

BAYPORT MITIGATION

2025 Monitoring Report (Final) and Mitigation Release Request

USACE Permit No.: SAJ-1997-07427 SP-SWA

Permittee: DJFO, Inc.
C/o Jay Odom
P.O. Box 1735
Destin, FL 32540

Responsible Party for Monitoring and Mitigation Implementation: Northwest Florida Water Management District
81 Water Management Drive
Havana, FL 32333

Entity Conducting Vegetation Monitoring: Florida Natural Areas Inventory
Institute of Science and Public Affairs
Florida State University
1018 Thomasville Road, Suite 200-C
Tallahassee, FL 32303

Monitoring Dates: 10/27-29/2025 (Vegetation)
9/5/2025 (Panoramic Photography)

Summary

The Northwest Florida Water Management District (NFWFMD) has successfully implemented mitigation (restoration of hydric pine flatwoods / mixed forested wetlands from existing slash pine plantation) on 55.6 acres at Devils Swamp (Bayport Mitigation) to offset impacts to 6.55 acres of jurisdictional wetlands associated with a commercial development on CR 3280 in Freeport, Florida (DJFO, Inc.). Quantitative monitoring was conducted from 2017 – 2025 with annual reports submitted to the US Army Corps of Engineers (USACE), Jacksonville District, Regulatory Division, Enforcement Section and posted online at the NFWFMD website.

Restoration activities included thinning of slash pine (2017), herbicide treatment of shrubs (2017, 2019), and implementation of prescribed fire (2018, 2021, 2024). Species diversity has increased from a baseline of 91 plant taxa identified in 2017 to 156 plant taxa identified in 2025. All success criteria appear to have been met. This report is the 9th quantitative report submitted to the USACE. Written verification releasing this site from further quantitative monitoring and reporting requirements is requested. Unless otherwise directed by the USACE, quantitative monitoring shall cease and no further reports shall be submitted. Although scheduled quantitative monitoring has ended, the NFWFMD shall continue annual photo

monitoring and site inspections. Consistent with permit conditions, the NFWWMD will, in perpetuity, maintain and manage the site in a natural state as hydric pine flatwoods / mixed forested wetlands (including implementation of prescribed fire on a 2 to 3-year cycle and treatment of exotic invasive vegetation if or when observed).

Location and Site Description

The Bayport mitigation area is located approximately 6 miles southeast of the impact along an unnamed dirt road east of the unincorporated community of Bunker (Figure 1; Figure 2). Owned by the NFWWMD, the site had been converted to slash pine plantation prior to public acquisition in 1992. Available records indicate that the site was planted with commercial stocking of slash pine in 1986. Historic aeriels suggest one or more rotations occurred prior to the 1980s.

Success Criteria

A) Reduce tree density in Polygons A, C, D to ≤ 200 trees per acre and to ≤ 400 trees per acre in Polygon B—met.

Thinning of slash pine within Polygons A, C, D to ≤ 200 trees per acre and to ≤ 400 trees per acre in Polygon B was completed in 2017. Thermal thinning from ongoing prescribed fire is expected to result in additional reductions in pine density over time.

B) Implement prescribed fire on a 2 to 3-year cycle—met.

Since 2018, prescribed fire has been implemented on a 2 to 3-year cycle and will continue to be implemented in perpetuity on a 2 to 3-year cycle. Future burns will generally be implemented during the growing season as circumstances allow. Two-year fire returns are planned.

- February 2018 (dormant season fuel reduction burn).
- April 2021 (growing season burn).
- May 2024 (growing season burn).
- A growing season burn is planned for late spring or early summer in 2026.

C) Cover of Category I & II invasive exotic plant species (Florida Exotic Pest Plant Council) $< 1\%$ —met.

Invasive exotic plants (Category I & II; Florida Exotic Pest Plant Council) cover less than 1% of the mitigation polygons at the site (no invasive exotics were observed during the most recent vegetation monitoring—see attached Florida Natural Areas Inventory Fall 2025 report).

D) Conduct annual monitoring for a minimum of 5 years—met.

Quantitative vegetation monitoring was conducted annually from 2017 – 2025 with detailed reports submitted to the USACE. Repeat photo points were established in 2017 (Figure 3). Panoramic monitoring photos have been taken at each point annually and after each prescribed fire since 2017. All reports and panoramic monitoring photos are posted online at the NFWFMD website [<https://nwfwater.com/water-resources/regional-wetland-mitigation-program/other-mitigation/sacred-heart-mitigation/>]. Monitoring was conducted by NFWFMD staff from 2017 – 2020. From 2021 – 2025, vegetation monitoring was conducted by the Florida Natural Areas Inventory (FNAI) of Florida State University. All panoramic photo monitoring has been conducted by NFWFMD staff.

- Fall 2017—baseline quantitative vegetation monitoring (NFWFMD Staff).
- Fall 2018—quantitative vegetation monitoring (NFWFMD Staff).
- Fall 2019—quantitative vegetation monitoring (NFWFMD Staff).
- Fall 2020—quantitative vegetation monitoring (NFWFMD Staff).
- Fall 2021—quantitative vegetation monitoring (FNAI).
- Fall 2022—quantitative vegetation monitoring (FNAI).
- Fall 2023—quantitative vegetation monitoring (FNAI).
- Fall 2024—quantitative vegetation monitoring (FNAI).
- Fall 2025—quantitative vegetation monitoring (FNAI).

E) Reduce shrub cover to <5%—met (applicable only to nuisance shrubs defined in this report as *Cliftonia monophylla* and *Cyrilla racemiflora*).

Shrubs are a natural component of hydric pine flatwoods and are generally controlled over time with frequent fire. Density of shrub cover within these systems can vary greatly. Sites where fire has been suppressed tend to be dominated by tall shrub cover (up to several meters tall) which can reduce the diversity of the herbaceous community. Conversely, sites with frequent fire tend to have more diverse herbaceous communities. Thirty-three shrubs and subshrubs were identified in Fall 2025 at the Bayport site and include those typically found within hydric pine flatwoods such as *Ilex glabra*, *Ilex coriacea*, *Cyrilla parviflora*, *Cliftonia monophylla*, and several *Gaylussacia* and *Hypericum* species. Although the percent cover for all shrub species combined in Fall 2025 averaged 20% (a value consistent with other high-quality, hydric pine flatwood systems), nuisance shrub cover (*Cliftonia monophylla* and *Cyrilla racemiflora*) has been reduced to 3.9%. Furthermore, average height across all shrub species has been reduced to ~0.6m. The tall shrub stratum (~1-3m height; generally consisting of *Cliftonia monophylla* and *Cyrilla racemiflora*) that most severely impacted the herbaceous community has mostly been eliminated. The herbaceous community has responded well. In 2017, 52 herbaceous species were identified at the Bayport site; by 2025, the number of identified herbaceous species had risen to 99. Continued prescribed fire on a regular basis is expected to keep the shrub cover at acceptable densities and heights and keep nuisance shrub cover below 5%.

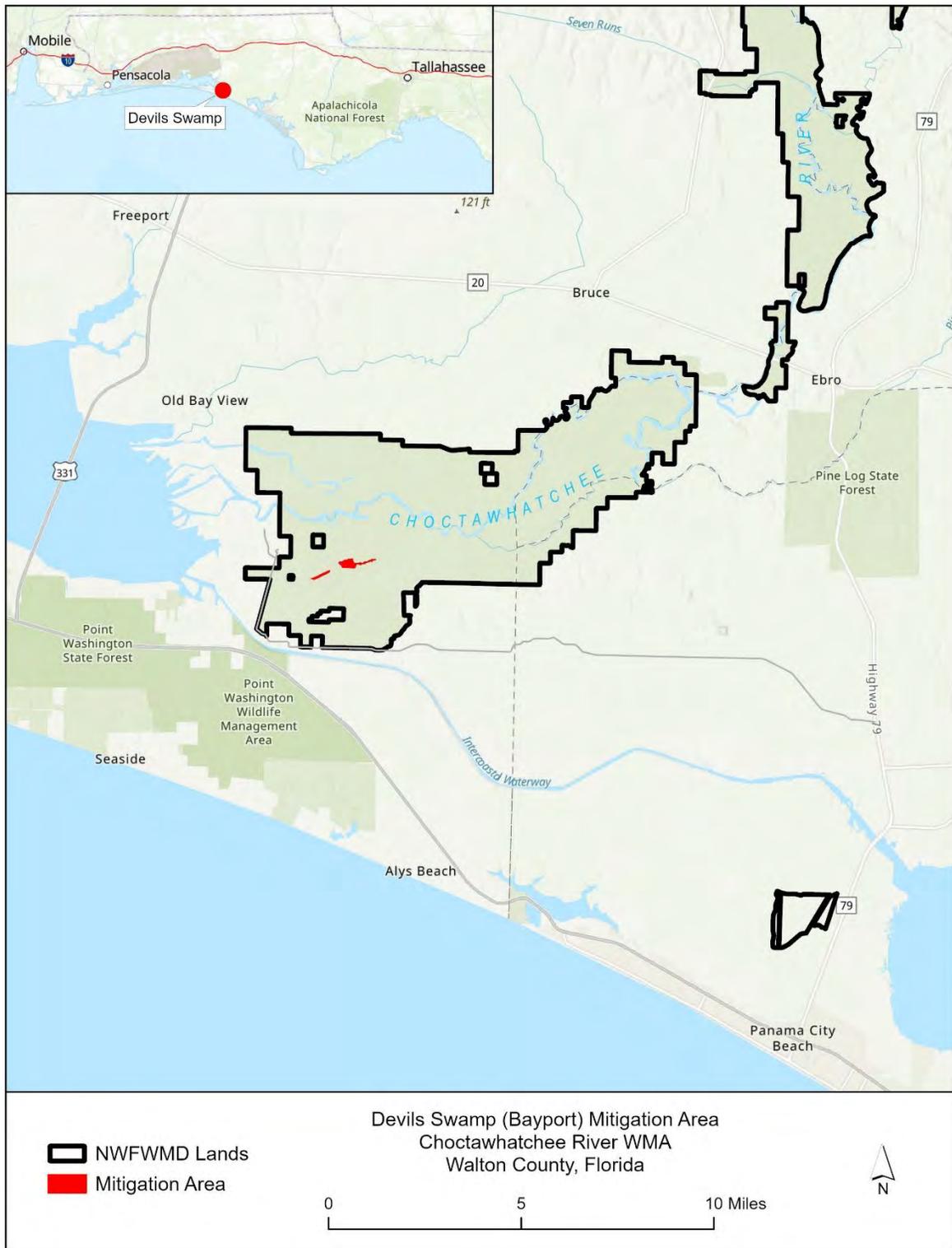


Figure 1. Mitigation Site Location Map

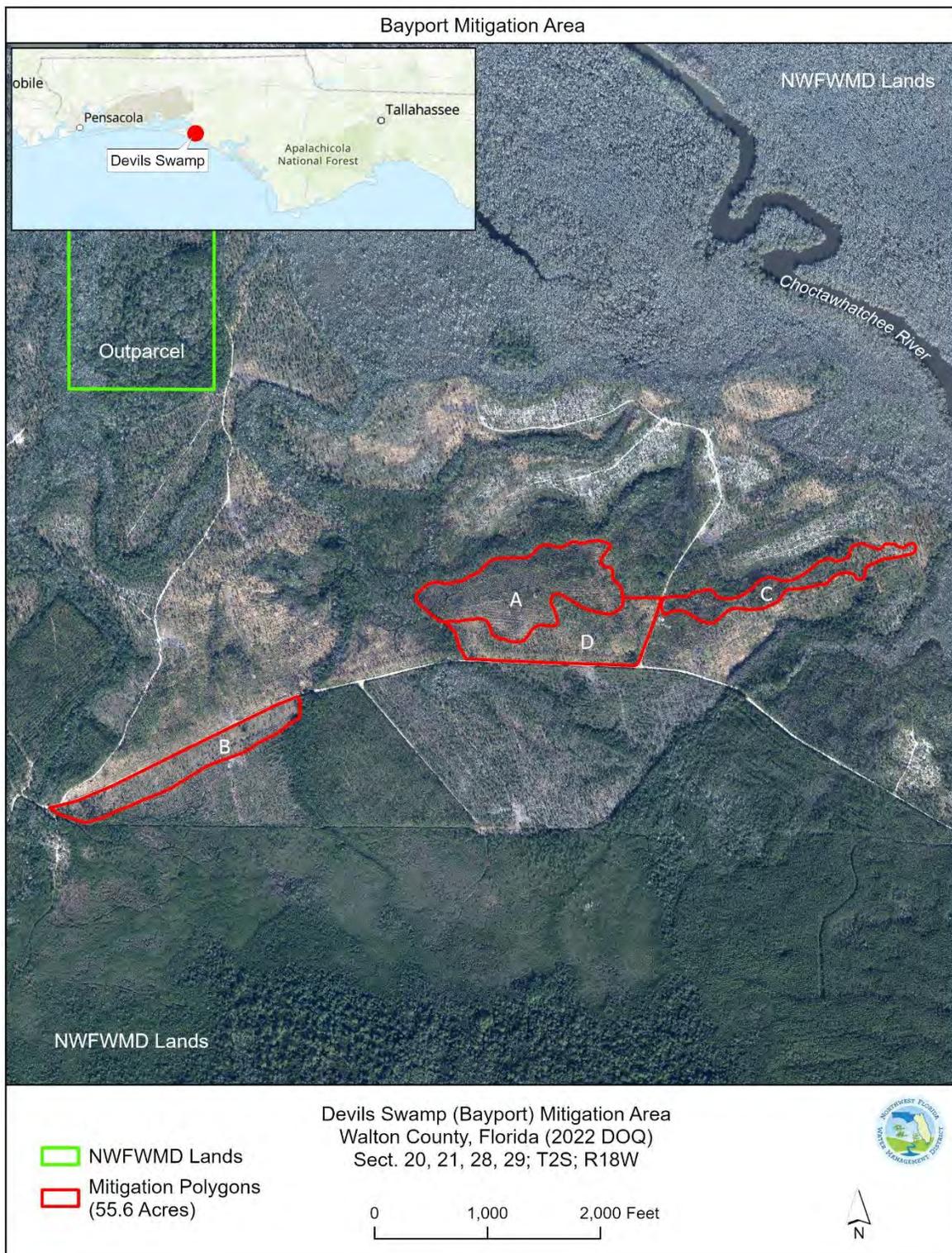


Figure 2. Mitigation Site Polygons

Panoramic Monitoring Photos

Photo Point 1



Bayport Photo Point 1: 8/28/2017



Bayport Photo Point 1: 3/8/2018



Bayport Photo Point 1: 9/18/2018



Bayport Photo Point 1: 9/26/2019



Bayport Photo Point 1: 10/30/2020



Bayport Photo Point 1: 4/21/2021



Bayport Photo Point 1: 9/23/2021



Bayport Photo Point 1: 11/3/2022



Bayport Photo Point 1: 9/22/2023



Bayport Photo Point 1: 6/4/2024



Bayport Photo Point 1: 10/8/2024



Bayport Photo Point 1: 9/5/2025

Photo Point 2



Bayport Photo Point 2: 8/28/2017



Bayport Photo Point 2: 3/8/2018



Bayport Photo Point 2: 9/18/2018



Bayport Photo Point 2: 9/26/2019



Bayport Photo Point 2: 10/30/2020



Bayport Photo Point 2: 4/21/2021



Bayport Photo Point 2: 9/23/2021



Bayport Photo Point 2: 11/3/2022



Bayport Photo Point 2: 9/22/2023



Bayport Photo Point 2: 6/4/2024



Bayport Photo Point 2: 10/8/2024



Bayport Photo Point 2: 9/5/2025

Photo Point 3



Bayport Photo Point 3: 8/28/2017



Bayport Photo Point 3: 3/8/2018



Bayport Photo Point 3: 9/18/2018



Bayport Photo Point 3: 9/26/2019



Bayport Photo Point 3: 10/30/2020



Bayport Photo Point 3: 4/21/2021



Bayport Photo Point 3: 9/23/2021



Bayport Photo Point 3: 11/3/2022



Bayport Photo Point 3: 9/22/2023



Bayport Photo Point 3: 6/4/2024



Bayport Photo Point 3: 10/8/2024



Bayport Photo Point 3: 9/5/2025

Photo Point 4



Bayport Photo Point 4: 8/28/2017



Bayport Photo Point 4: 3/8/2018



Bayport Photo Point 4: 9/18/2018



Bayport Photo Point 4: 9/26/2019



Bayport Photo Point 4: 10/30/2020



Bayport Photo Point 4: 4/21/2021



Bayport Photo Point 4: 9/23/2021



Bayport Photo Point 4: 11/3/2022



Bayport Photo Point 4: 9/22/2023



Bayport Photo Point 4: 6/4/2024



Bayport Photo Point 4: 10/8/2024



Bayport Photo Point 4: 9/5/2025

Photo Point 5



Bayport Photo Point 5: 8/28/2017



Bayport Photo Point 5: 3/8/2018



Bayport Photo Point 5: 9/18/2018



Bayport Photo Point 5: 9/26/2019



Bayport Photo Point 5: 10/30/2020



Bayport Photo Point 5: 4/21/2021



Bayport Photo Point 5: 9/23/2021



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Bayport Photo Point 5: 9/22/2023



Bayport Photo Point 5: 6/4/2024



Bayport Photo Point 5: 10/8/2024



Bayport Photo Point 5: 9/5/2025

Photo Point 6



Bayport Photo Point 6: 8/28/2017



Bayport Photo Point 6: 3/8/2018



Bayport Photo Point 6: 9/18/2018



Bayport Photo Point 6: 9/26/2019



Bayport Photo Point 6: 10/30/2020



Bayport Photo Point 6: 4/21/2021



Bayport Photo Point 6: 9/23/2021



Bayport Photo Point 6: 11/3/2022



Bayport Photo Point 6: 9/22/2023



Bayport Photo Point 6: 6/4/2024



Bayport Photo Point 6: 10/8/2024



Bayport Photo Point 6: 9/5/2025

Photo Point 7



Bayport Photo Point 7: 8/28/2017



Bayport Photo Point 7: 3/8/2018



Bayport Photo Point 7: 9/18/2018



Bayport Photo Point 7: 9/26/2019



Bayport Photo Point 7: 10/30/2020



Bayport Photo Point 7: 4/21/2021



Bayport Photo Point 7: 9/23/2021



Bayport Photo Point 7: 11/3/2022



Bayport Photo Point 7: 9/22/2023



Bayport Photo Point 7: 6/4/2024



Bayport Photo Point 7: 10/8/2024



Bayport Photo Point 7: 9/5/2025

Photo Point 8



Bayport Photo Point 8: 8/28/2017



Bayport Photo Point 8: 3/8/2018



Bayport Photo Point 8: 9/18/2018



Bayport Photo Point 8: 9/26/2019



Bayport Photo Point 8: 10/30/2020



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Bayport Photo Point 8: 9/5/2025

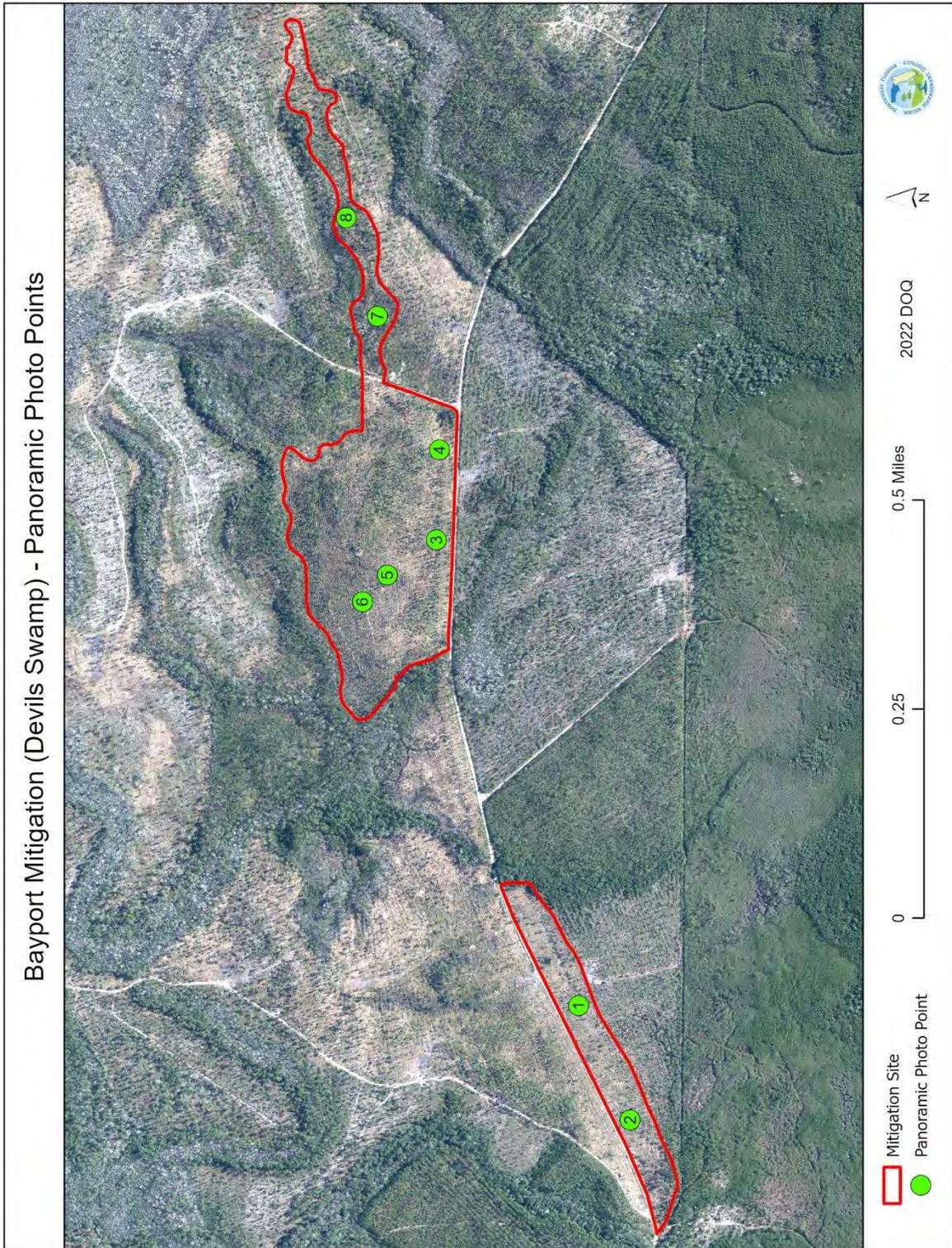


Figure 3. Panoramic Photo Points

APPENDIX (FNAI 20025 VEGETATION MONITORING REPORT)

**Vegetation Monitoring at Bayport
Northwest Florida Water Management District
Non-FDOT Mitigation Site**

Fall 2025

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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
Bayport Mitigation Site
Bay County
USACE Permit #SAJ-1997-07427 (SP-SWA)
Qualitative and Quantitative Monitoring
October 2025

INTRODUCTION

The Bayport Mitigation Site project compensates for impacts to 6.55 acres of jurisdictional wetlands (hydric pine flatwoods) associated with a commercial development on CR 3280 in Freeport, Florida (DJFO, Inc.). The goal of this mitigation is to restore 55.6 acres of hydric pine flatwoods / mixed forested wetlands at Devils Swamp, an area in Bay County that is owned and managed for ecological integrity by the Northwest Florida Water Management District (NFWFMD) and is part of the Choctawhatchee River Water Management Area. The offsite mitigation area is located approximately six miles southeast of the impact along an unnamed dirt road east of the unincorporated community of Bunker. The site is adjacent to Sacred Heart Mitigation Site which was monitored at the same time (Figure 1). Prior to NFWFMD acquisition in 1992, the Devils Swamp site had been converted to slash pine plantation.

As described in the USACE permit, the mitigation area is divided into four management polygons (A – D). The permit describes Polygons A, C and D as wet prairie, and Polygon B as hydric pine flatwoods. However, NFWFMD considers the correct community composition to be hydric pine flatwoods for Polygons A, B and D, and mixed forested wetlands with hydric pine flatwood inclusions for Polygon C. During prior field visits, FNAI found wet prairie remnant vegetation in Polygon A. Polygon B appeared to be a mix of mesic and hydric pine flatwoods.

According to NFWFMD, mitigation activities implemented to date include baseline monitoring (August 2017), shrub and tree density reduction, prescribed fire, repeat panoramic photography, herbicide treatments to reduce shrub regrowth, and post-baseline quantitative vegetation monitoring.

FNAI conducted quantitative and qualitative monitoring to document the current plant species composition and vegetation structure of these targeted areas. FNAI biologists previously monitored the site vegetation in Fall 2024.

METHODS

We measured percent vegetation cover in 1-m² quadrats at 10-foot intervals along eight 150-foot transects. Two transects were set up in each area of the mitigation site (Figure 2). We placed fifteen 1m x 1m quadrats along the left side of each transect line, beginning at 10 feet and then spaced every 10 feet thereafter.

In each quadrat, we visually estimated the percent cover of each plant species, including individuals rooted in the the quadrat as well as overhanging. 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. We converted plant cover estimates to mid-point values and averaged them across each transect. We also calculated relative cover (in which all plant cover and open ground is given as a proportion of the total plant cover); this is reported in separate pie charts.

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 pole marked in decimeters and estimated the average height over the quad. Woody vines and tree species were omitted from this measurement.

To estimate rooted shrub stem density, we randomly established five 1 m² quadrats within each mitigation polygon and counted each stem originating from the ground (Figure 11, Table 10).

FNAI conducted qualitative monitoring consisted by walking meandering transects through each of the four target areas and recording all species as well as observations of vegetation structure. FNAI botanists Kim Alexander and Ethan Hughes conducted all field surveys on October 27-29, 2025.

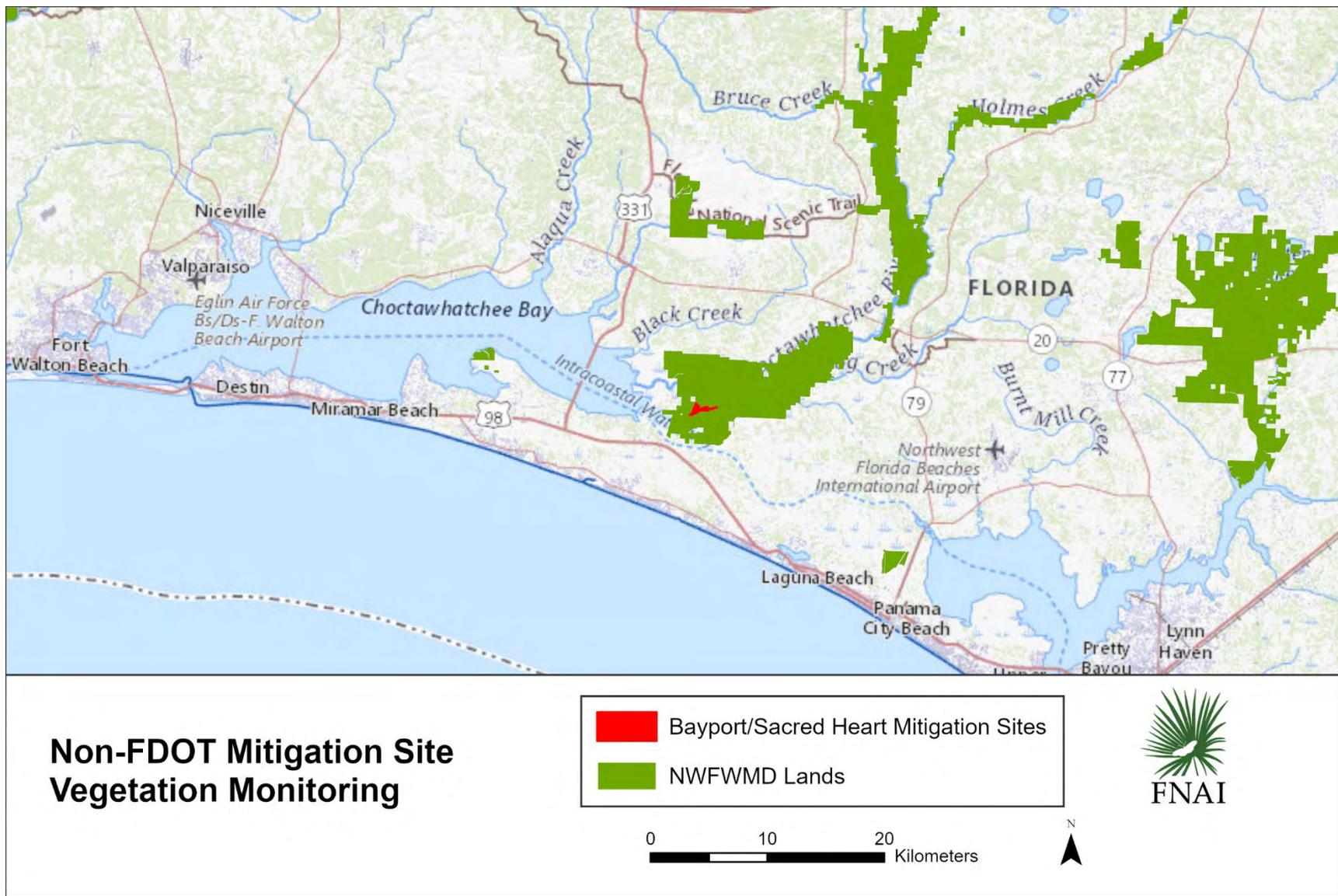


Figure 1. Location map of Devils Swamp non-FDOT NFWMD mitigation sites monitored by FNAI.

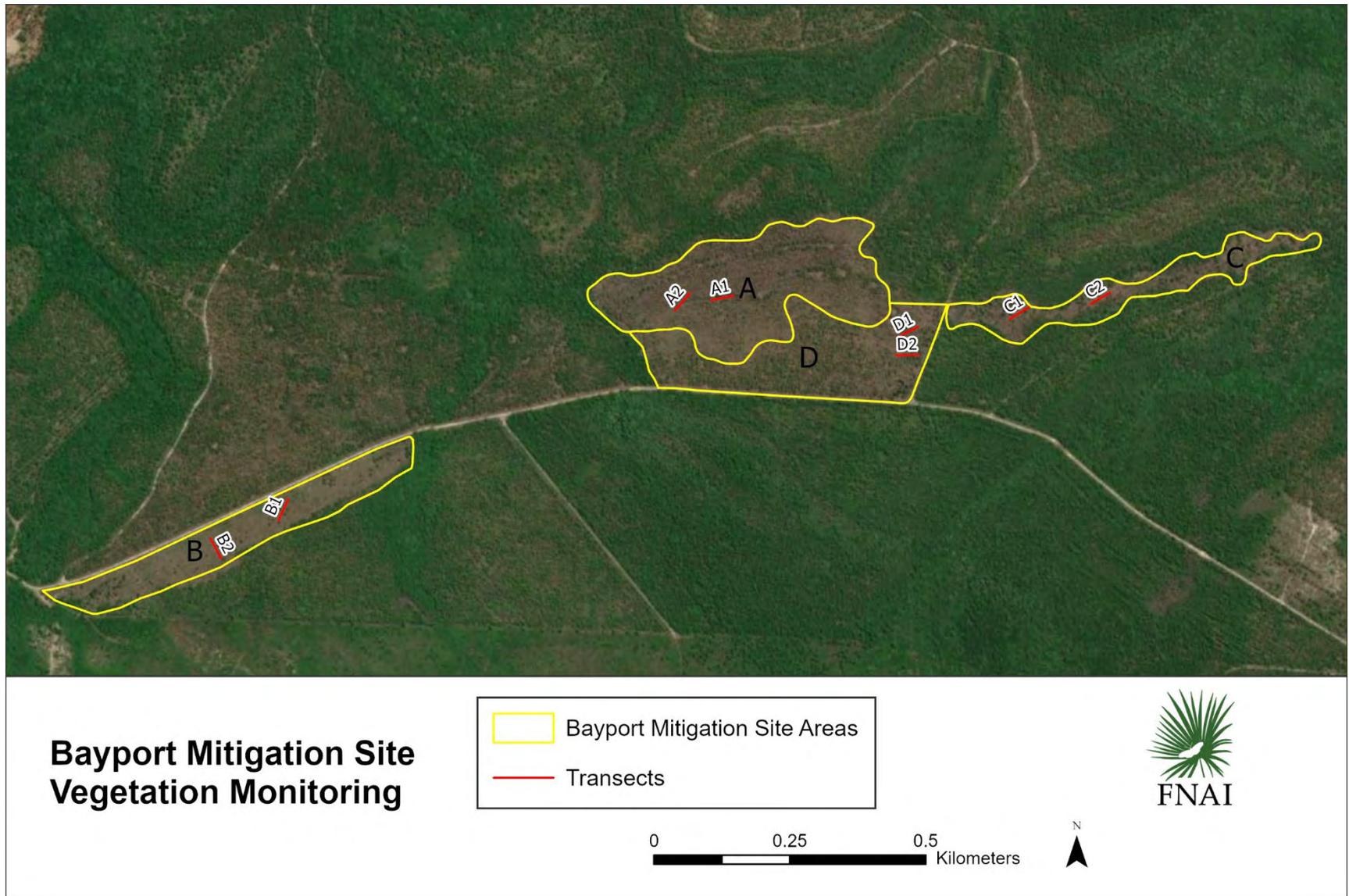


Figure 2. Location of quantitative transects at Bayport Mitigation Site.

RESULTS AND DISCUSSION

We documented a total of 156 plant taxa during the 2025 monitoring of all four sections of the Bayport Mitigation Site (Table 1). Thirteen new taxa were noted (i.e., species or varieties not observed during 2021-2024 site visits). 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 1. Species observed in target sections of Bayport Mitigation Site on October 27-29, 2025 (bold name = new species, * = state-listed threatened or endangered, † = non-native invasive).

Scientific Name	Common Name	Section A	Section B	Section C	Section D	Grand Total
<i>Aletris lutea</i>	yellow colic-root		X			1
<i>Amianthium muscitoxicum</i>	flypoison				X	1
<i>Anchistea virginica</i>	Virginia chain fern			X		1
* <i>Andropogon arctatus</i>	pinewoods bluestem	X	X	X	X	4
<i>Andropogon cretaceus</i>	purple bluestem	X	X	X	X	4
<i>Andropogon dealbatus</i>	wetland white bluestem		X	X		2
<i>Andropogon glomeratus</i>	bushy bluestem			X	X	2
<i>Andropogon mohrii</i>	tawny bluestem	X				1
<i>Andropogon perangustatus</i>	narrowleaf bluestem		X	X		2
<i>Andropogon virginicus</i> var. 1	smooth bluestem		X	X	X	3
<i>Andropogon virginicus</i> var. <i>virginicus</i>	broomsedge bluestem	X	X		X	3
<i>Anthenantia rufa</i>	purple silkscale	X			X	2
<i>Aristida beyrichiana</i>	Southern wiregrass	X	X	X	X	4
<i>Aristida palustris</i>	longleaf threeawn	X		X		2
<i>Aristida virgata</i>	arrowfeather threeawn		X			1
<i>Aronia arbutifolia</i>	red chokeberry		X	X	X	3
<i>Arundinaria tecta</i>	small cane				X	1
<i>Asclepias</i> sp.	milkweed	X				1
<i>Balduina uniflora</i>	oneflower honeycomb-head		X	X	X	3
<i>Bartonia paniculata</i> ssp. <i>paniculata</i>	twining screwstem	X		X	X	3
<i>Bigelovia nudata</i>	pineland rayless goldenrod		X			1
<i>Burmannia capitata</i>	Southern bluethead				X	1
* <i>Calamovilfa curtissii</i>	Curtiss' sandgrass			X		1
<i>Carex glaucescens</i>	clustered sedge			X		1
<i>Carphephorus pseudoliatris</i>	bristleleaf chaffhead		X			1
<i>Centella erecta</i>	spadeleaf	X				1
<i>Clethra alnifolia</i>	sweet pepperbush				X	1
<i>Clethra tomentosa</i>	downy sweet pepperbush	X		X	X	3
<i>Cliftonia monophylla</i>	black titi	X	X	X	X	4
<i>Coleataenia longifolia</i>	ciliate redtop panicum	X	X	X	X	4
<i>Coreopsis floridana</i>	Florida tickseed		X			1
<i>Coreopsis</i> sp.	tickseed	X	X			2

Scientific Name	Common Name	Section A	Section B	Section C	Section D	Grand Total
<i>Ctenium aromaticum</i>	toothache grass		X			1
<i>Cyrilla parvifolia</i>	littleleaf titi	X		X	X	3
<i>Dichantherium aciculare</i>	needleleaf witchgrass		X			1
<i>Dichantherium ensifolium</i>	small-leaved witchgrass	X	X	X	X	4
<i>Dichantherium leucothrix</i>	rough witchgrass	X			X	2
<i>Dichantherium longiligulatum</i>	long-ligule witchgrass	X	X	X	X	4
<i>Dichantherium scabriusculum</i>	woolly witchgrass	X		X	X	3
<i>Dichantherium strigosum</i> var. <i>glabrescens</i>	roughhair witchgrass		X			1
<i>Dichantherium strigosum</i> var. <i>strigosum</i>	roughhair witchgrass		X			1
<i>Dichantherium tenue</i>	white-edged witchgrass		X		X	2
<i>Dichantherium consanguineum</i>	Kunth's witchgrass		X			1
<i>Drosera capillaris</i>	pink sundew		X		X	2
<i>Edrastima uniflora</i>	oldenlandia		X			1
<i>Eragrostis</i> sp.	lovegrass		X			1
<i>Erianthus giganteus</i>	sugarcane plumegrass			X	X	2
<i>Eriocaulon compressum</i>	flattened pipewort	X		X		2
<i>Eriocaulon decangulare</i>	tenangle pipewort	X	X	X	X	4
<i>Eupatorium leucolepis</i>	justiceweed		X			1
<i>Eupatorium mohrii</i>	Mohr's thoroughwort	X	X	X	X	4
<i>Eupatorium pilosum</i>	rough boneset		X		X	2
<i>Eurybia eryngiifolia</i>	thistleleaf aster		X			1
<i>Euthamia caroliniana</i>	slender flattop goldenrod	X				1
<i>Fuirena breviseta</i>	saltmarsh umbrellasedge	X				1
<i>Gaylussacia dumosa</i>	dwarf huckleberry		X			1
<i>Gaylussacia mosieri</i>	woolly huckleberry		X	X	X	3
<i>Gelsemium rankinii</i>	swamp jessamine	X				1
<i>Gelsemium sempervirens</i>	yellow jessamine	X				1
<i>Geobalanus oblongifolius</i>	gopher apple		X			1
<i>Helianthus heterophyllus</i>	variableleaf sunflower		X			1
<i>Helianthus radula</i>	stiff sunflower		X			1
<i>Hymenachne hemitoma</i>	maidencane			X		1
<i>Hypericum brachyphyllum</i>	coastalplain St. John's wort	X	X	X	X	4
<i>Hypericum cistifolium</i>	roundpod St. John's wort		X		X	2
<i>Hypericum crux-andreae</i>	St. Peter's wort		X		X	2
<i>Hypericum fasciculatum</i>	peelbark St. John's wort	X		X		2
<i>Hypericum gentianoides</i>	orangegrass		X			1
<i>Hypericum microsepalum</i>	flatwoods St. John's wort		X			1
<i>Hypericum myrtifolium</i>	myrtleleaf St. John's wort			X		1
<i>Ilex cassine</i>	dahoon	X		X		2
<i>Ilex coriacea</i>	large gallberry	X	X	X	X	4
<i>Ilex glabra</i>	gallberry	X	X	X	X	4
<i>Ilex myrtifolia</i>	myrtle-leaved holly	X	X	X	X	4
<i>Ilex vomitoria</i>	yaupon		X			1

Scientific Name	Common Name	Section A	Section B	Section C	Section D	Grand Total
<i>Kalmia hirsuta</i>	hairy wicky		X			1
<i>Kelochloa verrucosa</i>	warty panicgrass		X		X	2
<i>Lachnanthes caroliniana</i>	Carolina redroot	X	X	X	X	4
<i>Lachnocaulon anceps</i>	whitehead bogbutton		X		X	2
<i>Liatris resinosa</i>	dense gayfeather	X	X			2
<i>Lobelia brevifolia</i>	shortleaf lobelia	X			X	2
<i>Lophiola aurea</i>	golden crest	X	X	X	X	4
<i>Ludwigia maritima</i>	seaside primrosewillow		X			1
<i>Lycopodiella alopecuroides</i>	foxtail club-moss	X	X	X		3
<i>Lycopodiella appressa</i>	Southern club-moss		X			1
<i>Lycopodiella</i> sp.	club-moss				X	1
<i>Lyonia lucida</i>	fetterbush			X		1
<i>Magnolia virginiana</i> var. <i>australis</i>	sweetbay	X		X	X	3
<i>Morella caroliniensis</i>	evergreen bayberry				X	1
<i>Morella inodora</i>	odorless bayberry			X		1
moss			X			1
<i>Muhlenbergia expansa</i>	cutover muhly	X	X			2
<i>Nyssa biflora</i>	swamp tupelo	X		X	X	3
<i>Osmunda spectabilis</i>	royal fern	X			X	2
<i>Osmundastrum cinnamomeum</i>	cinnamon fern				X	1
<i>Oxypolis ternata</i>	Piedmont cowbane	X				1
<i>Panicum virgatum</i>	switchgrass			X		1
<i>Pinus elliotii</i>	slash pine	X	X	X	X	4
<i>Pityopsis</i> sp.	silkgrass		X			1
<i>Polygala hookeri</i>	Hooker's milkwort		X			1
<i>Polygala ramosa</i>	low pinebarren milkwort		X			1
<i>Polygala</i> sp.	milkwort				X	1
<i>Proserpinaca pectinata</i>	combleaf mermaidweed	X				1
<i>Pseudolycopodiella caroliniana</i>	slender club-moss	X	X		X	3
<i>Pteridium pseudocaudatum</i>	tailed bracken		X	X	X	3
<i>Pterocaulon pycnostachyum</i>	blackroot		X			1
<i>Quercus minima</i>	dwarf live oak		X		X	2
<i>Rhexia alifanus</i>	savannah meadowbeauty	X	X	X	X	4
<i>Rhexia lutea</i>	yellow meadowbeauty		X			1
<i>Rhexia mariana</i> var. <i>exalbida</i>	white meadowbeauty		X		X	2
<i>Rhexia mariana</i> var. <i>mariana</i>	pale meadowbeauty		X		X	2
<i>Rhexia petiolata</i>	fringed meadowbeauty		X	X	X	3
<i>Rhynchospora baldwinii</i>	Baldwin's beaksedge		X			1
<i>Rhynchospora careyana</i>	Cary's horned beaksedge			X		1
<i>Rhynchospora cephalantha</i> var. <i>cephalantha</i>	bunched beaksedge	X		X	X	3
<i>Rhynchospora chalarocephala</i>	loosehead beaksedge	X			X	2
<i>Rhynchospora chapmanii</i>	Chapman's beaksedge	X	X	X	X	4
<i>Rhynchospora ciliaris</i>	fringed beaksedge		X		X	2

Scientific Name	Common Name	Section A	Section B	Section C	Section D	Grand Total
<i>Rhynchospora fascicularis</i>	fascicled beaksedge		X			1
<i>Rhynchospora filifolia</i>	threadleaf beaksedge	X		X		2
<i>Rhynchospora glomerata</i>	clustered beaksedge	X				1
<i>Rhynchospora gracilentata</i>	slender beaksedge	X		X	X	3
<i>Rhynchospora plumosa</i>	plumed beaksedge		X		X	2
<i>Rhynchospora pusilla</i>	fairy beaksedge		X			1
<i>Rubus pensilvanicus</i>	sawtooth blackberry				X	1
<i>Sabatia brevifolia</i>	shortleaf rosegentian		X			1
<i>Sarracenia flava</i>	yellow pitcherplant	X		X		2
<i>Schizachyrium scoparium</i> var. <i>scoparium</i>	little bluestem		X			1
<i>Schizachyrium stoloniferum</i>	creeping little bluestem		X		X	2
<i>Schizachyrium tenerum</i>	slender bluestem		X			1
<i>Scleria baldwinii</i>	Baldwin's nutrush	X		X		2
<i>Scleria muehlenbergii</i>	pitted nutrush		X			1
<i>Serenoa repens</i>	saw palmetto	X	X	X	X	4
<i>Seymeria cassioides</i>	yaupon blacksenna		X			1
<i>Smilax glauca</i>	cat greenbriar		X	X	X	3
<i>Smilax laurifolia</i>	laurel greenbriar	X	X	X	X	4
<i>Smilax walteri</i>	coral greenbriar	X		X		2
<i>Solidago fistulosa</i>	pinebarren goldenrod		X		X	2
<i>Sphagnum</i> sp.	sphagnum moss			X	X	2
<i>Symphyotrichum chapmanii</i>	savannah aster	X		X		2
<i>Tamala palustris</i>	swamp bay			X	X	2
<i>Taxodium ascendens</i>	pond cypress			X		1
<i>Tiedemannia filiformis</i> ssp. <i>filiformis</i>	water cowbane	X		X		2
<i>Triadenum virginicum</i>	Virginia marsh St. John's wort			X		1
<i>Trilisa odoratissima</i>	vanillaleaf		X		X	2
<i>Vaccinium fuscatum</i>	hairy highbush blueberry			X	X	2
<i>Vaccinium myrsinites</i>	shiny blueberry		X	X	X	3
<i>Viola vittata</i>	Southern water violet	X	X		X	3
<i>Xyris ambigua</i>	coastalplain yellow-eyed grass		X	X	X	3
<i>Xyris baldwiniana</i>	Baldwin's yellow-eyed grass		X			1
<i>Xyris brevifolia</i>	shortleaf yellow-eyed grass		X			1
<i>Xyris caroliniana</i>	Carolina yellow-eyed grass		X			1
<i>Xyris elliotii</i>	Elliott's yellow-eyed grass		X			1
<i>Xyris flabelliformis</i>	savannah yellow-eyed grass		X			1
<i>Xyris serotina</i>	acid swamp yellow-eyed grass	X		X	X	3
<i>Xyris stricta</i>	pineland yellow-eyed grass	X		X		2
Total number of taxa: 156		62	96	68	75	

Section A

Qualitative sampling. Section A (Figure 2) had a total of 62 observed plant taxa (Table 1). Species included the state-threatened pinewoods bluestem, a species fairly common to this site. The state-endangered wiregrass gentian (*Gentiana pennelliana*) has been observed in prior years but was not seen this year.

This is a thinned pine plantation dominated by slash pines with a basal area of around 50 ft² per acre. Much of the groundcover was open and herbaceous, but large areas were covered by abundant tall titi shrubs and laurel greenbrier. The average shrub stem density was similar to 2024. We recorded an average of 6 shrub stems/m² (Figure 11, Table 10), compared to 7.6 shrub stems/m² in 2024. Coarse woody debris was abundant. Soils were saturated to inundated. This section has areas of remnant wet prairie vegetation.

Quantitative sampling.

- Transect A1 (Table 2, Figure 3) had a total of 40 taxa with 56% total plant cover. Overall shrub cover was 9% and herbs averaged 46% cover. Compared to 2024, this represents an increase in species diversity and a small decrease in total plant cover (71% in 2024). Shrub cover and overall woody cover was about the same as last year. Nuisance shrubs (titi and black titi) were 2.5% cover. Shrubs averaged about 68 cm tall. Hog rooting was noted in several quadrats.
- Transect A2 (Table 3, Figure 4) had a total of 47 taxa with 85% total plant cover. Overall shrub cover was 22% and herbs averaged 63% cover. Compared to 2024, this represents about the same species diversity and total plant cover. Overall woody cover was the same as last year. Nuisance shrubs (titi and black titi) were 6.9% cover. Shrubs averaged about 77 cm tall.

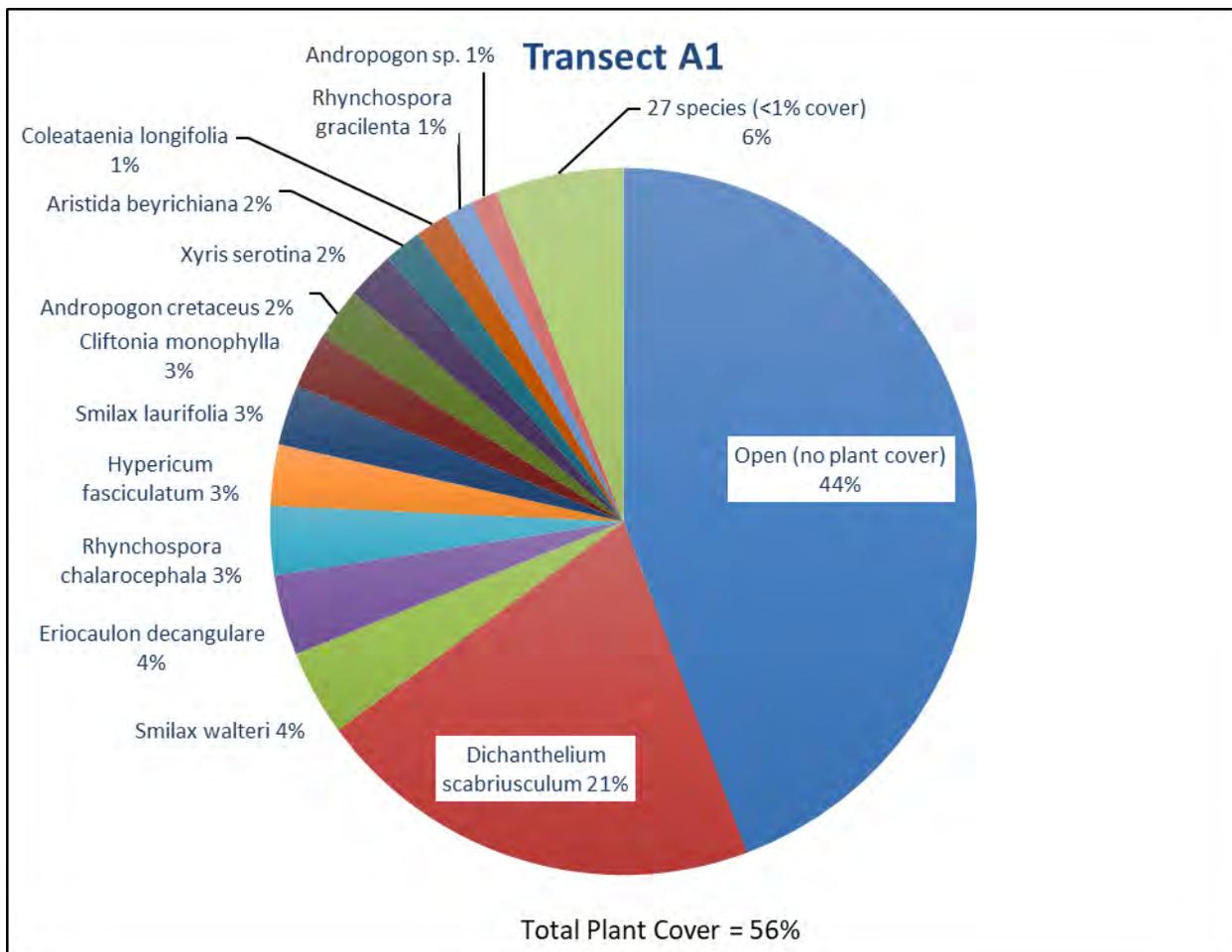


Figure 3. Percent relative cover of plant species in Transect A1.

Table 2. Percent cover of plant species in Transect A1 sampled on October 29, 2025.

Scientific name	Common name	Average percent cover per quadrat
<i>Andropogon cretaceus</i>	purple bluestem	2.30
<i>Andropogon sp.</i>	bluestem	1.17
<i>Anthenantia rufa</i>	purple silkyscale	0.03
<i>Aristida beyrichiana</i>	Southern wiregrass	1.67
<i>Aristida palustris</i>	longleaf threeawn	0.30
<i>Bartonia paniculata ssp. paniculata</i>	twining screwstem	0.07
<i>Cliftonia monophylla</i>	black titi	2.43
<i>Coleataenia longifolia</i>	ciliate redtop panicum	1.47
<i>Cyrilla parvifolia</i>	littleleaf titi	0.10
<i>Dichanthelium longiligulatum</i>	long-ligule witchgrass	0.27
<i>Dichanthelium scabriusculum</i>	woolly witchgrass	19.90
<i>Eriocaulon compressum</i>	flattened pipewort	0.20
<i>Eriocaulon decangulare</i>	tenangle pipewort	3.57
<i>Fuirena breviseta</i>	saltmarsh umbrellasedge	0.20
<i>Gelsemium sempervirens</i>	yellow jessamine	0.13

<i>Hypericum fasciculatum</i>	peelbark St. John's wort	2.70
<i>Ilex cassine</i>	dahoon	0.57
<i>Ilex coriacea</i>	large gallberry	0.10
<i>Ilex glabra</i>	gallberry	0.63
<i>Ilex myrtifolia</i>	myrtle-leaved holly	0.67
<i>Lachnanthes caroliniana</i>	Carolina redroot	0.13
<i>Liatris resinosa</i>	dense gayfeather	0.03
<i>Lophiola aurea</i>	golden crest	0.77
<i>Magnolia virginiana</i> var. <i>australis</i>	sweetbay	0.10
<i>Nyssa biflora</i>	swamp tupelo	0.07
<i>Pinus elliottii</i>	slash pine	0.20
<i>Proserpinaca pectinata</i>	combleaf mermaidweed	0.03
<i>Rhexia alifanus</i>	savannah meadowbeauty	0.03
<i>Rhynchospora chalarocephala</i>	loosehead beaksedge	3.03
<i>Rhynchospora chapmanii</i>	Chapman's beaksedge	0.03
<i>Rhynchospora filifolia</i>	threadleaf beaksedge	0.23
<i>Rhynchospora glomerata</i>	clustered beaksedge	0.10
<i>Rhynchospora gracilentata</i>	slender beaksedge	1.23
<i>Rhynchospora</i> sp.	beaksedge	0.03
<i>Smilax laurifolia</i>	laurel greenbriar	2.67
<i>Smilax walteri</i>	coral greenbriar	3.77
<i>Tiedemannia filiformis</i> ssp. <i>filiformis</i>	water cowbane	0.43
<i>Viola vittata</i>	Southern water violet	0.10
<i>Xyris serotina</i>	acid swamp yellow-eyed grass	2.13
<i>Xyris stricta</i>	pineland yellow-eyed grass	0.10
Open (no plant cover)		44.33

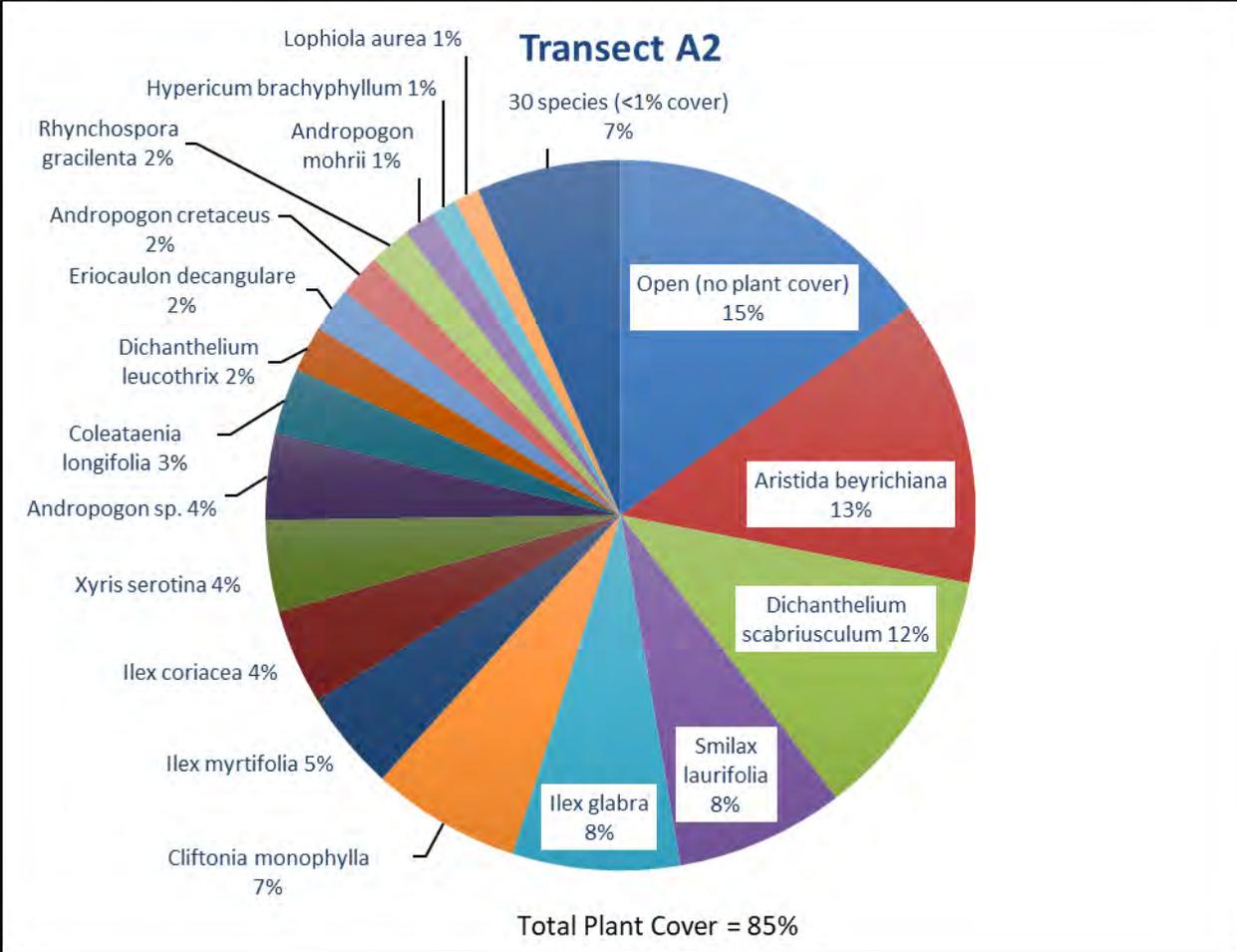


Figure 4. Percent relative cover of plant species in Transect A2.

Table 3. Percent cover of plant species in Transect A2 sampled on October 29, 2025.

Scientific name	Common name	Average percent cover per quadrat
<i>Andropogon cretaceus</i>	purple bluestem	2.00
<i>Andropogon mohrii</i>	tawny bluestem	1.47
<i>Andropogon sp.</i>	bluestem	4.00
<i>Andropogon virginicus var. virginicus</i>	broomsedge bluestem	0.60
<i>Aristida beyrichiana</i>	Southern wiregrass	13.20
<i>Asclepias sp.</i>	milkweed	0.03
<i>Bartonia paniculata ssp. paniculata</i>	twining screwstem	0.13
<i>Centella erecta</i>	spadeleaf	0.10
<i>Clethra tomentosa</i>	downy sweet pepperbush	0.43
<i>Cliftonia monophylla</i>	black titi	6.90
<i>Coleataenia longifolia</i>	ciliate redtop panicum	3.07
<i>Coreopsis sp.</i>	tickseed	0.03
<i>Dichanthelium leucothrix</i>	rough witchgrass	2.13
<i>Dichanthelium longiligulatum</i>	long-ligule witchgrass	0.33
<i>Dichanthelium scabriusculum</i>	woolly witchgrass	11.73

<i>Eriocaulon compressum</i>	flattened pipewort	0.43
<i>Eriocaulon decangulare</i>	tenangle pipewort	2.03
<i>Eupatorium mohrii</i>	Mohr's thoroughwort	0.03
<i>Euthamia caroliniana</i>	slender flattop goldenrod	0.03
<i>Fuirena breviseta</i>	saltmarsh umbrellasedge	0.37
<i>Gelsemium rankinii</i>	swamp jessamine	0.63
<i>Hypericum brachyphyllum</i>	coastalplain St. John's wort	1.17
<i>Hypericum fasciculatum</i>	peelbark St. John's wort	0.07
<i>Ilex coriacea</i>	large gallberry	4.40
<i>Ilex glabra</i>	gallberry	7.73
<i>Ilex myrtifolia</i>	myrtle-leaved holly	4.63
<i>Lachnanthes caroliniana</i>	Carolina redroot	0.20
<i>Liatris resinosa</i>	dense gayfeather	0.13
<i>Lophiola aurea</i>	golden crest	1.17
<i>Lycopodiella alopecuroides</i>	foxtail club-moss	0.07
<i>Muhlenbergia expansa</i>	cutover muhly	0.10
<i>Nyssa biflora</i>	swamp tupelo	0.50
<i>Osmunda spectabilis</i>	royal fern	0.23
<i>Pinus elliotii</i>	slash pine	0.03
<i>Rhexia alifanus</i>	savannah meadowbeauty	0.03
<i>Rhynchospora cephalantha</i> var. <i>cephalantha</i>	bunched beaksedge	0.03
<i>Rhynchospora chapmanii</i>	Chapman's beaksedge	0.30
<i>Rhynchospora filifolia</i>	threadleaf beaksedge	0.33
<i>Rhynchospora gracilentia</i>	slender beaksedge	1.90
<i>Rhynchospora</i> sp.	beaksedge	0.73
<i>Scleria baldwinii</i>	Baldwin's nutrush	0.03
<i>Smilax laurifolia</i>	laurel greenbriar	7.80
<i>Smilax walteri</i>	coral greenbriar	0.13
<i>Symphotrichum chapmanii</i>	savannah aster	0.37
<i>Viola vittata</i>	Southern water violet	0.10
<i>Xyris serotina</i>	acid swamp yellow-eyed grass	4.23
<i>Xyris stricta</i>	pineland yellow-eyed grass	0.10
Open (no plant cover)		15.07

Section B

Qualitative sampling. Section B (Figure 2) had a total of 96 observed plant taxa (Table 1). Species included the state-threatened pinewoods bluestem, a species fairly common to this site. The state-listed threatened Curtiss' sandgrass has been found in past years, but was not seen in 2025.

The area is a thinned pine plantation dominated by young slash pines with a basal area of around 10 ft² per acre, although a few mature trees were scattered. The shrubby understory was made up mostly of gallberry with St. Johns wort and saw palmetto common. The measured average shrub stem density was higher than in 2024, although this may be a sampling effect. Overall, the site did not appear much changed from last year. We recorded an average of 46.6 shrub stems/m² (Figure 11, Table 10), compared to 16.8 shrub stems/m² in 2024. Herbs were dominated by weedy bluestems, wiry sedges, and some wiregrass. Prior bedding from silviculture activities is still apparent, with the soil disturbances

creating alternating wet and dry habitats throughout the area. The area has components of both hydric and mesic pine flatwoods and is the most species diverse section of the Bayport site.

Quantitative sampling.

- Transect B1 (Table 4, Figure 5) had a total of 60 taxa with 95% total plant cover. Overall shrub cover was 15% and herbs averaged 88% cover. Compared to 2024, this represents about the same species diversity and an increase in total plant cover (77% in 2024). Wiregrass cover increased. Overall woody cover (15%) increased slightly compared to last year. There was no incidence of nuisance shrubs. Shrubs were low, averaging about 35 cm tall.
- Transect B2 (Table 5, Figure 6) had a total of 51 taxa with 80% total plant cover. Overall shrub cover was 30% and herbs averaged 58% cover. Compared to 2024, this represents an increase in species diversity (41 in 2024) and total plant cover. Warty panic grass was a dominant in this transect in 2024, but was only found in trace amounts this year. Overall woody cover (33%) increased compared to last year (16% in 2024). There was no incidence of nuisance shrubs. Shrubs averaged about 0.5 meters tall.

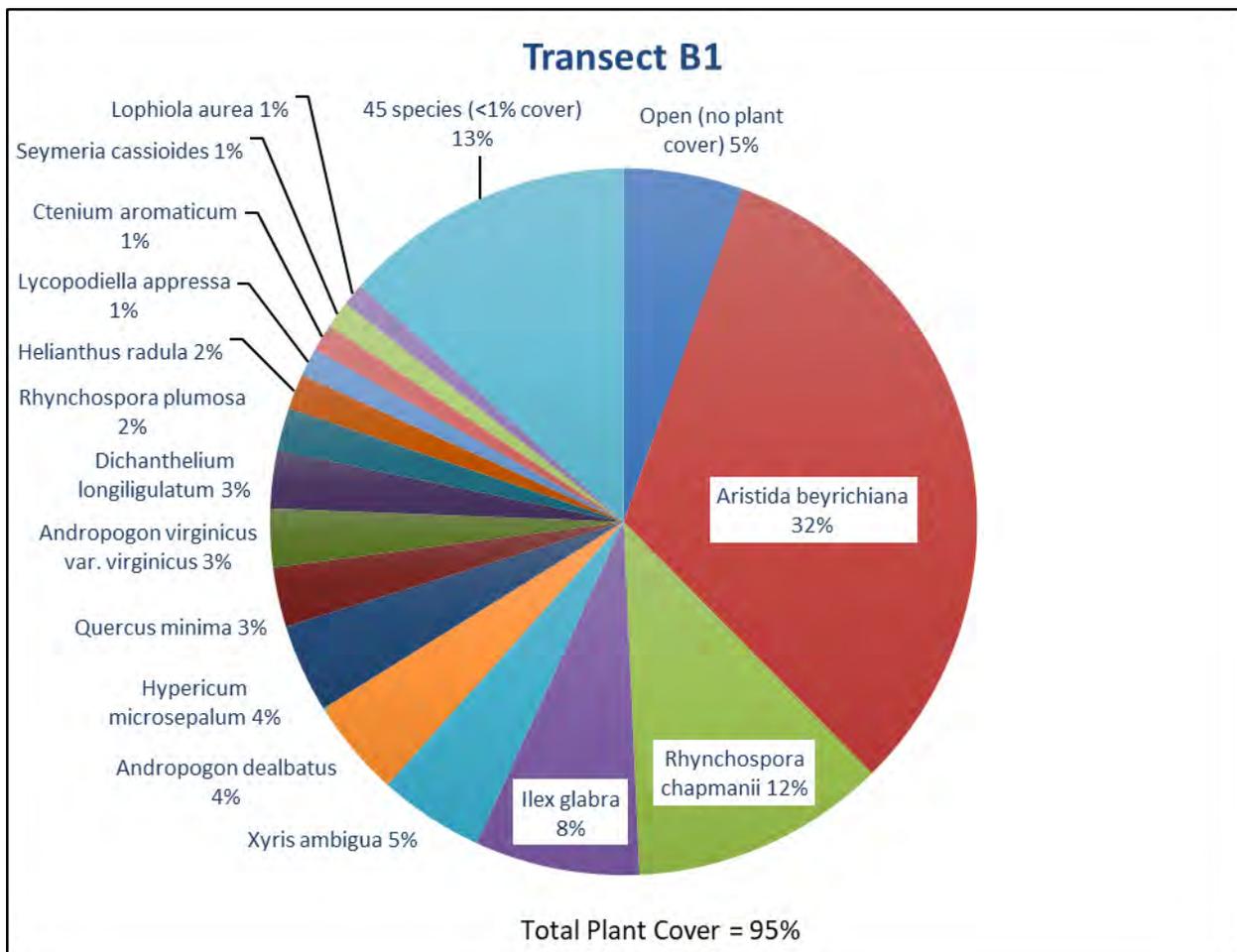


Figure 5 Percent relative cover of plant species in Transect B1.

Table 4. Percent cover of plant species in Transect B1 sampled on October 28, 2025.

Scientific name	Common name	Average percent cover per quadrat
<i>Aletris lutea</i>	yellow colic-root	0.60
<i>Andropogon arctatus</i>	pinewoods bluestem	0.50
<i>Andropogon dealbatus</i>	wetland white bluestem	4.20
<i>Andropogon perangustatus</i>	narrowleaf bluestem	0.83
<i>Andropogon virginicus</i> var. 1	smooth bluestem	0.50
<i>Andropogon virginicus</i> var. <i>virginicus</i>	broomsedge bluestem	2.50
<i>Aristida beyrichiana</i>	Southern wiregrass	30.00
<i>Aristida virgata</i>	arrowfeather threeawn	0.13
<i>Bigelovia nudata</i>	pineland rayless goldenrod	0.70
<i>Carphephorus pseudoliatris</i>	bristleleaf chaffhead	0.57
<i>Coreopsis floridana</i>	Florida tickseed	0.03
<i>Coreopsis</i> sp.	tickseed	0.03
<i>Ctenium aromaticum</i>	toothache grass	1.17
<i>Dichanthelium consanguineum</i>	Kunth's witchgrass	0.53
<i>Dichanthelium ensifolium</i>	small-leaved witchgrass	0.87
<i>Dichanthelium longiligulatum</i>	long-ligule witchgrass	2.47
<i>Dichanthelium strigosum</i>	roughhair witchgrass	0.03
<i>Drosera capillaris</i>	pink sundew	0.47
<i>Eragrostis</i> sp.	lovegrass	0.07
<i>Eupatorium leucolepis</i>	justiceweed	0.10
<i>Eurybia eryngiifolia</i>	thistleleaf aster	0.13
<i>Gaylussacia dumosa</i>	dwarf huckleberry	0.10
<i>Gaylussacia mosieri</i>	woolly huckleberry	0.33
<i>Helianthus heterophyllus</i>	variableleaf sunflower	0.53
<i>Helianthus radula</i>	stiff sunflower	1.50
<i>Hypericum brachyphyllum</i>	coastalplain St. John's wort	0.57
<i>Hypericum cistifolium</i>	roundpod St. John's wort	0.07
<i>Hypericum crux-andreae</i>	St. Peter's wort	0.10
<i>Hypericum microsepalum</i>	flatwoods St. John's wort	3.80
<i>Ilex glabra</i>	gallberry	7.03
<i>Ilex myrtifolia</i>	myrtle-leaved holly	0.10
<i>Ilex vomitoria</i>	yaupon	0.10
<i>Kelochloa verrucosa</i>	warty panicgrass	0.07
<i>Lachnanthes caroliniana</i>	Carolina redroot	0.17
<i>Lachnocaulon anceps</i>	whitehead bogbutton	0.37
<i>Liatris resinosa</i>	dense gayfeather	0.13
<i>Lophiola aurea</i>	golden crest	0.97
<i>Ludwigia maritima</i>	seaside primrosewillow	0.03
<i>Lycopodiella alopecuroides</i>	foxtail club-moss	0.43
<i>Lycopodiella appressa</i>	Southern club-moss	1.20
moss	moss	0.10
<i>Pityopsis</i> sp.	silkgrass	0.10
<i>Polygala hookeri</i>	Hooker's milkwort	0.13
<i>Polygala ramosa</i>	low pinebarren milkwort	0.10
<i>Pseudolycopodiella caroliniana</i>	slender club-moss	0.70
<i>Quercus minima</i>	dwarf live oak	2.53

Scientific name	Common name	Average percent cover per quadrat
<i>Rhexia alifanus</i>	savannah meadowbeauty	0.07
<i>Rhexia lutea</i>	yellow meadowbeauty	0.13
<i>Rhexia petiolata</i>	fringed meadowbeauty	0.13
<i>Rhynchospora baldwinii</i>	Baldwin's beaksedge	0.40
<i>Rhynchospora chapmanii</i>	Chapman's beaksedge	10.90
<i>Rhynchospora plumosa</i>	plumed beaksedge	1.83
<i>Rhynchospora pusilla</i>	fairy beaksedge	0.13
<i>Scleria muehlenbergii</i>	pitted nutrush	0.10
<i>Seymeria cassioides</i>	yaupon blacksenna	1.17
<i>Smilax laurifolia</i>	laurel greenbriar	0.73
<i>Viola vittata</i>	Southern water violet	0.10
<i>Xyris ambigua</i>	coastalplain yellow-eyed grass	4.50
<i>Xyris caroliniana</i>	Carolina yellow-eyed grass	0.20
<i>Xyris flabelliformis</i>	savannah yellow-eyed grass	0.13
Open (no plant cover)		5.47

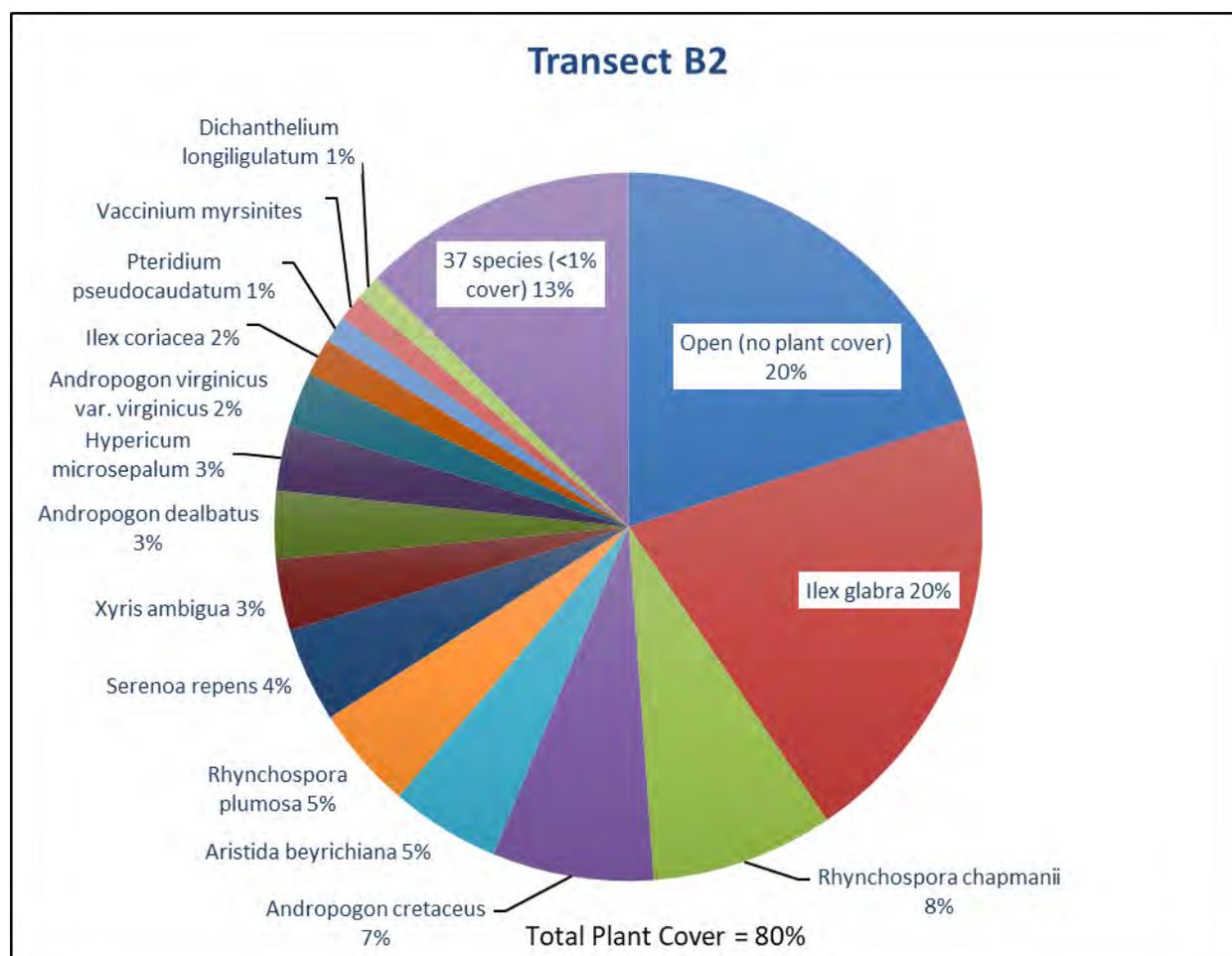


Figure 6. Percent relative cover of plant species in Transect B2.

Table 5. Percent cover of plant species in Transect B2 sampled on October 28, 2025.

Scientific name	Common name	Average percent cover per quadrat
<i>Andropogon arctatus</i>	pinewoods bluestem	0.10
<i>Andropogon cretaceus</i>	purple bluestem	7.13
<i>Andropogon dealbatus</i>	wetland white bluestem	3.00
<i>Andropogon virginicus</i> var. 1	smooth bluestem	0.57
<i>Andropogon virginicus</i> var. <i>virginicus</i>	broomsedge bluestem	2.40
<i>Aristida beyrichiana</i>	Southern wiregrass	4.83
<i>Aristida virgata</i>	arrowfeather threeawn	0.13
<i>Coleataenia longifolia</i>	ciliate redtop panicum	0.23
<i>Dichantherium consanguineum</i>	Kunth's witchgrass	0.03
<i>Dichantherium ensifolium</i>	small-leaved witchgrass	0.93
<i>Dichantherium longiligulatum</i>	long-ligule witchgrass	1.13
<i>Dichantherium tenue</i>	white-edged witchgrass	0.33
<i>Drosera capillaris</i>	pink sundew	0.30
<i>Edrastrima uniflora</i>	oldenlandia	0.27
<i>Eupatorium mohrii</i>	Mohr's thoroughwort	0.23
<i>Gaylussacia dumosa</i>	dwarf huckleberry	0.50
<i>Gaylussacia mosieri</i>	woolly huckleberry	0.07
<i>Hypericum brachyphyllum</i>	coastalplain St. John's wort	0.03
<i>Hypericum cistifolium</i>	roundpod St. John's wort	0.03
<i>Hypericum crux-andreae</i>	St. Peter's wort	0.03
<i>Hypericum microsepalum</i>	flatwoods St. John's wort	2.90
<i>Ilex coriacea</i>	large gallberry	1.67
<i>Ilex glabra</i>	gallberry	19.80
<i>Kelochloa verrucosa</i>	warty panicgrass	0.03
<i>Lachnanthes caroliniana</i>	Carolina redroot	0.40
<i>Lachnocaulon anceps</i>	whitehead bogbutton	0.23
<i>Lycopodiella alopecuroides</i>	foxtail club-moss	0.10
<i>Lycopodiella appressa</i>	Southern club-moss	0.63
<i>Pinus elliottii</i>	slash pine	0.53
<i>Pseudolycopodiella caroliniana</i>	slender club-moss	0.70
<i>Pteridium pseudocaudatum</i>	tailed bracken	1.17
<i>Quercus minima</i>	dwarf live oak	0.73
<i>Rhexia alifanus</i>	savannah meadowbeauty	0.10
<i>Rhexia lutea</i>	yellow meadowbeauty	0.30
<i>Rhexia mariana</i>	pale meadowbeauty	0.10
<i>Rhexia mariana</i> var. <i>exalbida</i>	white meadowbeauty	0.77
<i>Rhexia petiolata</i>	fringed meadowbeauty	0.23
<i>Rhynchospora baldwinii</i>	Baldwin's beaksedge	0.40
<i>Rhynchospora chapmanii</i>	Chapman's beaksedge	8.07
<i>Rhynchospora fascicularis</i>	fascicled beaksedge	0.30
<i>Rhynchospora plumosa</i>	plumed beaksedge	4.57
<i>Sabatia brevifolia</i>	shortleaf rosegentian	0.10
<i>Serenoa repens</i>	saw palmetto	4.17
<i>Seymeria cassioides</i>	yaupon blacksenna	0.57
<i>Smilax glauca</i>	cat greenbriar	0.83
<i>Smilax laurifolia</i>	laurel greenbriar	0.70

Scientific name	Common name	Average percent cover per quadrat
<i>Trilisa odoratissima</i>	vanillaleaf	0.20
<i>Vaccinium myrsinites</i>	shiny blueberry	1.17
<i>Xyris ambigua</i>	coastalplain yellow-eyed grass	3.17
<i>Xyris caroliniana</i>	Carolina yellow-eyed grass	0.27
<i>Xyris flabelliformis</i>	savannah yellow-eyed grass	0.13
Open (no plant cover)		20.07

Section C

Qualitative monitoring. Section C had a total of 68 plant taxa (Table 1). Species included the state-threatened pinewoods bluestem, a species fairly common to this site, as well as the state-threatened Curtiss' sandgrass which is a dominant grass in parts of this section.

This area is a mix of dense grassy areas and thickets of dense titi and laurel greenbrier under a 30- to 40-foot-tall canopy of young, planted slash pines that have been thinned in recent years. A few taller live oaks, myrtle-leaved hollies, swamp tupelos, and sweetbays were scattered throughout. The measured average shrub stem density was decreased from 2024, but about the same as the 2023 sample. We recorded an average of 11 shrub stems/m² (Figure 11, Table 10), compared to 28.4 shrub stems/m² in 2024. Coarse woody debris was abundant.

Quantitative monitoring.

- Transect C1 (Figure 7, Table 6) had a total of 47 taxa with 89% total plant cover. Overall shrub cover was 11% and herbs averaged 81% cover. Compared to 2024, this represents about the same species diversity and a small increase in total plant cover (76% in 2024). Overall woody cover (16%) was the same as last year. Nuisance shrubs (titi and black titi) were 1.3% cover. Shrubs averaged about 0.5 meters tall.
- Transect C2 (Figure 8, Table 7) had a total of 34 taxa with 80% total plant cover. Overall shrub cover was 2% and herbs averaged 78% cover. Compared to 2024, this represents about the same species diversity and a small increase in total plant cover (69% in 2024). Overall woody cover (3%) was about the same as last year. Nuisance shrubs (titi and black titi) were 1.2% cover. Shrubs averaged about 20 cm tall.

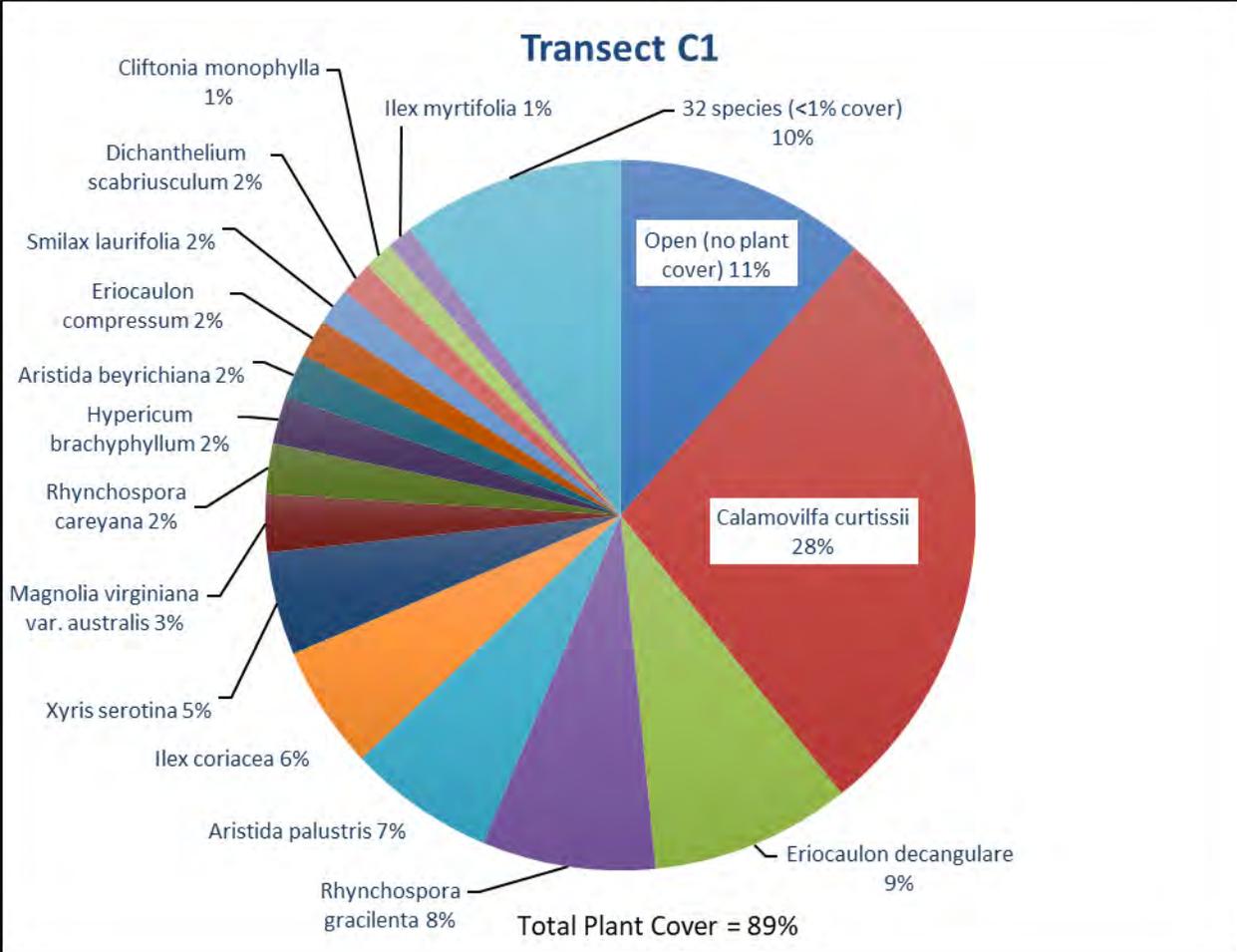


Figure 7. Percent relative cover of plant species in Transect C1.

Table 6. Percent cover of plant species in Transect C1 sampled on October 29, 2025.

Scientific name	Common name	Average percent cover per quadrat
<i>Andropogon cretaceus</i>	purple bluestem	0.90
<i>Andropogon dealbatus</i>	wetland white bluestem	0.10
<i>Andropogon glomeratus</i>	bushy bluestem	0.70
<i>Andropogon perangustatus</i>	narrowleaf bluestem	0.23
<i>Andropogon</i> sp.	bluestem	0.10
<i>Andropogon virginicus</i> var. 1	smooth bluestem	0.20
<i>Aristida beyrichiana</i>	Southern wiregrass	1.90
<i>Aristida palustris</i>	longleaf threeawn	6.33
<i>Aronia arbutifolia</i>	red chokeberry	0.03
<i>Balduina uniflora</i>	oneflower honeycomb-head	0.10
<i>Calamovilfa curtissii</i>	Curtiss' sandgrass	26.37
<i>Clethra tomentosa</i>	downy sweet pepperbush	0.20
<i>Cliftonia monophylla</i>	black titi	1.27
<i>Coleataenia longifolia</i>	ciliate redtop panicum	0.80
<i>Cyrilla parvifolia</i>	littleleaf titi	0.30

Scientific name	Common name	Average percent cover per quadrat
<i>Dichantheium ensifolium</i>	small-leaved witchgrass	0.10
<i>Dichantheium longiligulatum</i>	long-ligule witchgrass	0.23
<i>Dichantheium scabriusculum</i>	woolly witchgrass	1.47
<i>Erianthus giganteus</i>	sugarcane plumegrass	0.57
<i>Eriocaulon compressum</i>	flattened pipewort	1.67
<i>Eriocaulon decangulare</i>	tenangle pipewort	8.63
<i>Eupatorium mohrii</i>	Mohr's thoroughwort	0.10
<i>Gaylussacia mosieri</i>	woolly huckleberry	0.23
<i>Hypericum brachyphyllum</i>	coastalplain St. John's wort	2.07
<i>Hypericum fasciculatum</i>	peelbark St. John's wort	0.40
<i>Ilex coriacea</i>	large gallberry	5.33
<i>Ilex glabra</i>	gallberry	0.23
<i>Ilex myrtifolia</i>	myrtle-leaved holly	1.10
<i>Lachnanthes caroliniana</i>	Carolina redroot	0.10
<i>Lophiola aurea</i>	golden crest	0.70
<i>Lycopodiella alopecuroides</i>	foxtail club-moss	0.10
<i>Magnolia virginiana</i> var. <i>australis</i>	sweetbay	2.50
<i>Nyssa biflora</i>	swamp tupelo	0.23
<i>Pinus elliotii</i>	slash pine	0.20
<i>Rhexia alifanus</i>	savannah meadowbeauty	0.10
<i>Rhynchospora careyana</i>	Cary's horned beaksedge	2.17
<i>Rhynchospora cephalantha</i> var. <i>cephalantha</i>	bunched beaksedge	0.87
<i>Rhynchospora chapmanii</i>	Chapman's beaksedge	0.63
<i>Rhynchospora gracilentia</i>	slender beaksedge	7.47
<i>Sarracenia flava</i>	yellow pitcherplant	0.03
<i>Scleria baldwinii</i>	Baldwin's nutrush	0.37
<i>Smilax laurifolia</i>	laurel greenbriar	1.57
<i>Sphagnum</i> sp.	sphagnum moss	0.20
<i>Taxodium ascendens</i>	pond cypress	0.07
<i>Triadenum virginicum</i>	Virginia marsh St. John's wort	0.10
<i>Xyris ambigua</i>	coastalplain yellow-eyed grass	0.33
<i>Xyris serotina</i>	acid swamp yellow-eyed grass	4.43
Open (no plant cover)		11.47

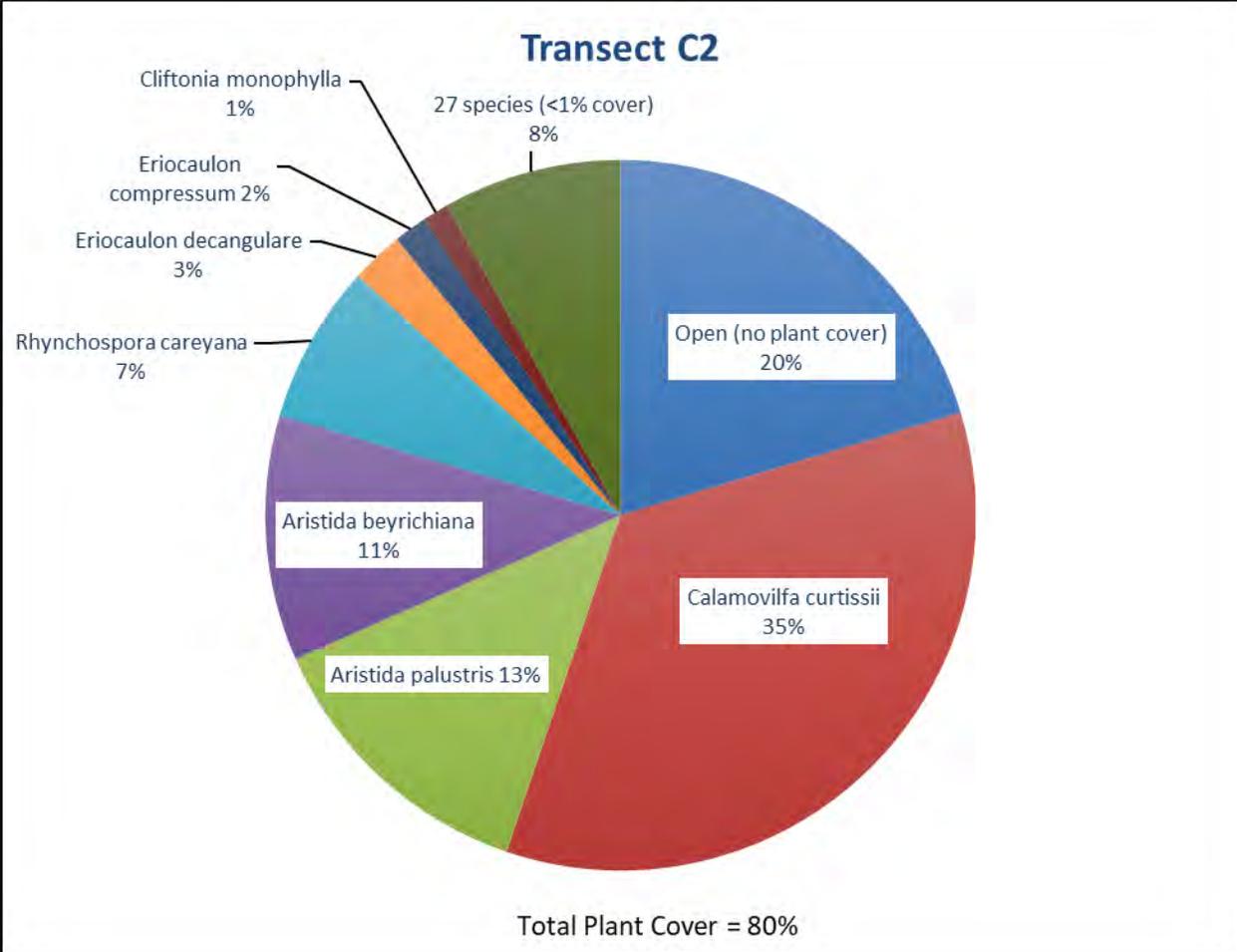


Figure 8. Percent relative cover of plant species in Transect C2.

Table 7. Percent cover of plant species in Transect C2 sampled on October 29, 2025.

Scientific name	Common name	Average percent cover per quadrat
<i>Andropogon arctatus</i>	pinewoods bluestem	0.10
<i>Andropogon cretaceus</i>	purple bluestem	0.60
<i>Aristida beyrichiana</i>	Southern wiregrass	10.90
<i>Aristida palustris</i>	longleaf threeawn	12.87
<i>Calamovilfa curtissii</i>	Curtiss' sandgrass	34.07
<i>Carex glaucescens</i>	clustered sedge	0.10
<i>Cliftonia monophylla</i>	black titi	1.17
<i>Coleataenia longifolia</i>	ciliate redtop panicum	0.80
<i>Dichantherium scabriusculum</i>	woolly witchgrass	0.47
<i>Eriocaulon compressum</i>	flattened pipewort	1.50
<i>Eriocaulon decangulare</i>	tenangle pipewort	2.33
<i>Hymenachne hemitoma</i>	maidencane	0.20
<i>Hypericum myrtifolium</i>	myrtleleaf St. John's wort	0.33
<i>Hypericum sp.</i>	St. John's wort	0.03
<i>Ilex myrtifolia</i>	myrtle-leaved holly	0.60

<i>Lachnanthes caroliniana</i>	Carolina redroot	0.37
<i>Lophiola aurea</i>	golden crest	0.03
<i>Lycopodiella alopecuroides</i>	foxtail club-moss	0.03
<i>Panicum virgatum</i>	switchgrass	0.13
<i>Pinus elliotii</i>	slash pine	0.07
<i>Rhexia alifanus</i>	savannah meadowbeauty	0.10
<i>Rhynchospora careyana</i>	Cary's horned beaksedge	7.07
<i>Rhynchospora cephalantha</i> var. <i>cephalantha</i>	bunched beaksedge	0.80
<i>Rhynchospora chapmanii</i>	Chapman's beaksedge	0.13
<i>Rhynchospora filifolia</i>	threadleaf beaksedge	0.53
<i>Sarracenia flava</i>	yellow pitcherplant	0.23
<i>Scleria baldwinii</i>	Baldwin's nutrush	0.23
<i>Smilax laurifolia</i>	laurel greenbriar	0.57
<i>Smilax walteri</i>	coral greenbriar	0.10
<i>Symphotrichum chapmanii</i>	savannah aster	0.03
<i>Tiedemannia filiformis</i> ssp. <i>filiformis</i>	water cowbane	0.23
<i>Xyris serotina</i>	acid swamp yellow-eyed grass	0.97
<i>Xyris</i> sp.	yellow-eyed grass	0.03
<i>Xyris stricta</i>	pineland yellow-eyed grass	0.10
Open (no plant cover)		20.33

Section D

Qualitative monitoring. Section D had a total of 75 plant taxa (Table 1). Species included the state-threatened pinewoods bluestem, a species fairly common to this site. The state-listed threatened Curtiss' sandgrass has been found in past years, but was not seen in 2025.

This is a thinned pine plantation dominated by slash pines with a basal area of around 50 ft² per acre. Large areas were covered by abundant titi shrubs and laurel greenbrier. The measured average shrub stem density has been fairly consistent over the past 3 years. We recorded an average of 25.4 shrub stems/m² (Figure 11, Table 10), compared to 20.4 shrub stems/m² in 2024. Coarse woody debris was abundant. Vegetation was mostly remnant hydric pine flatwoods indicators, but plants typical of more mesic flatwoods were found near the road along the south side of the area.

Quantitative monitoring.

- Transect D1 (Figure 9, Table 8) had a total of 42 taxa with 83% total plant cover. Overall shrub cover was 33% and herbs averaged 46% cover. Compared to 2024, this represents an increase in species diversity (35 in 2024) and about the same total plant cover (89% in 2024). Warty panic grass was a dominant in 2024, but was much reduced. And black titi had greatly increased. Overall woody cover (44%) increased compared to last year (29% in 2024). Nuisance shrubs (titi and black titi) were 18.9% cover. Shrubs averaged about 83 cm tall.
- Transect D2 (Figure 10, Table 9) had a total of 41 taxa with 70% total plant cover. Overall shrub cover was 38% and herbs averaged 27% cover. Compared to 2024, this represents a small increase in species diversity (36 in 2024) and about the same total plant cover (61% in 2024).

Overall woody cover (49%) increased slightly compared to last year (40% in 2024). Nuisance shrubs (titi and black titi) were 0.6% cover. Shrubs averaged almost 1 meter tall.

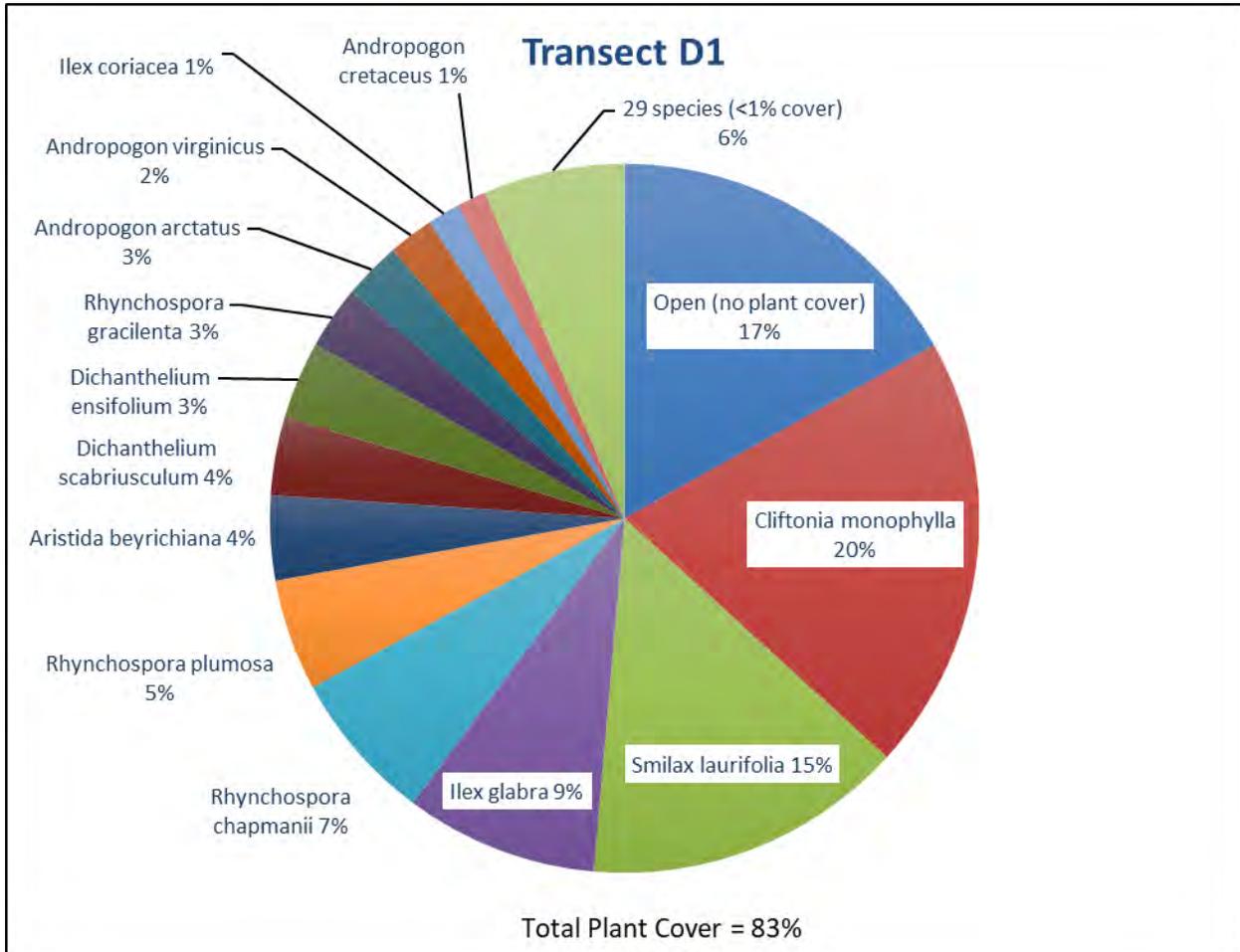


Figure 9. Percent relative cover of plant species in Transect D1.

Table 8. Percent cover of plant species in Transect D1 sampled on October 28, 2025.

Scientific name	Common name	Average percent cover per quadrat
<i>Andropogon arctatus</i>	pinewoods bluestem	2.50
<i>Andropogon cretaceus</i>	purple bluestem	1.27
<i>Andropogon glomeratus</i>	bushy bluestem	0.60
<i>Andropogon sp.</i>	bluestem	0.23
<i>Andropogon virginicus</i>	broomsedge bluestem	1.97
<i>Andropogon virginicus var. 1</i>	smooth bluestem	0.10
<i>Aristida beyrichiana</i>	Southern wiregrass	3.67
<i>Balduina uniflora</i>	oneflower honeycomb-head	0.50
<i>Bartonia paniculata ssp. paniculata</i>	twining screwstem	0.03
<i>Burmannia capitata</i>	Southern bluethread	0.03
<i>Cliftonia monophylla</i>	black titi	18.90

Scientific name	Common name	Average percent cover per quadrat
<i>Dichanthelium ensifolium</i>	small-leaved witchgrass	3.37
<i>Dichanthelium longiligulatum</i>	long-ligule witchgrass	0.47
<i>Dichanthelium scabriusculum</i>	woolly witchgrass	3.40
<i>Eriocaulon decangulare</i>	tenangle pipewort	0.20
<i>Gaylussacia mosieri</i>	woolly huckleberry	0.03
<i>Hypericum brachyphyllum</i>	coastalplain St. John's wort	0.63
<i>Hypericum cistifolium</i>	roundpod St. John's wort	0.03
<i>Ilex coriacea</i>	large gallberry	1.40
<i>Ilex glabra</i>	gallberry	8.37
<i>Lachnanthes caroliniana</i>	Carolina redroot	0.10
<i>Lachnocaulon anceps</i>	whitehead bogbutton	0.10
<i>Lobelia brevifolia</i>	shortleaf lobelia	0.03
<i>Lycopodiella</i> sp.	club-moss	0.10
<i>Magnolia virginiana</i> var. <i>australis</i>	sweetbay	0.23
<i>Osmunda spectabilis</i>	royal fern	0.10
<i>Polygala</i> sp.	milkwort	0.03
<i>Pseudolycopodiella caroliniana</i>	slender club-moss	0.27
<i>Rhexia petiolata</i>	fringed meadowbeauty	0.33
<i>Rhynchospora cephalantha</i> var. <i>cephalantha</i>	bunched beaksedge	0.23
<i>Rhynchospora chalarocephala</i>	loosehead beaksedge	0.10
<i>Rhynchospora chapmanii</i>	Chapman's beaksedge	6.57
<i>Rhynchospora ciliaris</i>	fringed beaksedge	0.07
<i>Rhynchospora gracilentata</i>	slender beaksedge	2.73
<i>Rhynchospora plumosa</i>	plumed beaksedge	4.83
<i>Smilax laurifolia</i>	laurel greenbriar	13.90
<i>Sphagnum</i> sp.	sphagnum moss	0.50
<i>Vaccinium fuscatum</i>	hairy highbush blueberry	0.50
<i>Viola lanceolata</i>	Southern water violet	0.17
<i>Xyris ambigua</i>	coastalplain yellow-eyed grass	0.03
<i>Xyris serotina</i>	acid swamp yellow-eyed grass	0.33
<i>Xyris</i> sp.	yellow-eyed grass	0.03
Open (no plant cover)		16.87

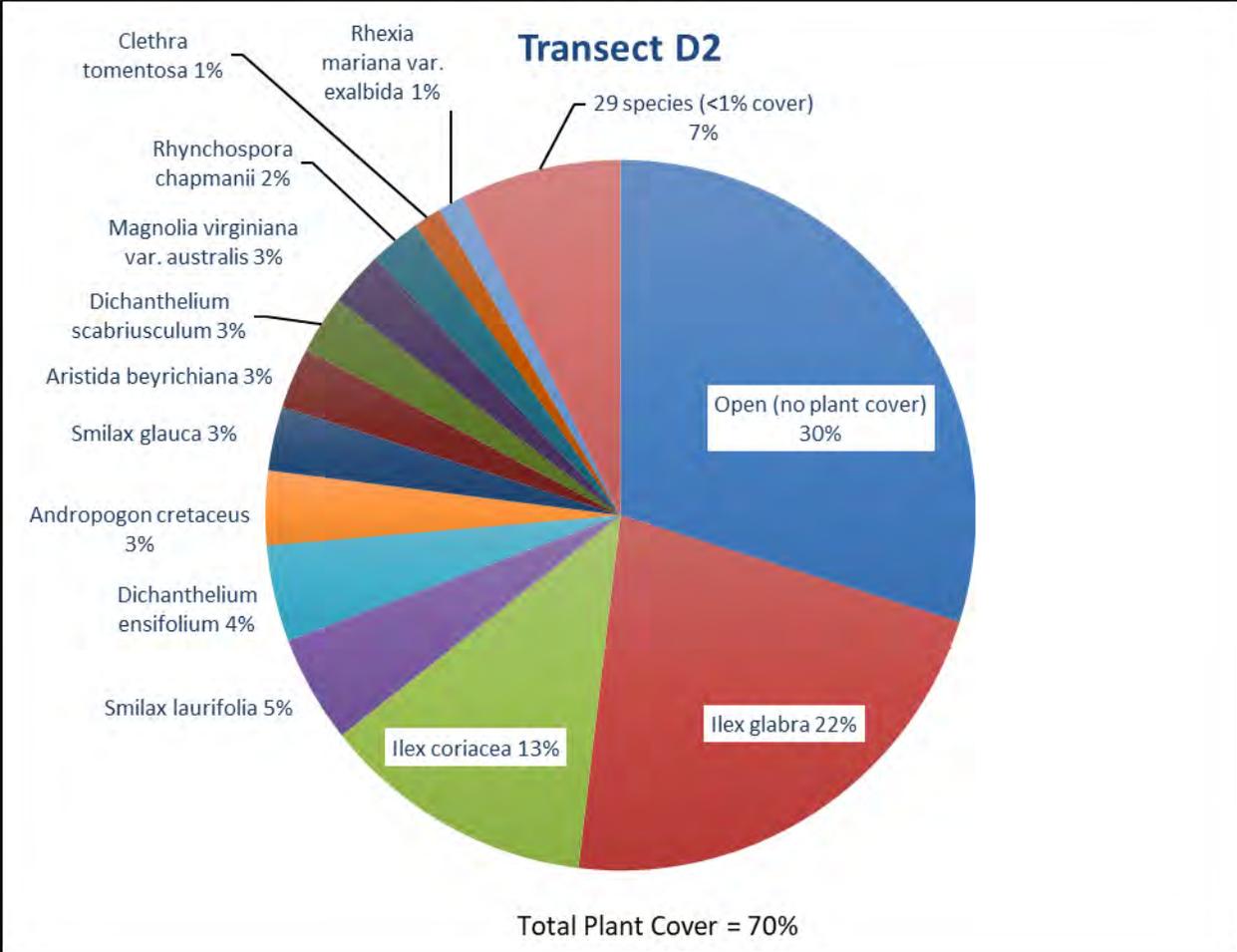


Figure 10. Percent relative cover of plant species in Transect D2.

Table 9. Percent cover of plant species in Transect D2 sampled on October 28, 2025.

Scientific name	Common name	Average percent cover per quadrat
<i>Amianthium muscitoxicum</i>	flypoison	0.07
<i>Andropogon cretaceus</i>	purple bluestem	3.33
<i>Andropogon glomeratus</i>	bushy bluestem	0.50
<i>Andropogon virginicus</i> var. 1	smooth bluestem	0.23
<i>Anthenantia rufa</i>	purple silkyscale	0.60
<i>Aristida beyrichiana</i>	Southern wiregrass	2.73
<i>Aronia arbutifolia</i>	red chokeberry	0.10
<i>Bartonia paniculata</i> ssp. <i>paniculata</i>	twining screwstem	0.03
<i>Clethra alnifolia</i>	sweet pepperbush	0.50
<i>Clethra tomentosa</i>	downy sweet pepperbush	1.27
<i>Coleataenia longifolia</i>	ciliate redtop panicum	0.10
<i>Cyrilla parvifolia</i>	littleleaf titi	0.63
<i>Dichantherium ensifolium</i>	small-leaved witchgrass	4.33
<i>Dichantherium leucothrix</i>	rough witchgrass	0.30
<i>Dichantherium scabriusculum</i>	woolly witchgrass	2.60

<i>Eupatorium mohrii</i>	Mohr's thoroughwort	0.03
<i>Gaylussacia mosieri</i>	woolly huckleberry	0.57
<i>Hypericum cistifolium</i>	roundpod St. John's wort	0.37
<i>Ilex coriacea</i>	large gallberry	12.33
<i>Ilex glabra</i>	gallberry	21.80
<i>Ilex myrtifolia</i>	myrtle-leaved holly	0.27
<i>Kelochloa verrucosa</i>	warty panicgrass	0.03
<i>Lachnanthes caroliniana</i>	Carolina redroot	0.07
<i>Lophiola aurea</i>	golden crest	0.83
<i>Magnolia virginiana</i> var. <i>australis</i>	sweetbay	2.50
<i>Morella caroliniensis</i>	evergreen bayberry	0.23
<i>Nyssa biflora</i>	swamp tupelo	0.03
<i>Pinus elliottii</i>	slash pine	0.30
<i>Pseudolycopodiella caroliniana</i>	slender club-moss	0.03
<i>Pteridium pseudocaudatum</i>	tailed bracken	0.03
<i>Rhexia alifanus</i>	savannah meadowbeauty	0.20
<i>Rhexia mariana</i>	pale meadowbeauty	0.37
<i>Rhexia mariana</i> var. <i>exalbida</i>	white meadowbeauty	1.17
<i>Rhexia petiolata</i>	fringed meadowbeauty	0.37
<i>Rhynchospora chapmanii</i>	Chapman's beaksedge	2.30
<i>Rubus pensilvanicus</i>	sawtooth blackberry	0.10
<i>Smilax glauca</i>	cat greenbriar	2.90
<i>Smilax laurifolia</i>	laurel greenbriar	4.83
<i>Tamala palustris</i>	swamp bay	0.23
<i>Vaccinium fuscatum</i>	hairy highbush blueberry	0.03
<i>Xyris ambigua</i>	coastalplain yellow-eyed grass	0.10
Open (no plant cover)		30.00

Shrub Quadrats

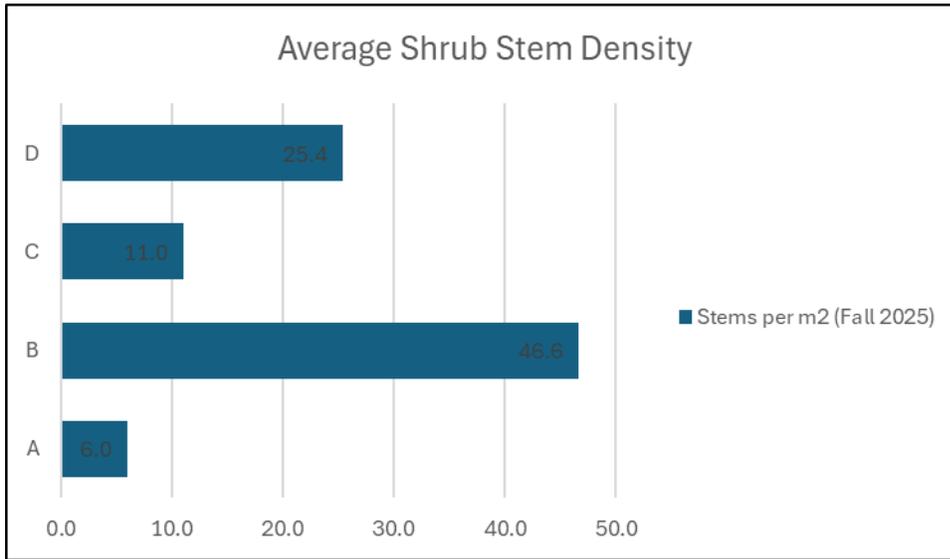


Figure 11. Average Rooted Shrub Stems per Square Meter (Fall 2025)

Table 10. Rooted Shrub Stems per Square Meter (Fall 2025)

Polygon A		Polygon B		Polygon C		Polygon D	
Shrub Quadrat	Shrub Stems per m ²	Shrub Quadrat	Shrub Stems per m ²	Shrub Quadrat	Shrub Stems per m ²	Shrub Quadrat	Shrub Stems per m ²
1	2	1	14	1	15	1	47
2	11	2	29	2	13	2	10
3	11	3	46	3	5	3	33
4	4	4	63	4	9	4	2
5	2	5	81	5	13	5	35
AVG Stems per m ²	6	AVG Stems per m ²	46.6	AVG Stems per m ²	11	AVG Stems per m ²	25.4