct-2018	6.59	5.52	2.47	3.51	4.29	4.09	5.00	4.08	6.29	6.97
3-Dec-2018	>GAGE	>GAGE	5.49	3.70	4.30	5.30	>GAGE	>GAGE	>GAGE	>GAGE
4-Jan-2019	>GAGE	>GAGE	5.18	3.59	3.75	4.00	>GAGE	5.65	>GAGE	>GAGE
1-Feb-2019	>GAGE	>GAGE	5.16	3.53	3.59	4.70	>GAGE	5.00	>GAGE	>GAGE
1-Mar-2019	>GAGE	6.05	3.76	3.59	3.55	4.60	>GAGE	4.69	>GAGE	>GAGE
5-Apr-2019	>GAGE	5.60	3.64	3.54	3.56	4.46	>GAGE	4.28	>GAGE	>GAGE
30-Apr-2019	6.58	5.26	3.16	3.44	3.40	4.38	>GAGE	4.10	6.38	>GAGE
5-Jun-2019	-	4.10	3.34	3.10	3.36	4.08	4.76	2.42	5.16	5.68
2-Jul-2019	6.18	4.94	3.00	3.46	3.34	4.58	5.60	3.54	5.94	6.48
31-Jul-2019	5.79	4.55	2.66	3.42	3.58	4.49	>GAGE	3.48	3.59	6.12

Date	Black Pond (Gage #1)	Power Line Pond (Gage #2)	Pine Log Creek (Gage #3)	Deep Edge Pond (Gage #4)	Little Deep Edge Pond (Gage #5)	Dykes Mill Pond (Gage #6)	Joiner Lake Canal (Gage #7)	Green Ponds Channel (Gage #8)	Green Ponds (Gage #9)	Dry Pond (Gage #10)
5-Sep-2019	5.50	4.26	2.48	3.42	3.52	4.48	>GAGE	2.96	5.30	5.84
1-Oct-2019	5.00	3.56	1.98	3.14	3.44	4.12	5.80	0.00	4.70	5.28
4-Nov-2019	5.22	3.98	2.30	3.28	3.58	4.30	6.02	3.34	4.98	5.52
3-Dec-2019	4.98	3.72	2.10	3.02	3.36	4.14	5.50	2.72	4.78	5.30
2-Jan-2020	5.70	4.52	2.66	3.38	3.40	4.52	-	3.46	5.52	6.02
3-Feb-2020	5.88	4.52	2.56	3.36	3.34	4.44	-	3.34	5.70	6.22
2-Mar-2020	6.02	4.74	2.82	3.46	3.36	4.74	-	3.44	5.82	6.34
1-Apr-2020	5.54	4.18	2.36	3.36	3.36	4.32	-	3.34	5.34	5.86
4-May-2020	5.06	3.76	2.12	3.36	3.30	4.18	-	3.36	4.88	5.38
1-Jun-2020	4.62	3.15	1.58	2.38	3.26	3.94	-	0.00	4.40	4.90
1-Jul-2020	5.12	3.86	2.10	2.64	3.38	4.18	-	2.86	-	6.44
12-Aug-2020	5.16	3.92	2.10	2.50	3.36	4.12	-	2.64	-	5.50
1-Sep-2020	5.92	4.86	2.88	3.34	3.48	4.68	-	4.22	-	6.24
12-Oct-2020	>GAGE	>GAGE	4.70	3.54	3.60	4.40	>GAGE	5.14	>GAGE	>GAGE
6-Nov-2020	>GAGE	5.84	3.66	3.48	3.52	4.26	N/A	4.40	N/A	>GAGE
1-Dec-2020	6.26	5.12	3.08	3.52	3.50	4.32	N/A	3.56	N/A	6.58

Date	Black Pond (Gage #1)	Power Line Pond (Gage #2)	Pine Log Creek (Gage #3)	Deep Edge Pond (Gage #4)	Little Deep Edge Pond (Gage #5)	Dykes Mill Pond (Gage #6)	Joiner Lake Canal (Gage #7)	Green Ponds Channel (Gage #8)	Green Ponds (Gage #9)	Dry Pond (Gage #10)
4-Jan-2021	6.14	5.09	3.00	3.60	3.50	4.38	N/A	3.48	N/A	6.48
9-Feb-2021	6.60	5.43	3.35	3.58	3.48	4.26	N/A	3.96	N/A	>GAGE
1-Mar-2020	>GAGE	6.16	3.90	3.57	3.43	4.26	N/A	4.62	N/A	>GAGE
5-Apr-2021	6.50	5.17	3.12	3.49	3.47	4.78	N/A	3.70	N/A	>GAGE
3-May-2021	6.64	5.45	3.21	3.48	3.40	4.86	N/A	4.00	N/A	>GAGE
1-Jun-2021	6.16	4.90	2.89	3.47	3.45	4.60	N/A	3.47	N/A	>GAGE
1-Jul-2021	6.45	5.24	3.28	3.54	3.58	4.69	N/A	3.93	N/A	>GAGE
2-Aug-2021	6.60	5.38	3.32	3.48	3.72	4.54	N/A	4.38	N/A	>GAGE
7-Sep-2021	>GAGE	>GAGE	5.50	3.60	3.92	4.40	N/A	5.78	N/A	>GAGE
4-Oct-2021	>GAGE	6.40	4.20	3.60	3.90	4.36	N/A	4.77	N/A	>GAGE
1-Nov-2021	>GAGE	6.28	4.10	3.58	3.86	4.40	N/A	4.62	N/A	>GAGE
1-Dec-2021	6.38	5.45	3.52	3.50	3.50	4.08	N/A	3.68	N/A	6.65
3-Jan-2022	6.20	5.15	3.20	3.56	3.48	4.26	N/A	3.57	N/A	N/A
1-Feb-2022	6.64	5.48	3.50	3.48	3.36	4.10	N/A	3.98	N/A	N/A
2-Mar-2022	5.90	4.74	2.86	3.44	3.30	5.18	N/A	3.36	N/A	N/A
4-Apr-2022	5.88	4.68	2.86	3.60	3.62	5.10	N/A	3.38	N/A	N/A

Date	Black Pond (Gage #1)	Power Line Pond (Gage #2)	Pine Log Creek (Gage #3)	Deep Edge Pond (Gage #4)	Little Deep Edge Pond (Gage #5)	Dykes Mill Pond (Gage #6)	Joiner Lake Canal (Gage #7)	Green Ponds Channel (Gage #8)	Green Ponds (Gage #9)	Dry Pond (Gage #10)
4-May-2022	5.60	4.36	2.54	3.34	3.74	4.88	N/A	3.36	N/A	N/A
1-Jun-2022	5.74	4.62	2.80	3.43	3.54	4.91	N/A	3.34	N/A	N/A
1-Jul-2022	5.50	4.18	2.46	3.38	3.64	4.76	N/A	3.35	N/A	N/A
1-Aug-2022	6.22	4.94	2.98	3.38	3.62	4.76	N/A	3.72	N/A	N/A
2-Sep-2022	6.16	4.89	2.90	3.88	3.58	4.76	N/A	3.98	N/A	N/A
3-Oct-2022	5.76	4.44	2.48	3.02	3.46	4.58	N/A	3.18	N/A	N/A
4-Nov-2022	5.08	3.76	1.90	2.68	3.46	5.06	N/A	DRY	N/A	N/A
5-Dec-2022	4.82	3.64	1.84	2.64	3.22	4.72	N/A	DRY	N/A	N/A
3-Jan-2023	5.56	4.26	2.38	2.52	3.42	5.58	N/A	DRY	N/A	N/A
1-Feb-2023	5.60	4.36	2.44	2.58	3.50	5.72	N/A	DRY	N/A	N/A
3-Mar-2023	5.28	3.88	2.08	2.06	3.30	5.94	N/A	DRY	N/A	N/A
3-Apr-2023	5.18	3.70	2.00	1.78	3.30	6.22	N/A	DRY	N/A	N/A
1-May-2023	5.78	4.88	3.10	2.12	3.44	4.12	N/A	DRY	N/A	N/A
2-Jun-2023	5.70	4.36	2.48	1.94	3.38	3.48	N/A	DRY	N/A	N/A
21-Jul-2023	5.58	4.36	2.50	2.20	NA	3.54	N/A	DRY	N/A	N/A
24-Aug-2023	5.38	4.02	2.18	1.98	3.35	3.36	N/A	DRY	N/A	N/A

Date	Black Pond (Gage #1)	Power Line Pond (Gage #2)	Pine Log Creek (Gage #3)	Deep Edge Pond (Gage #4)	Little Deep Edge Pond (Gage #5)	Dykes Mill Pond (Gage #6)	Joiner Lake Canal (Gage #7)	Green Ponds Channel (Gage #8)	Green Ponds (Gage #9)	Dry Pond (Gage #10)
1-Sep-2023	-	-	-	-	-	-	-	-	-	-
16-Oct-2023	5.08	3.70	2.05	1.38	3.30	3.46	N/A	DRY	N/A	N/A
27-Nov-2023	4.70	3.12	1.87	0.80	3.20	3.50	N/A	2.15	N/A	N/A
29-Dec-2023	5.52	4.15	2.22	1.10	3.25	3.70	N/A	3.45	N/A	N/A
30-Jan-2024	5.76	4.44	2.48	1.36	3.35	5.08	N/A	3.44	N/A	N/A
20-Feb-2024	6.44	5.12	3.00	1.70	3.52	4.74	N/A	4.08	N/A	N/A
12-Mar-2024	6.34	5.04	2.98	1.70	3.48	5.52	N/A	3.70	N/A	N/A
9-Apr-2024	5.78	4.58	2.60	1.67	3.44	5.10	N/A	<GAGE	N/A	N/A
24-May-2024	5.44	4.28	2.40	1.78	3.28	4.92	N/A	<GAGE	N/A	N/A
28-Jun-2024	5.08	3.82	2.12	1.50	3.52	4.76	N/A	<GAGE	N/A	N/A
24-Jul-2024	5.04	3.78	2.28	1.81	3.64	4.86	N/A	<GAGE	N/A	N/A
20-Aug-2024	5.12	3.84	2.04	1.94	3.56	4.60	N/A	<GAGE	N/A	N/A
25-Sep-2024	4.92	3.60	1.98	1.76	3.50	4.60	N/A	<GAGE	N/A	N/A
30-Oct-2024	4.90	3.48	1.76	1.62	3.36	Dry	N/A	<GAGE	N/A	N/A
27-Nov-2024	4.88	3.62	2.20	1.66	3.42	4.62	N/A	<GAGE	N/A	N/A
31-Dec-2024	4.84	3.38	2.24	1.68	3.47	4.68	N/A	3.40	N/A	N/A

Date	Black Pond (Gage #1)	Power Line Pond (Gage #2)	Pine Log Creek (Gage #3)	Deep Edge Pond (Gage #4)	Little Deep Edge Pond (Gage #5)	Dykes Mill Pond (Gage #6)	Joiner Lake Canal (Gage #7)	Green Ponds Channel (Gage #8)	Green Ponds (Gage #9)	Dry Pond (Gage #10)
15-Feb-2025	3.10	3.62	2.12	1.37	3.35	4.62	N/A	3.10	N/A	N/A
14-Mar-2025	5.09	3.78	2.17	1.38	3.45	4.58	N/A	3.42	N/A	N/A
18-Apr-2025	5.26	3.98	2.04	1.14	3.18	4.35	N/A	2.74	N/A	N/A
15-May-2025	5.58	4.68	2.70	1.76	3.30	4.76	N/A	3.36	N/A	N/A
16-Jun-2025	5.24	4.08	2.18	1.82	3.28	4.40	N/A	2.72	N/A	N/A
18-Jul-2025	5.54	4.74	2.78	2.52	3.34	4.74	N/A	3.48	N/A	N/A
22-Aug-2025	5.26	4.40	2.60	2.98	3.34	4.76	N/A	3.46	N/A	N/A
15-Sep-2025	4.70	3.62	2.08	3.24	3.34	4.44	N/A	DRY	N/A	N/A
15-Oct-2025	4.28	2.92	1.90	2.94	3.20	4.36	N/A	DRY	N/A	N/A
18-Nov-2025	3.92	2.68	1.74	2.50	3.10	4.32	N/A	DRY	N/A	N/A
23-Dec-2025	4.14	2.86	1.90	2.38	3.08	4.32	N/A	DRY	N/A	N/A

Date	Black Pond (Gage #1)	Power Line Pond (Gage #2)	Pine Log Creek (Gage #3)	Deep Edge Pond (Gage #4)	Little Deep Edge Pond (Gage #5)	Dykes Mill Pond (Gage #6)	Joiner Lake Canal (Gage #7)	Green Ponds Channel (Gage #8)	Green Ponds (Gage #9)	Dry Pond (Gage #10)

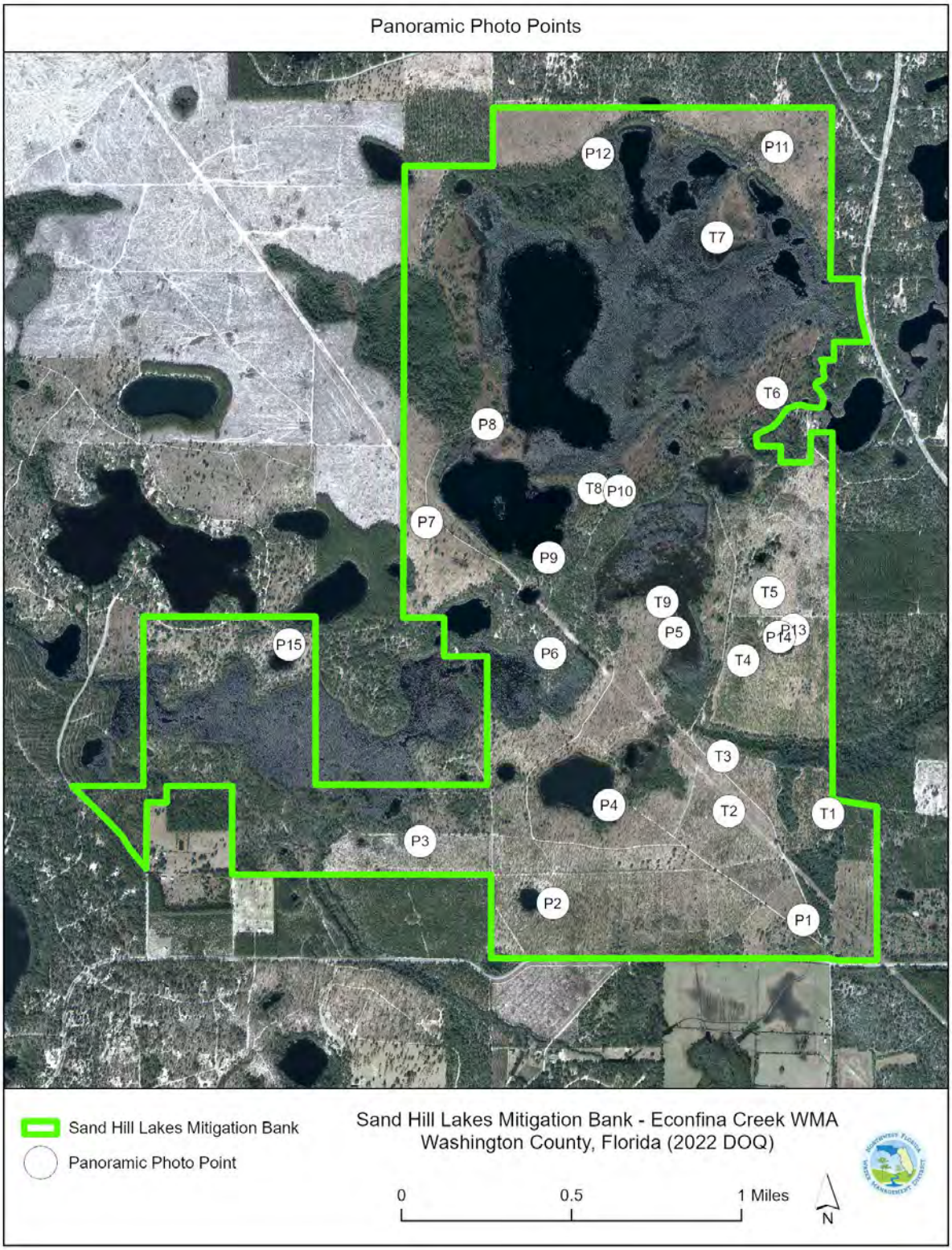
Notes:

"-" = No reading for staff gage.
DRY = Pond, channel,or canal is dry.
>GAGE = Water level is above staff gage.
<GAGE = Water level is down slope of staff gage.
N/A = Staff gage is missing.

Staff gages were generally installed in shallow water near shore. Staff gage elevations have not been surveyed. Staff gage readings are used to monitor water level fluctuations; they do not represent maximum or average water level depths. Staff gages are monitored by Florida Wildlife Conservation Commission (FWC) personnel.

Appendix D (Panoramic Photo Monitoring)

Appendix D
(Panoramic Monitoring Photos)



P1 – 2006

P1 – 2025

P2 – 2006

P2 – 2025

P3 – 2006

P3 – 2025

P4 – 2006

P4 – 2025

P5 – 2006

P5 – 2025

P6 – 2006

P6 – 2025

P7 – 2006

P7 – 2025

P8 – 2006

P8 – 2025

P9 – 2006

P9 – 2025

P10 – 2006

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T1 – 2006

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T2 – 2006

T2 – 2025

T3 – 2006

T3 – 2025

T4 – 2006

T4 – 2025

T5 – 2006

T5 – 2025

T6 – 2006

T6 – 2025

T7 – 2006

T7 – 2025

T8 – 2006

T8 – 2025

T9 – 2006

T9 – 2025

Note: Panoramic monitoring photos have been taken annually, since 2006, at each point identified in the FDEP permit. Photos from all years are available online at https://nwfwater.com/water-resources/regional-wetland-mitigation-program/regional-mitigation-plan/nwfwmd-mitigation-sites/choctawhatchee-watershed-mitigation-sites/sand-hill-lakes-mitigation-bank/panoramic-photos/.