

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

Fall 2024

Amy Jenkins
Allie Heiker
Kimberely Alexander

Florida Natural Area Inventory
1018 Thomasville Road, Suite 200-C
Tallahassee, FL 32303
Frank Price, Director

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Bayport Mitigation Site
Bay County
USACE Permit #SAJ-1997-07427 (SP-SWA)
Qualitative and Quantitative Monitoring
November 2024

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 2023.

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 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 estimated open ground in each quadrat as the percentage of ground not obscured by plant cover up to 2 m tall. We converted all cover estimates to mid-point values and averaged across each transect. We also calculated relative cover (in which all plant cover and open ground is given as a proportion of 100 percent cover); this is reported in separate pie charts.

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 Allie Heiker and Amy Jenkins conducted all field surveys on November 18-20, 2024.

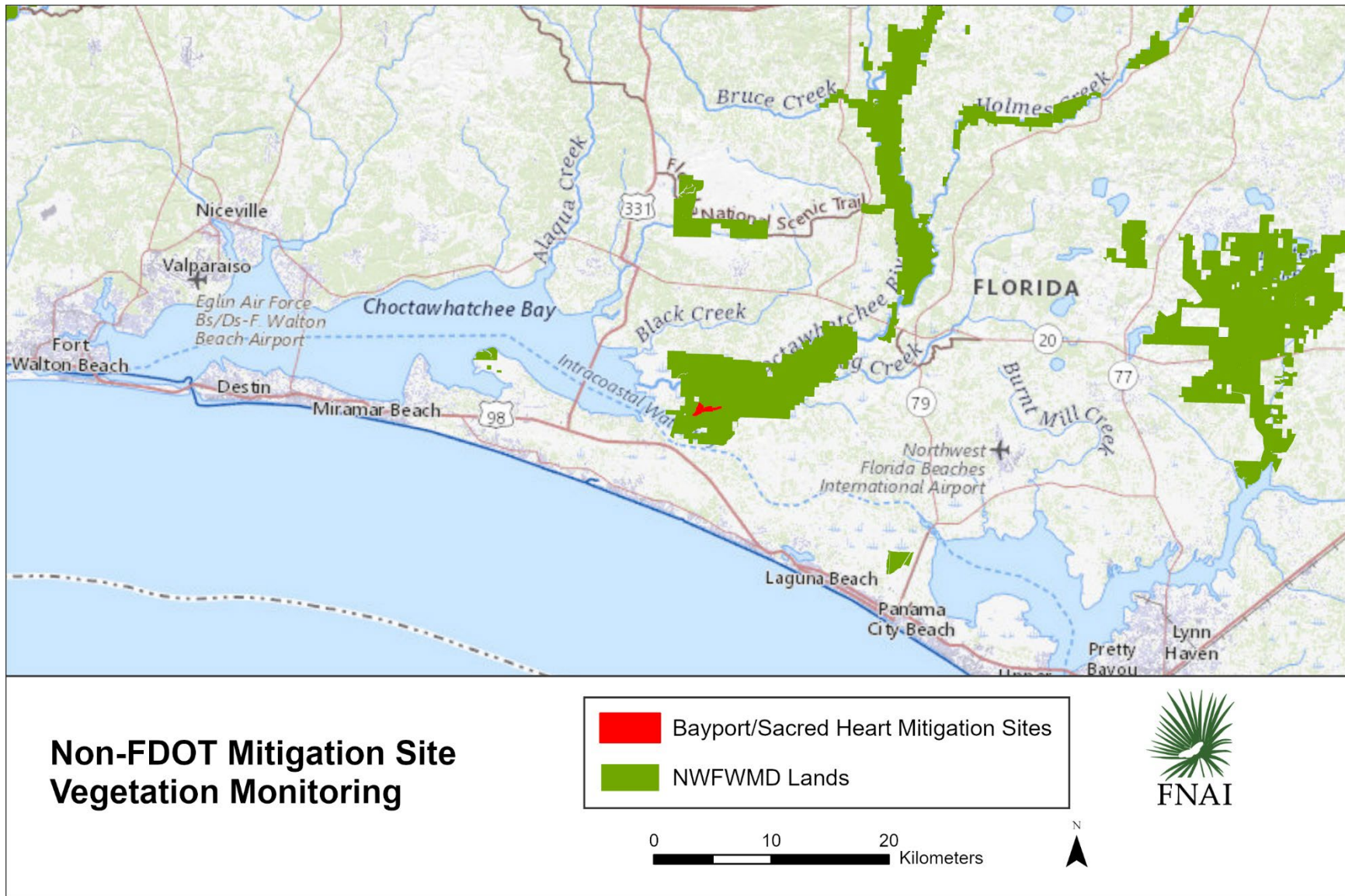


Figure 1. Location map of Devils Swamp non-FDOT NFWMD mitigation sites monitored by FNAI.

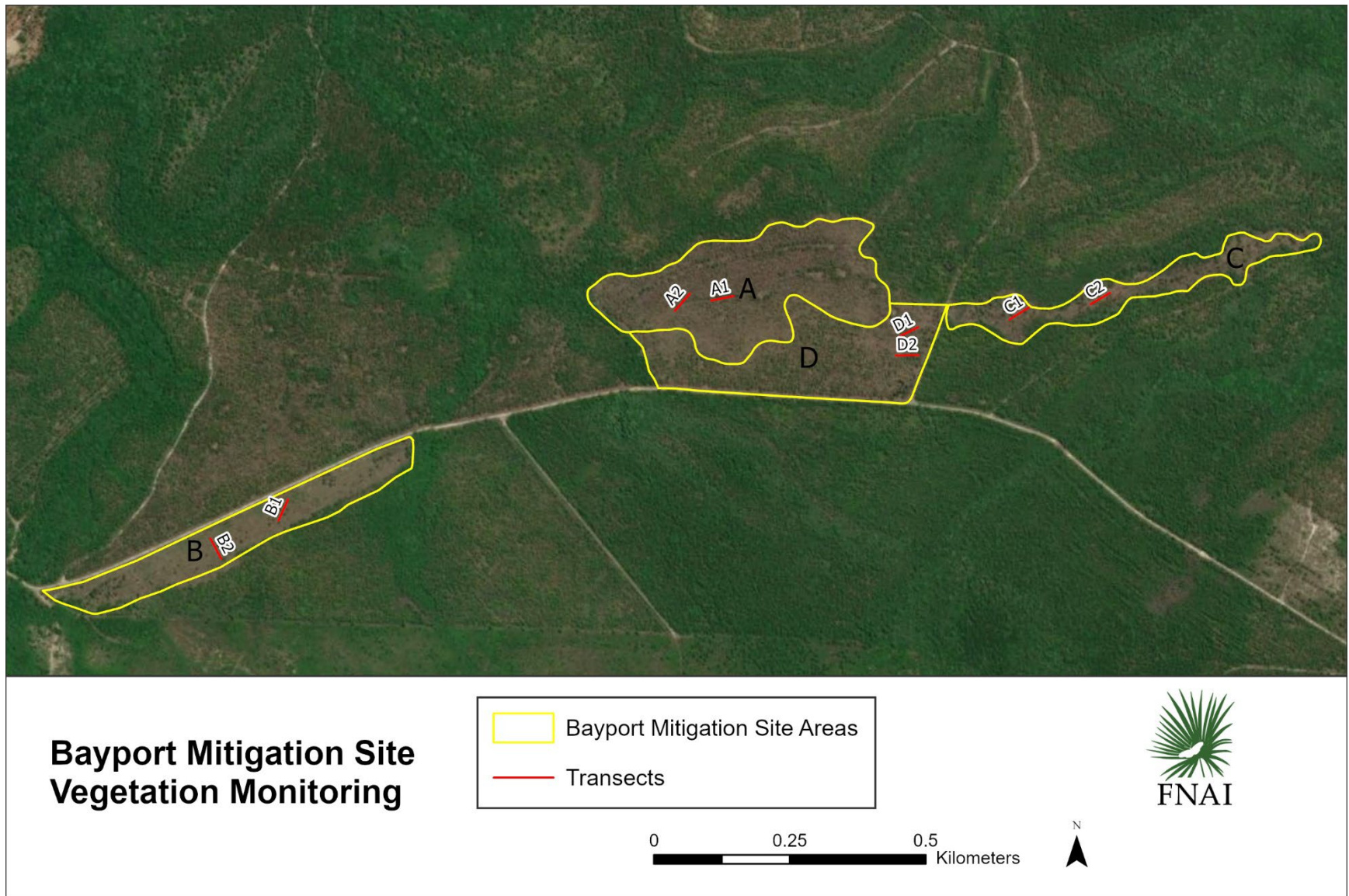


Figure 2. Location of quantitative transects at Bayport Mitigation Site.

RESULTS AND DISCUSSION

We documented a total of 174 plant taxa during the 2024 monitoring of all four sections of the Bayport Mitigation Site (Table 1). Fifteen new taxa were noted (i.e., species or varieties not observed during 2021-2023 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. This is a change from the previous FNAI monitoring reports, which followed Wunderlin, R. P., B.F. Hansen, A.R. Franck, and F.B. Essig. 2017. Atlas of Florida Plants (<http://florida.plantatlas.usf.edu/>), Institute for Systematic Botany, University of South Florida, Tampa.

Table 1. Species observed in target sections of Bayport Mitigation Site on November 18-20, 2024 (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>Acalypha gracilens</i>	slender threeseed mercury		X			1
<i>Acer rubrum</i>	red maple	X				1
<i>Ageratina aromatica</i>	lesser snakeroot				X	1
<i>Aletris lutea</i>	yellow colic-root		X			1
<i>Aletris</i> sp.	colic-root				X	1
<i>Amphicarpum muehlenbergianum</i>	blue maidencane				X	1
<i>Anchistea virginica</i>	Virginia chain fern			X	X	2
<i>Andropogon capillipes</i>	dryland white bluestem		X			1
<i>Andropogon cretaceus</i>	purple bluestem	X	X	X	X	4
<i>Andropogon glomeratus</i>	bushy bluestem	X	X	X	X	4
<i>Andropogon</i> sp.	bluestem	X	X	X	X	4
<i>Andropogon virginicus</i>	broomsedge bluestem	X	X	X	X	4
<i>Anthenantia rufa</i>	purple silkscale	X	X	X	X	4
<i>Aristida beyrichiana</i>	Southern wiregrass	X	X	X	X	4
<i>Aristida palustris</i>	longleaf threeawn	X		X	X	3
<i>Aristida purpurascens</i>	arrowfeather threeawn		X			1
<i>Aristida spiciformis</i> var. <i>spiciformis</i>	bottlebrush threeawn		X			1
<i>Aronia arbutifolia</i>	red chokeberry	X	X		X	3
<i>Balduina uniflora</i>	oneflower honeycomb-head			X		1
<i>Bartonia paniculata</i> ssp. <i>paniculata</i>	twining screwstem	X				1
<i>Bidens mitis</i>	smallfruit beggarticks	X				1
<i>Bigelovia nudata</i>	pineland rayless goldenrod		X			1
<i>Burmannia capitata</i>	Southern bluethead		X		X	2
* <i>Calamovilfa curtissii</i>	Curtiss' sandgrass		X	X	X	3
<i>Carex glaucescens</i>	clustered sedge			X		1
<i>Carphephorus pseudoliatris</i>	bristleleaf chaffhead		X			1
<i>Centella erecta</i>	spadeleaf	X		X		2
<i>Clethra alnifolia</i>	sweet pepperbush	X		X	X	3

Scientific Name	Common Name	Section A	Section B	Section C	Section D	Grand Total
<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 redbud panicum	X		X	X	3
<i>Coreopsis floridana</i>	Florida tickseed		X			1
<i>Coreopsis linifolia</i>	Texas tickseed	X				1
<i>Ctenium aromaticum</i>	toothache grass	X	X	X		3
<i>Cyrilla parvifolia</i>	littleleaf titi		X			1
<i>Cyrilla racemiflora</i>	titi	X	X	X	X	4
<i>Dichantherium ensifolium</i>	small-leaved witchgrass		X	X	X	3
<i>Dichantherium leucothrix</i>	rough witchgrass	X	X			2
<i>Dichantherium ovale</i>	oval-flowered witchgrass		X			1
<i>Dichantherium scabriusculum</i>	woolly witchgrass	X	X	X	X	4
<i>Dichantherium</i> sp.	witchgrass		X	X	X	3
<i>Dichantherium strigosum</i> var. <i>strigosum</i>	roughhair witchgrass	X	X			2
<i>Dichantherium tenue</i>	white-edged witchgrass		X		X	2
<i>Diospyros virginiana</i>	common persimmon		X			1
<i>Drosera brevifolia</i>	dwarf sundew		X			1
<i>Drosera capillaris</i>	pink sundew				X	1
<i>Eragrostis</i> sp.	lovegrass		X			1
<i>Erianthus giganteus</i>	sugarcane plumegrass			X		1
<i>Eriocaulon compressum</i>	flattened pipewort	X	X	X	X	4
<i>Eriocaulon decangulare</i>	tenangle pipewort	X	X	X	X	4
<i>Eupatorium compositifolium</i>	yankeeweed		X			1
<i>Eupatorium mohrii</i>	Mohr's thoroughwort	X	X		X	3
<i>Eupatorium pilosum</i>	rough boneset		X			1
<i>Eupatorium</i> sp.	thoroughwort			X		1
<i>Euthamia caroliniana</i>	slender flattop goldenrod	X	X		X	3
<i>Fuirena breviseta</i>	saltmarsh umbrellasedge	X				1
<i>Gaylussacia dumosa</i>	dwarf huckleberry		X	X		2
<i>Gaylussacia mosieri</i>	woolly huckleberry		X	X	X	3
<i>Gaylussacia tomentosa</i>	blue huckleberry		X			1
<i>Gelsemium sempervirens</i>	yellow jessamine	X			X	2
* <i>Gentiana pennelliana</i>	wiregrass gentian	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>Houstonia procumbens</i>	roundleaf bluet				X	1
<i>Hymenachne hemitoma</i>	maidencane	X	X	X		3
<i>Hypericum brachyphyllum</i>	coastalplain St. John's wort	X	X	X		3
<i>Hypericum cistifolium</i>	roundpod St. John's wort			X		1
<i>Hypericum crux-andreae</i>	St. Peter's wort		X	X		2
<i>Hypericum fasciculatum</i>	peelbark St. John's wort	X	X	X	X	4
<i>Hypericum hypericoides</i>	St. Andrew's cross		X		X	2

Scientific Name	Common Name	Section A	Section B	Section C	Section D	Grand Total
<i>Hypericum microsepalum</i>	flatwoods St. John's wort		X	X	X	3
<i>Hypericum myrtifolium</i>	myrtleleaf St. John's wort			X		1
<i>Hypericum</i> sp.	St. John's wort		X		X	2
<i>Hypericum tetrapetalum</i>	fourpetal St. John's wort	X				1
<i>Hypoxis juncea</i>	fringed yellow stargrass		X			1
<i>Ilex cassine</i>	dahoon	X			X	2
<i>Ilex coriacea</i>	large gallberry	X		X	X	3
<i>Ilex glabra</i>	gallberry	X	X	X	X	4
<i>Ilex myrtifolia</i>	myrtle-leaved holly	X	X	X	X	4
<i>Ilex opaca</i>	American holly				X	1
<i>Ilex vomitoria</i>	yaupon		X		X	2
<i>Kelochloa verrucosa</i>	warty panicgrass	X	X	X	X	4
<i>Lachnanthes caroliniana</i>	Carolina redroot	X	X	X	X	4
<i>Lachnocaulon anceps</i>	whitehead bogbutton	X	X		X	3
<i>Lechea</i> sp.	pinweed				X	1
<i>Lechea torreyi</i> var. <i>torreyi</i>	sandhill pinweed		X			1
<i>Liatris resinosa</i>	dense gayfeather	X	X			2
<i>Liatris</i> sp.	blazing star		X			1
<i>Lobelia brevifolia</i>	shortleaf lobelia	X	X		X	3
<i>Lophiola aurea</i>	golden crest		X	X	X	3
<i>Ludwigia linearis</i>	narrowleaf primrosewillow				X	1
<i>Ludwigia</i> sp.	primrosewillow	X	X			2
<i>Ludwigia virgata</i>	savannah primrosewillow		X			1
<i>Lycopodiella alopecuroides</i>	foxtail club-moss	X	X	X	X	4
<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	X	4
<i>Morella caroliniensis</i>	evergreen bayberry			X		1
<i>Morella cerifera</i>	Southern bayberry			X	X	2
Bryophyta	moss		X			1
<i>Muhlenbergia expansa</i>	cutover muhly		X			1
<i>Muscadinia rotundifolia</i>	muscadine		X	X	X	3
<i>Nyssa biflora</i>	swamp tupelo			X		1
<i>Nyssa</i> sp.	tupelo	X				1
<i>Osmundastrum cinnamomeum</i>	cinnamon fern				X	1
<i>Oxypolis ternata</i>	Piedmont cowbane	X				1
<i>Panicum virgatum</i>	switchgrass			X	X	2
<i>Pinus elliotii</i>	slash pine	X	X	X	X	4
<i>Pluchea foetida</i>	stinking camphorweed				X	1
<i>Polygala lutea</i>	orange milkwort		X	X	X	3
<i>Polygala nana</i>	candyroot		X	X		2
<i>Polygala ramosa</i>	low pinebarren milkwort		X			1
<i>Polygala</i> sp.	milkwort		X			1

Scientific Name	Common Name	Section A	Section B	Section C	Section D	Grand Total
<i>Proserpinaca pectinata</i>	combleaf mermaidweed	X		X		2
<i>Pseudolycopodiella caroliniana</i>	slender club-moss		X			1
<i>Pteridium pseudocaudatum</i>	tailed bracken	X	X		X	3
<i>Quercus hemisphaerica</i>	laurel oak		X			1
<i>Quercus minima</i>	dwarf live oak		X		X	2
<i>Quercus nigra</i>	water oak		X			1
<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>mariana</i>	pale meadowbeauty		X		X	2
<i>Rhexia nuttallii</i>	Nuttall's meadowbeauty				X	1
<i>Rhexia petiolata</i>	fringed meadowbeauty	X	X		X	3
<i>Rhexia</i> sp.	meadowbeauty		X	X	X	3
<i>Rhexia virginica</i>	handsome harry	X				1
<i>Rhus copallinum</i> var. <i>copallinum</i>	winged sumac				X	1
<i>Rhynchospora careyana</i>	Cary's horned beaksedge			X	X	2
<i>Rhynchospora cephalantha</i> var. <i>cephalantha</i>	bunched beaksedge			X		1
<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
<i>Rhynchospora fascicularis</i>	fascicled beaksedge		X	X	X	3
<i>Rhynchospora filifolia</i>	threadleaf beaksedge	X		X		2
<i>Rhynchospora gracilentata</i>	slender beaksedge	X	X	X	X	4
<i>Rhynchospora latifolia</i>	white-top sedge	X				1
<i>Rhynchospora microcephala</i>	bunched beaksedge			X		1
<i>Rhynchospora pineticola</i>	pinebarren beaksedge		X			1
<i>Rhynchospora plumosa</i>	plumed beaksedge		X			1
<i>Rhynchospora</i> sp.	beaksedge	X	X	X	X	4
<i>Rubus pensilvanicus</i>	sawtooth blackberry				X	1
<i>Sarracenia flava</i>	yellow pitcherplant	X		X		2
<i>Schizachyrium stoloniferum</i>	creeping little bluestem	X	X			2
<i>Schizachyrium tenerum</i>	slender bluestem		X		X	2
<i>Scleria baldwinii</i>	Baldwin's nutrush			X		1
<i>Scleria ciliata</i>	fringed nutrush		X		X	2
<i>Scleria reticularis</i>	netted nutrush	X	X	X	X	4
<i>Scleria</i> sp.	nutrush			X	X	2
<i>Serenoa repens</i>	saw palmetto	X	X	X	X	4
<i>Smilax auriculata</i>	earleaf greenbriar	X	X	X	X	4
<i>Smilax glauca</i>	cat greenbriar	X	X		X	3
<i>Smilax hispida</i>	bristly greenbriar				X	1
<i>Smilax laurifolia</i>	laurel greenbriar	X	X	X	X	4
<i>Solidago fistulosa</i>	pinebarren goldenrod				X	1
<i>Solidago virgata</i>	wand goldenrod		X			1
<i>Sophranthe hispida</i>	rough hedgehyssop				X	1

Scientific Name	Common Name	Section A	Section B	Section C	Section D	Grand Total
<i>Sphagnum</i> sp.	sphagnum moss	X		X	X	3
<i>Symphotrichum chapmanii</i>	savannah aster	X				1
<i>Symphotrichum</i> sp.	aster				X	1
<i>Tamala palustris</i>	swamp bay			X		1
<i>Taxodium ascendens</i>	pond cypress			X		1
<i>Tiedemannia filiformis</i> ssp. <i>filiformis</i>	water cowbane	X				1
<i>Triadenum virginicum</i>	Virginia marsh St. John's wort			X		1
<i>Trilisa odoratissima</i>	vanillaleaf				X	1
<i>Vaccinium darrowii</i>	Darrow's blueberry		X			1
<i>Vaccinium fuscatum</i>	hairy highbush blueberry			X	X	2
<i>Vaccinium myrsinites</i>	shiny blueberry		X	X	X	3
<i>Viola lanceolata</i>	bog white violet	X	X		X	3
<i>Xyris ambigua</i>	coastalplain yellow-eyed grass	X	X	X	X	4
<i>Xyris caroliniana</i>	Carolina yellow-eyed grass	X	X			2
<i>Xyris serotina</i>	acid swamp yellow-eyed grass	X		X	X	3
<i>Xyris</i> sp.	yellow-eyed grass	X	X	X	X	4
<i>Xyris stricta</i>	pineland yellow-eyed grass	X		X		2
Total number of taxa: 174		75	107	80	92	354

Section A

Qualitative sampling. Section A (Figure 2) had a total of 75 observed plant taxa (Table 1). Species included the rare state-endangered wiregrass gentian (*Gentiana pennelliana*), which was also observed in 2021. This year, we found 10 individuals in a roughly 250 m² area southeast of Transect A1, as well as 2 individuals along Transect A2. In prior years, we have found the state-listed threatened pinewoods bluestem in this section. It wasn't found this year but is likely still present. 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 titi shrubs and laurel greenbrier. Most shrubs were low, but with scattered individuals over 2 meters tall. The average shrub stem density was slightly reduced from 2023. We recorded an average of 7.6 shrub stems/m² (Figure 11, Table 10), compared to 14.4 shrub stems/m² in 2023. Coarse woody debris was abundant. This section has areas of remnant wet prairie vegetation.

Quantitative sampling.

- Transect A1 (Table 2, Figure 3) had a total of 30 taxa with 29% average open ground cover. Woody species made up around 15% average cover per quadrat. Compared to 2023, this represents a decrease in species diversity (47 taxa in 2023), an increase in open ground (7% in 2023), and a small decrease in woody cover (23% in 2023). Much of this transect was underwater during the 2024 sampling due to recent heavy rains. Hog rooting was noted in several quadrats.

- Transect A2 (Table 3, Figure 4) had a total of 52 taxa with 11% average open ground cover. Woody species made up around 34% average cover per quadrat. Compared to 2023, this represents an increase in species diversity (43 in 2023), little change in open ground (8% in 2023), and no change in woody cover (34% in 2023). At least five quadrats in this transect were underwater during the 2024 sampling due to recent heavy rains.

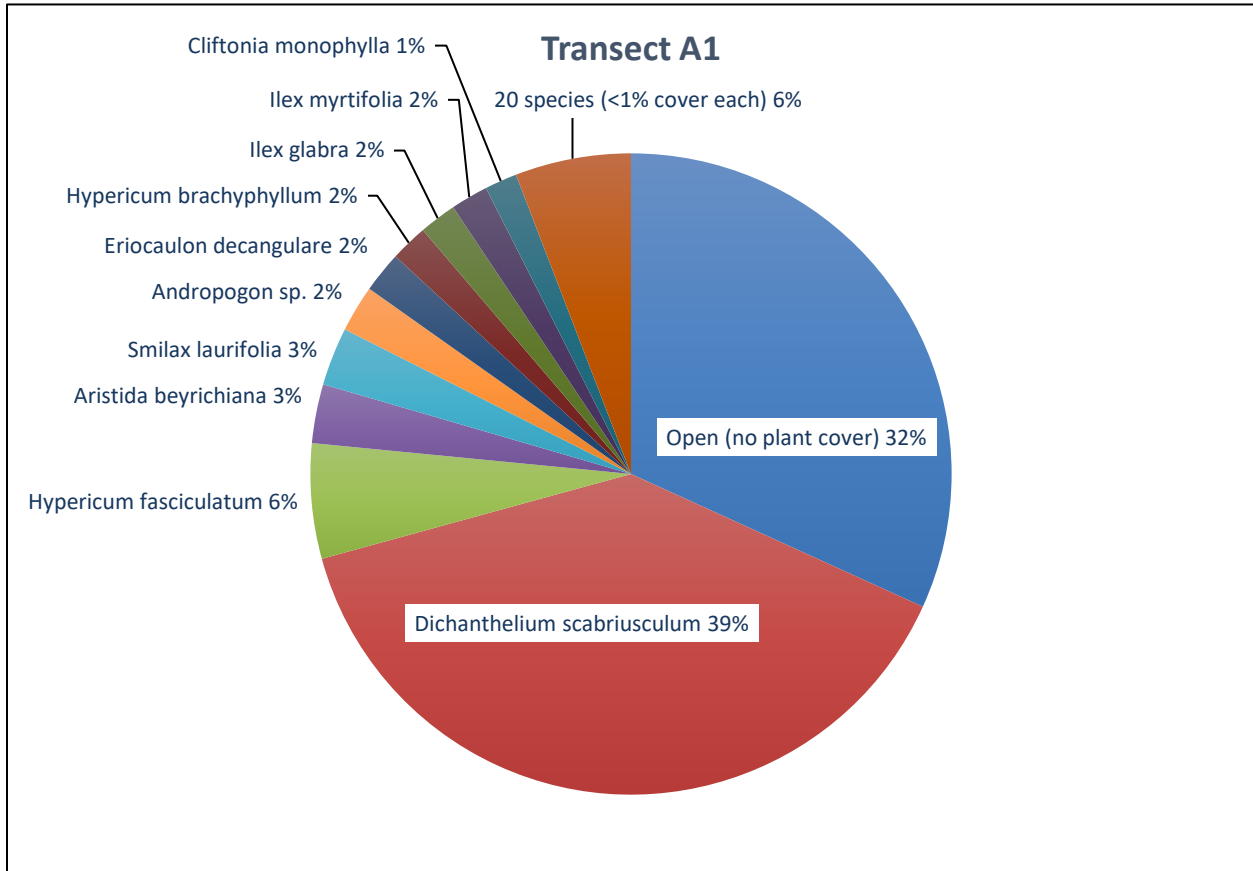


Figure 3. Percent relative cover of plant species in Transect A1.

Table 2. Percent cover of plant species in Transect A1 sampled on November 20, 2024.

Scientific name	Common name	Average percent cover per quadrat
<i>Andropogon cretaceus</i>	purple bluestem	0.50
<i>Andropogon sp.</i>	bluestem	2.17
<i>Andropogon virginicus</i>	broomsedge bluestem	0.13
<i>Anthenantia rufa</i>	purple silkyscale	0.07
<i>Aristida beyrichiana</i>	Southern wiregrass	2.73
<i>Aristida palustris</i>	longleaf threeawn	0.13
<i>Bartonia paniculata ssp. paniculata</i>	twining screwstem	0.07
<i>Cliftonia monophylla</i>	black titi	1.50
<i>Coleataenia longifolia</i>	ciliate redtop panicum	0.70
<i>Coreopsis linifolia</i>	Texas tickseed	0.03
<i>Dichanthelium leucothrix</i>	rough witchgrass	0.70

<i>Dichantheium scabriusculum</i>	woolly witchgrass	35.80
<i>Eriocaulon decangulare</i>	tenangle pipewort	1.90
<i>Fuirena breviseta</i>	saltmarsh umbrellasedge	0.07
<i>Gelsemium sempervirens</i>	yellow jessamine	0.03
<i>Hypericum brachyphyllum</i>	coastalplain St. John's wort	1.73
<i>Hypericum fasciculatum</i>	peelbark St. John's wort	5.33
<i>Ilex glabra</i>	gallberry	1.73
<i>Ilex myrtifolia</i>	myrtle-leaved holly	1.73
<i>Pinus elliotii</i>	slash pine	0.27
<i>Proserpinaca pectinata</i>	combleaf mermaidweed	0.10
<i>Rhynchospora filifolia</i>	threadleaf beaksedge	0.23
<i>Rhynchospora gracilentata</i>	slender beaksedge	0.90
<i>Rhynchospora latifolia</i>	white-top sedge	0.03
<i>Smilax laurifolia</i>	laurel greenbrier	2.70
<i>Sphagnum sp.</i>	sphagnum moss	0.23
<i>Tiedemannia filiformis ssp. filiformis</i>	water cowbane	0.17
<i>Viola lanceolata</i>	bog white violet	0.03
<i>Xyris ambigua</i>	coastalplain yellow-eyed grass	0.10
<i>Xyris stricta</i>	pineland yellow-eyed grass	0.87
Open (no plant cover)		29.23

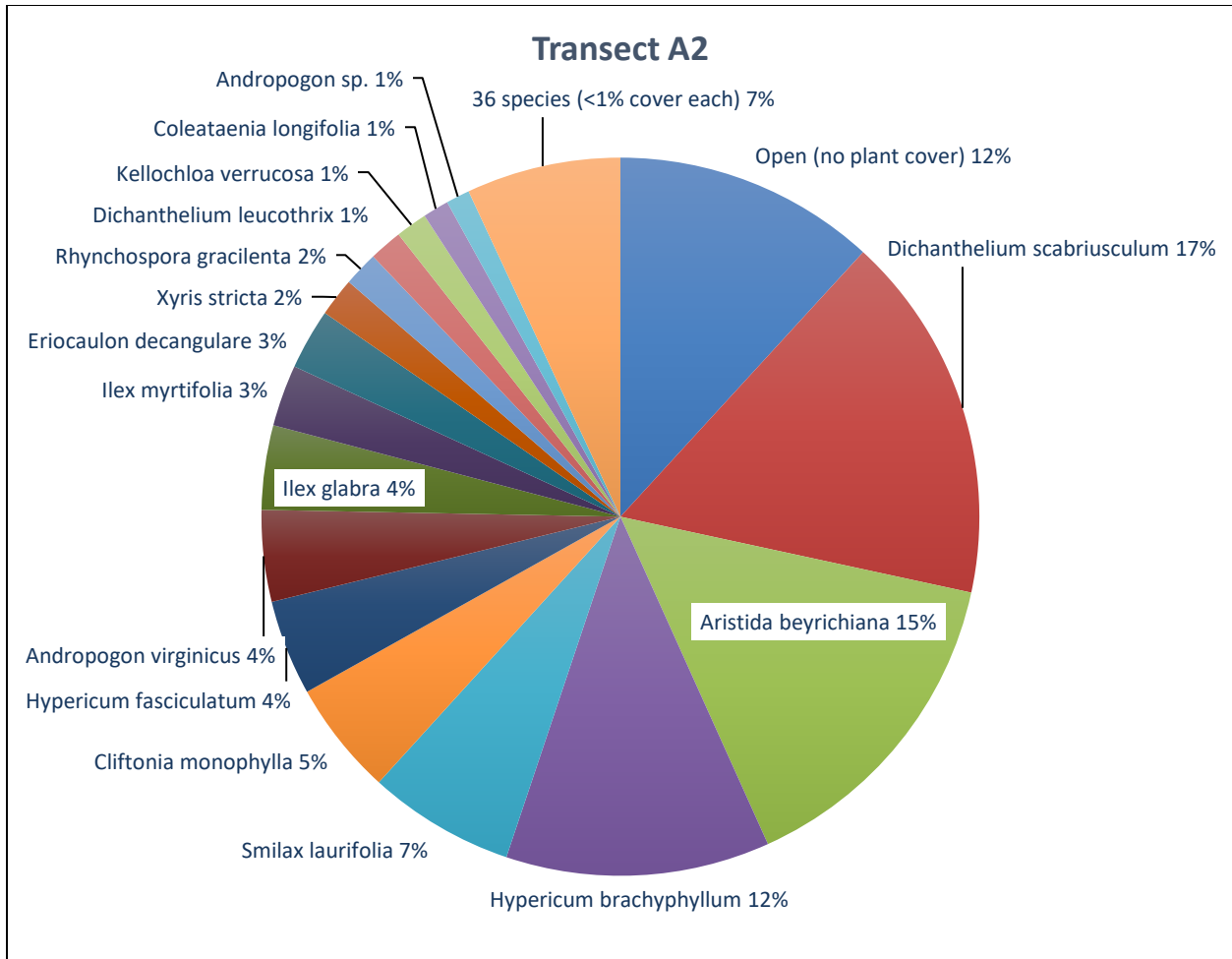


Figure 4. Percent relative cover of plant species in Transect A2.

Table 3. Percent cover of plant species in Transect A2 sampled on November 20, 2024.

Scientific name	Common name	Average percent cover per quadrat
<i>Andropogon cretaceus</i>	purple bluestem	0.53
<i>Andropogon glomeratus</i>	bushy bluestem	0.20
<i>Andropogon sp.</i>	bluestem	1.00
<i>Andropogon virginicus</i>	broomsedge bluestem	3.87
<i>Anthenantia rufa</i>	purple silkyscale	0.10
<i>Aristida beyrichiana</i>	Southern wiregrass	13.97
<i>Bidens mitis</i>	smallfruit beggarticks	0.03
<i>Centella erecta</i>	spadeleaf	0.23
<i>Clethra alnifolia</i>	sweet pepperbush	0.03
<i>Clethra tomentosa</i>	downy sweet pepperbush	0.10
<i>Cliftonia monophylla</i>	black titi	4.83
<i>Coleataenia longifolia</i>	ciliate redtop panicum	1.10
<i>Coreopsis linifolia</i>	Texas tickseed	0.33
<i>Cyrilla racemiflora</i>	titi	0.53

<i>Dichantherium leucothrix</i>	rough witchgrass	1.40
<i>Dichantherium scabriusculum</i>	woolly witchgrass	15.57
<i>Eriocaulon decangulare</i>	tenangle pipewort	2.57
<i>Eupatorium mohrii</i>	Mohr's thoroughwort	0.23
<i>Euthamia caroliniana</i>	slender flattop goldenrod	0.27
<i>Fuirena breviseta</i>	saltmarsh umbrellasedge	0.10
<i>Gelsemium sempervirens</i>	yellow jessamine	0.07
<i>Gentiana pennelliana</i>	wiregrass gentian	0.03
<i>Hymenachne hemitoma</i>	maidencane	0.10
<i>Hypericum brachyphyllum</i>	coastalplain St. John's wort	11.17
<i>Hypericum fasciculatum</i>	peelbark St. John's wort	4.03
<i>Ilex cassine</i>	dahoon	0.03
<i>Ilex coriacea</i>	large gallberry	0.23
<i>Ilex glabra</i>	gallberry	3.57
<i>Ilex myrtifolia</i>	myrtle-leaved holly	2.60
<i>Kelochloa verrucosa</i>	warty panicgrass	1.33
<i>Lachnanthes caroliniana</i>	Carolina redroot	0.83
<i>Liatris resinosa</i>	dense gayfeather	0.47
<i>Lobelia brevifolia</i>	shortleaf lobelia	0.03
<i>Lycopodiella alopecuroides</i>	foxtail club-moss	0.03
<i>Oxypolis ternata</i>	Piedmont cowbane	0.03
<i>Pinus elliotii</i>	slash pine	0.50
<i>Rhexia alifanus</i>	savannah meadowbeauty	0.20
<i>Rhynchospora chalarocephala</i>	loosehead beaksedge	0.03
<i>Rhynchospora chapmanii</i>	Chapman's beaksedge	0.33
<i>Rhynchospora gracilentata</i>	slender beaksedge	1.47
<i>Rhynchospora sp.</i>	beaksedge	0.03
<i>Scleria reticularis</i>	netted nutrush	0.33
<i>Smilax auriculata</i>	earleaf greenbrier	0.03
<i>Smilax glauca</i>	cat greenbrier	0.03
<i>Smilax laurifolia</i>	laurel greenbrier	6.20
<i>Sphagnum sp.</i>	sphagnum moss	0.03
<i>Tiedemannia filiformis ssp. filiformis</i>	water cowbane	0.07
<i>Viola lanceolata</i>	bog white violet	0.10
<i>Xyris ambigua</i>	coastalplain yellow-eyed grass	0.07
<i>Xyris serotina</i>	acid swamp yellow-eyed grass	0.17
<i>Xyris sp.</i>	yellow-eyed grass	0.03
<i>Xyris stricta</i>	pineland yellow-eyed grass	1.63
Open (no plant cover)		11.10

Section B

Qualitative sampling. Section B (Figure 2) had a total of 107 observed plant taxa (Table 1). Species included the state-listed threatened Curtiss' sandgrass. 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 the same as 2023. We recorded an average of 16.8 shrub stems/m² (Figure 11, Table 10), compared to 17.4 shrub stems/m² in 2023. Herbs were mostly weedy bluestems, but with 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.

Quantitative sampling.

- Transect B1 (Table 4, Figure 5) had a total of 59 taxa with 23% average open ground cover. Woody species made up around 9% average cover per quadrat. Compared to 2023, this represents an increase in species diversity (50 in 2023), a small increase in open ground (16% in 2023) and a decrease in woody cover (18% in 2023).
- Transect B2 (Table 5, Figure 6) had a total of 41 taxa with 27% average open ground cover. Woody species made up around 16% average cover per quadrat. Compared to 2023, this represents little change in species diversity (43 in 2023), an increase in open ground (8% in 2023), and a slight decrease in woody cover (23% in 2023).

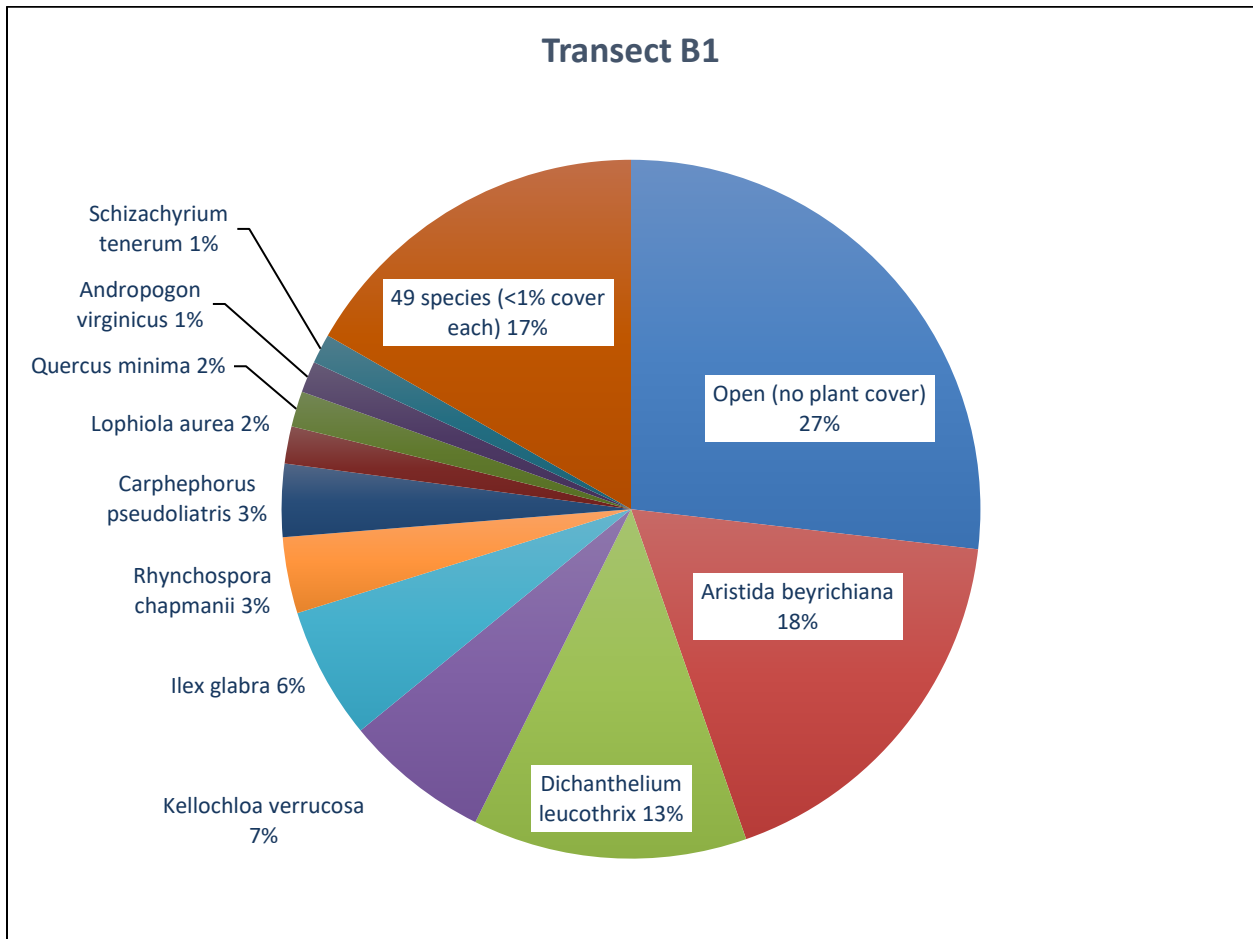


Figure 5 Percent relative cover of plant species in Transect B1.

Table 4. Percent cover of plant species in Transect B1 sampled on November 18, 2024.

Scientific name	Common name	Average percent cover per quadrat
<i>Aletris lutea</i>	yellow colic-root	0.60
<i>Andropogon cretaceus</i>	purple bluestem	0.10
<i>Andropogon glomeratus</i>	bushy bluestem	0.10
<i>Andropogon</i> sp.	bluestem	0.93
<i>Andropogon virginicus</i>	broomsedge bluestem	1.23
<i>Anthenantia rufa</i>	purple silkyscale	0.33
<i>Aristida beyrichiana</i>	Southern wiregrass	15.17
Asteraceae	Composite Family	0.47
<i>Carphephorus pseudoliatris</i>	bristleleaf chaffhead	2.87
<i>Cyrilla parvifolia</i>	littleleaf titi	0.23
<i>Dichantherium ensifolium</i>	small-leaved witchgrass	0.23
<i>Dichantherium leucothrix</i>	rough witchgrass	10.80
<i>Dichantherium scabriusculum</i>	woolly witchgrass	0.73
<i>Dichantherium</i> sp.	witchgrass	0.80
<i>Dichantherium strigosum</i>	roughhair witchgrass	0.03
<i>Dichantherium tenue</i>	white-edged witchgrass	0.07
<i>Drosera brevifolia</i>	dwarf sundew	0.07
<i>Eriocaulon compressum</i>	flattened pipewort	0.33
<i>Gaylussacia dumosa</i>	dwarf huckleberry	0.10
<i>Gaylussacia mosieri</i>	woolly huckleberry	0.10
<i>Helianthus heterophyllus</i>	variableleaf sunflower	0.23
<i>Helianthus radula</i>	stiff sunflower	0.47
<i>Hypericum brachyphyllum</i>	coastalplain St. John's wort	0.13
<i>Hypericum fasciculatum</i>	peelbark St. John's wort	0.07
<i>Hypericum hypericoides</i>	St. Andrew's cross	0.57
<i>Hypericum</i> sp.	St. John's wort	0.07
<i>Ilex glabra</i>	gallberry	5.20
<i>Ilex vomitoria</i>	yaupon	0.50
<i>Kelochloa verrucosa</i>	warty panicgrass	5.73
<i>Lachnocaulon anceps</i>	whitehead bogbutton	0.30
<i>Liatris resinosa</i>	dense gayfeather	0.27
<i>Lophiola aurea</i>	golden crest	1.47
<i>Ludwigia</i> sp.	primrosewillow	0.03
<i>Ludwigia virgata</i>	savannah primrosewillow	0.10
<i>Lycopodiella alopecuroides</i>	foxtail club-moss	0.73
Bryophyta	moss	0.03
<i>Polygala</i> sp.	milkwort	0.03
<i>Pseudolycopodiella caroliniana</i>	slender club-moss	0.57
<i>Pteridium pseudocaudatum</i>	tailed bracken	0.23
<i>Quercus minima</i>	dwarf live oak	1.40
<i>Rhexia alifanus</i>	savannah meadowbeauty	0.13
<i>Rhexia lutea</i>	yellow meadowbeauty	0.03
<i>Rhexia petiolata</i>	fringed meadowbeauty	0.10
<i>Rhexia</i> sp.	meadowbeauty	0.10
<i>Rhynchospora chapmanii</i>	Chapman's beaksedge	3.00
<i>Rhynchospora ciliaris</i>	fringed beaksedge	0.10

Scientific name	Common name	Average percent cover per quadrat
<i>Rhynchospora gracilentia</i>	slender beaksedge	0.20
<i>Rhynchospora plumosa</i>	plumed beaksedge	0.93
<i>Rhynchospora sp.</i>	beaksedge	0.23
<i>Schizachyrium stoloniferum</i>	creeping little bluestem	0.60
<i>Schizachyrium tenerum</i>	slender bluestem	1.17
<i>Scleria ciliata</i>	hairy nutrush	0.10
<i>Scleria reticularis</i>	netted nutrush	0.70
<i>Smilax laurifolia</i>	laurel greenbrier	0.30
<i>Solidago virgata</i>	wand goldenrod	0.03
<i>Viola lanceolata</i>	bog white violet	0.07
<i>Xyris ambigua</i>	coastalplain yellow-eyed grass	0.23
<i>Xyris caroliniana</i>	Carolina yellow-eyed grass	0.67
<i>Xyris sp.</i>	yellow-eyed grass	0.13
Open (no plant cover)		22.83

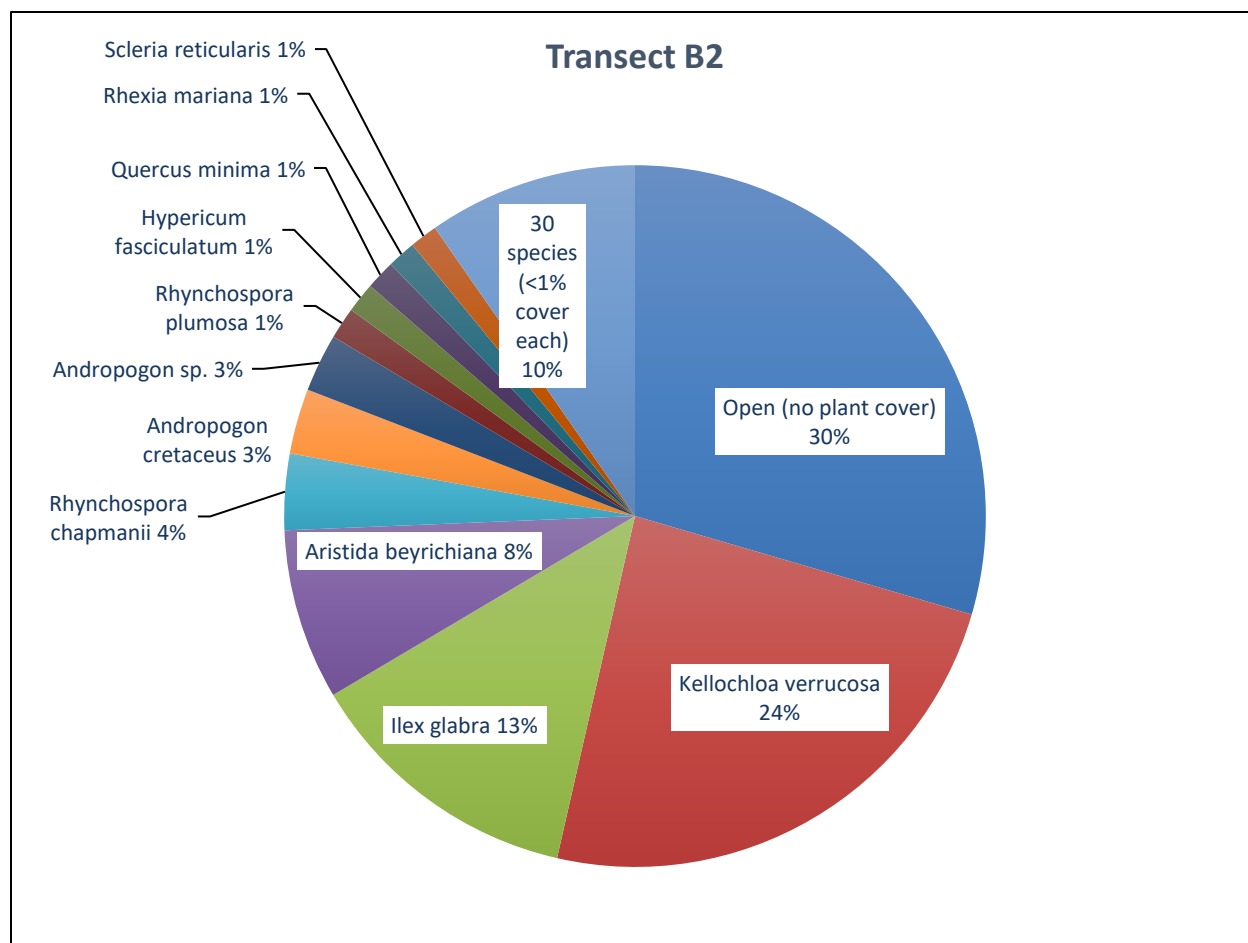


Figure 6. Percent relative cover of plant species in Transect B2.

Table 5. Percent cover of plant species in Transect B2 sampled on November 18, 2024.

Scientific name	Common name	Average percent cover per quadrat
<i>Andropogon cretaceus</i>	purple bluestem	2.73
<i>Andropogon glomeratus</i>	bushy bluestem	0.10
<i>Andropogon</i> sp.	bluestem	2.43
<i>Andropogon virginicus</i>	broomsedge bluestem	0.53
<i>Aristida beyrichiana</i>	Southern wiregrass	7.17
<i>Carphephorus pseudoliatris</i>	bristleleaf chaffhead	0.10
<i>Dichantherium ensifolium</i>	small-leaved witchgrass	0.23
<i>Dichantherium ovale</i>	oval-flowered witchgrass	0.10
<i>Dichantherium</i> sp.	witchgrass	0.63
<i>Drosera brevifolia</i>	dwarf sundew	0.10
<i>Eragrostis</i> sp.	lovegrass	0.20
<i>Eupatorium mohrii</i>	Mohr's thoroughwort	0.40
<i>Gaylussacia mosieri</i>	woolly huckleberry	0.23
<i>Hypericum fasciculatum</i>	peelbark St. John's wort	1.27
<i>Hypericum microsepalum</i>	flatwoods St. John's wort	0.37
<i>Hypericum</i> sp.	St. John's wort	0.03
<i>Ilex glabra</i>	gallberry	11.77
<i>Kelochloa verrucosa</i>	warty panicgrass	21.90
<i>Lachnanthes caroliniana</i>	Carolina redroot	0.10
<i>Lachnocaulon anceps</i>	whitehead bogbutton	0.03
<i>Liatris resinosa</i>	dense gayfeather	0.63
<i>Liatris</i> sp.	gayfeather	0.10
<i>Lycopodiella alopecuroides</i>	foxtail club-moss	0.27
<i>Polygala</i> sp.	milkwort	0.10
<i>Pseudolycopodiella caroliniana</i>	slender club-moss	0.97
<i>Pteridium pseudocaudatum</i>	tailed bracken	0.20
<i>Quercus hemisphaerica</i>	laurel oak	0.23
<i>Quercus minima</i>	dwarf live oak	1.23
<i>Rhexia alifanus</i>	savannah meadowbeauty	0.07
<i>Rhexia lutea</i>	yellow meadowbeauty	0.60
<i>Rhexia mariana</i>	pale meadowbeauty	1.20
<i>Rhexia</i> sp.	meadowbeauty	0.03
<i>Rhynchospora chapmanii</i>	Chapman's beaksedge	3.20
<i>Rhynchospora fascicularis</i>	fascicled beaksedge	0.03
<i>Rhynchospora plumosa</i>	plumed beaksedge	1.33
<i>Rhynchospora</i> sp.	beaksedge	0.40
<i>Schizachyrium tenerum</i>	slender bluestem	0.10
<i>Scleria reticularis</i>	netted nutrush	1.17
<i>Smilax glauca</i>	cat greenbrier	0.83
<i>Xyris ambigua</i>	coastalplain yellow-eyed grass	0.23
<i>Xyris caroliniana</i>	Carolina yellow-eyed grass	0.83
Open (no plant cover)		26.90

Section C

Qualitative monitoring. Section C had a total of 80 plant taxa (Table 1). 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 increased from 2023. We recorded an average of 28.4 shrub stems/m² (Figure 11, Table 10), compared to 13 shrub stems/m² in 2023. Coarse woody debris was abundant. The rare state-threatened Curtiss' sandgrass was a dominant grass in parts of this area.

Quantitative monitoring.

- Transect C1 (Figure 7, Table 6) had a total of 43 taxa with 24% average open ground cover. Woody species made up around 16% average cover per quadrat. Compared to 2023, this represents little change in species diversity (41 in 2023), an increase in open ground (12% in 2023), and no change in woody cover (16% in 2023).
- Transect C2 (Figure 8, Table 7) had a total of 32 taxa with 31% average open ground cover. Woody species made up around 4% average cover per quadrat. Compared to 2023, this represents a small increase in species diversity (27 in 2023), an increase in open ground (14% in 2023), and little change in woody cover (7% in 2023).

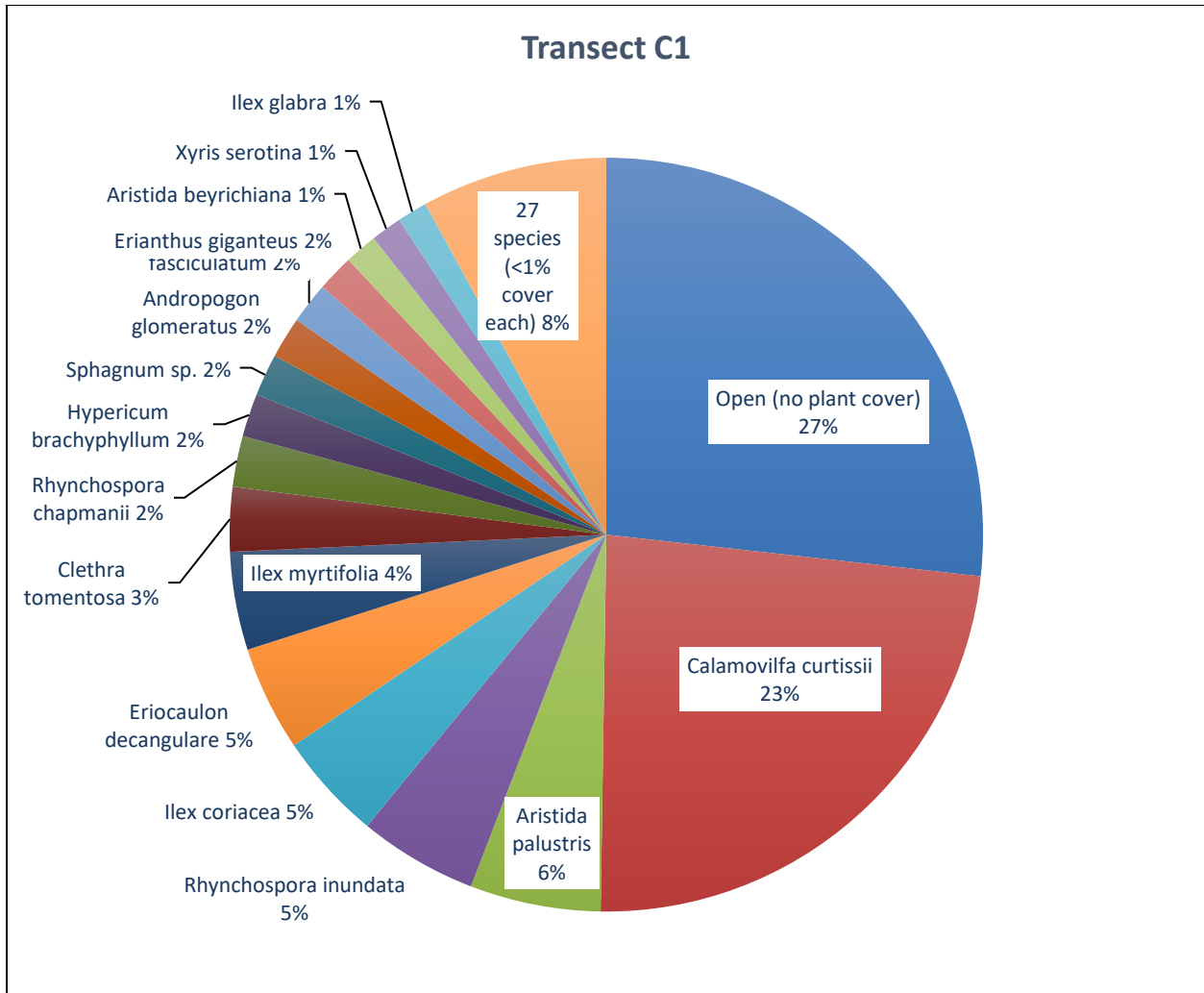


Figure 7. Percent relative cover of plant species in Transect C1.

Table 6. Percent cover of plant species in Transect C1 sampled on November 18, 2024.

Scientific name	Common name	Average percent cover per quadrat
<i>Andropogon cretaceus</i>	purple bluestem	0.23
<i>Andropogon glomeratus</i>	bushy bluestem	1.60
<i>Andropogon sp.</i>	bluestem	0.30
<i>Aristida beyrichiana</i>	Southern wiregrass	1.27
<i>Aristida palustris</i>	longleaf threeawn	5.07
<i>Calamovilfa curtissii</i>	Curtiss' sandgrass	21.20
<i>Clethra alnifolia</i>	sweet pepperbush	0.03
<i>Clethra tomentosa</i>	downy sweet pepperbush	2.50
<i>Cliftonia monophylla</i>	black titi	0.47
<i>Coleataenia longifolia</i>	ciliate redtop panicum	0.33
<i>Dichantherium scabriusculum</i>	woolly witchgrass	0.30
<i>Dichantherium sp.</i>	witchgrass	0.13

Scientific name	Common name	Average percent cover per quadrat
<i>Erianthus giganteus</i>	sugarcane plumegrass	1.43
<i>Eriocaulon compressum</i>	flattened pipewort	0.23
<i>Eriocaulon decangulare</i>	tenangle pipewort	4.07
<i>Hypericum brachyphyllum</i>	coastalplain St. John's wort	1.67
<i>Hypericum fasciculatum</i>	peelbark St. John's wort	1.60
<i>Ilex coriacea</i>	large gallberry	4.17
<i>Ilex glabra</i>	gallberry	1.17
<i>Ilex myrtifolia</i>	myrtle-leaved holly	3.80
<i>Kelochloa verrucosa</i>	warty panicgrass	0.10
<i>Lachnanthes caroliniana</i>	Carolina redroot	0.73
<i>Lophiola aurea</i>	golden crest	0.20
<i>Lycopodiella alopecuroides</i>	foxtail club-moss	0.10
<i>Lycopodiella</i> sp.	club-moss	0.30
<i>Pinus elliotii</i>	slash pine	0.27
<i>Polygala lutea</i>	orange milkwort	0.13
<i>Rhexia</i> sp.	meadowbeauty	0.03
<i>Rhynchospora cephalantha</i> var. <i>cephalantha</i>	bunched beaksedge	0.83
<i>Rhynchospora chalarocephala</i>	loosehead beaksedge	0.23
<i>Rhynchospora chapmanii</i>	Chapman's beaksedge	1.97
<i>Rhynchospora gracilentata</i>	slender beaksedge	0.47
<i>Rhynchospora inundata</i>	narrowfruit horned beaksedge	4.60
<i>Rhynchospora</i> sp.	beaksedge	0.23
<i>Sarracenia flava</i>	yellow pitcherplant	0.10
<i>Scleria baldwinii</i>	Baldwin's nutrush	0.03
<i>Scleria reticularis</i>	netted nutrush	0.10
<i>Smilax laurifolia</i>	laurel greenbrier	0.47
<i>Sphagnum</i> sp.	sphagnum moss	1.63
<i>Taxodium ascendens</i>	pond cypress	0.10
<i>Xyris ambigua</i>	coastalplain yellow-eyed grass	0.37
<i>Xyris serotina</i>	acid swamp yellow-eyed grass	1.20
<i>Xyris</i> sp.	yellow-eyed grass	0.37
Open (no plant cover)		24.17

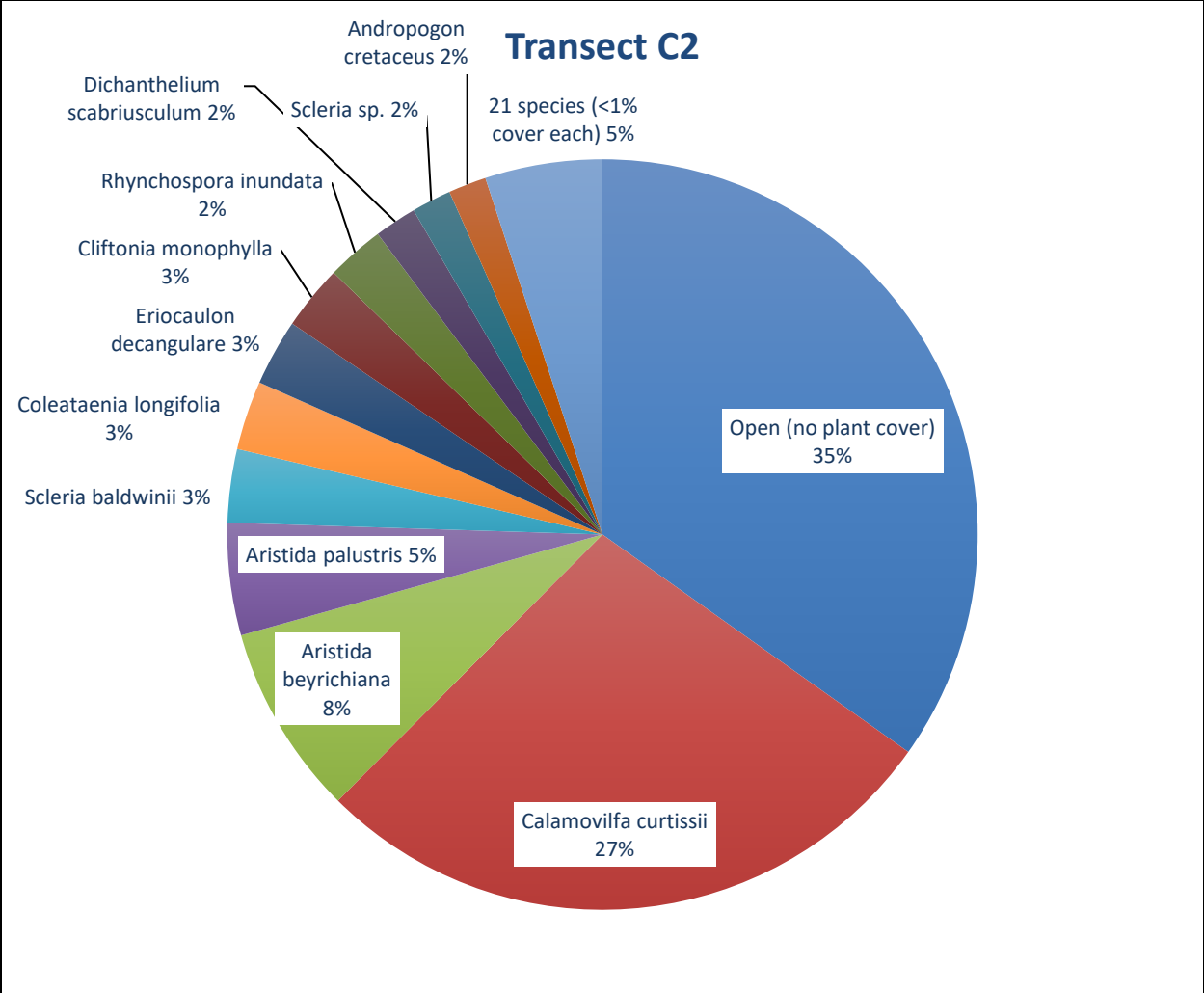


Figure 8. Percent relative cover of plant species in Transect C2.

Table 7. Percent cover of plant species in Transect C2 sampled on November 18, 2024.

Scientific name	Common name	Average percent cover per quadrat
<i>Andropogon cretaceus</i>	purple bluestem	1.47
<i>Andropogon</i> sp.	bluestem	0.10
<i>Aristida beyrichiana</i>	Southern wiregrass	7.37
<i>Aristida palustris</i>	longleaf threeawn	4.33
<i>Calamovilfa curtissii</i>	Curtiss' sandgrass	24.77
<i>Cliftonia monophylla</i>	black titi	2.50
<i>Coleataenia longifolia</i>	ciliate redtop panicum	2.67
<i>Dichantherium scabriusculum</i>	woolly witchgrass	1.63
<i>Eriocaulon compressum</i>	flattened pipewort	0.23
<i>Eriocaulon decangulare</i>	tenangle pipewort	2.57
<i>Eupatorium</i> sp.	thoroughwort	0.03
<i>Hymenachne hemitoma</i>	maidencane	0.10
<i>Hypericum myrtifolium</i>	myrtleleaf St. John's wort	0.10
<i>Ilex myrtifolia</i>	myrtle-leaved holly	0.73
<i>Lycopodiella</i> sp.	club-moss	0.10
<i>Panicum virgatum</i>	switchgrass	0.07
<i>Pinus elliotii</i>	slash pine	0.07
<i>Rhexia alifanua</i>	savannah meadowbeauty	0.27
<i>Rhynchospora cephalantha</i> var. <i>cephalantha</i>	bunched beaksedge	0.70
<i>Rhynchospora chapmanii</i>	Chapman's beaksedge	0.23
<i>Rhynchospora inundata</i>	narrowfruit horned beaksedge	2.23
<i>Rhynchospora</i> sp.	beaksedge	0.33
<i>Sarracenia flava</i>	yellow pitcherplant	0.23
<i>Scleria baldwinii</i>	Baldwin's nutrush	2.83
<i>Scleria reticularis</i>	netted nutrush	0.47
<i>Scleria</i> sp.	nutrush	1.53
<i>Smilax auriculata</i>	earleaf greenbrier	0.10
<i>Smilax laurifolia</i>	laurel greenbrier	0.03
<i>Triadenum virginicum</i>	Virginia marsh St. John's wort	0.03
<i>Xyris ambigua</i>	coastalplain yellow-eyed grass	0.23
<i>Xyris serotina</i>	acid swamp yellow-eyed grass	0.33
<i>Xyris</i> sp.	yellow-eyed grass	0.03
Open (no plant cover)		31.23

Section D

Qualitative monitoring. Section D had a total of 92 plant taxa (Table 1). Species included the state-listed threatened Curtiss' sandgrass. 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 titi shrubs and laurel greenbrier. The measured average shrub stem density was slightly reduced from 2023. We recorded an average of 20.4 shrub stems/m² (Figure 11, Table 10), compared to 25.8 shrub stems/m² in 2023. 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 35 taxa with 11% average open ground cover. Woody species made up around 29% average cover per quadrat. Compared to 2023, this represents little change in species diversity (37 in 2023), little change in open ground (8% in 2023), and a decrease in woody cover (43% in 2023).
- Transect D2 (Figure 10, Table 9) had a total of 36 taxa with 39% average open ground cover. Woody species made up around 40% average cover per quadrat. Compared to 2023, this represents no change in species diversity (36 in 2023), an increase in open ground (22% in 2023) and a small decrease in woody cover (51% in 2023).

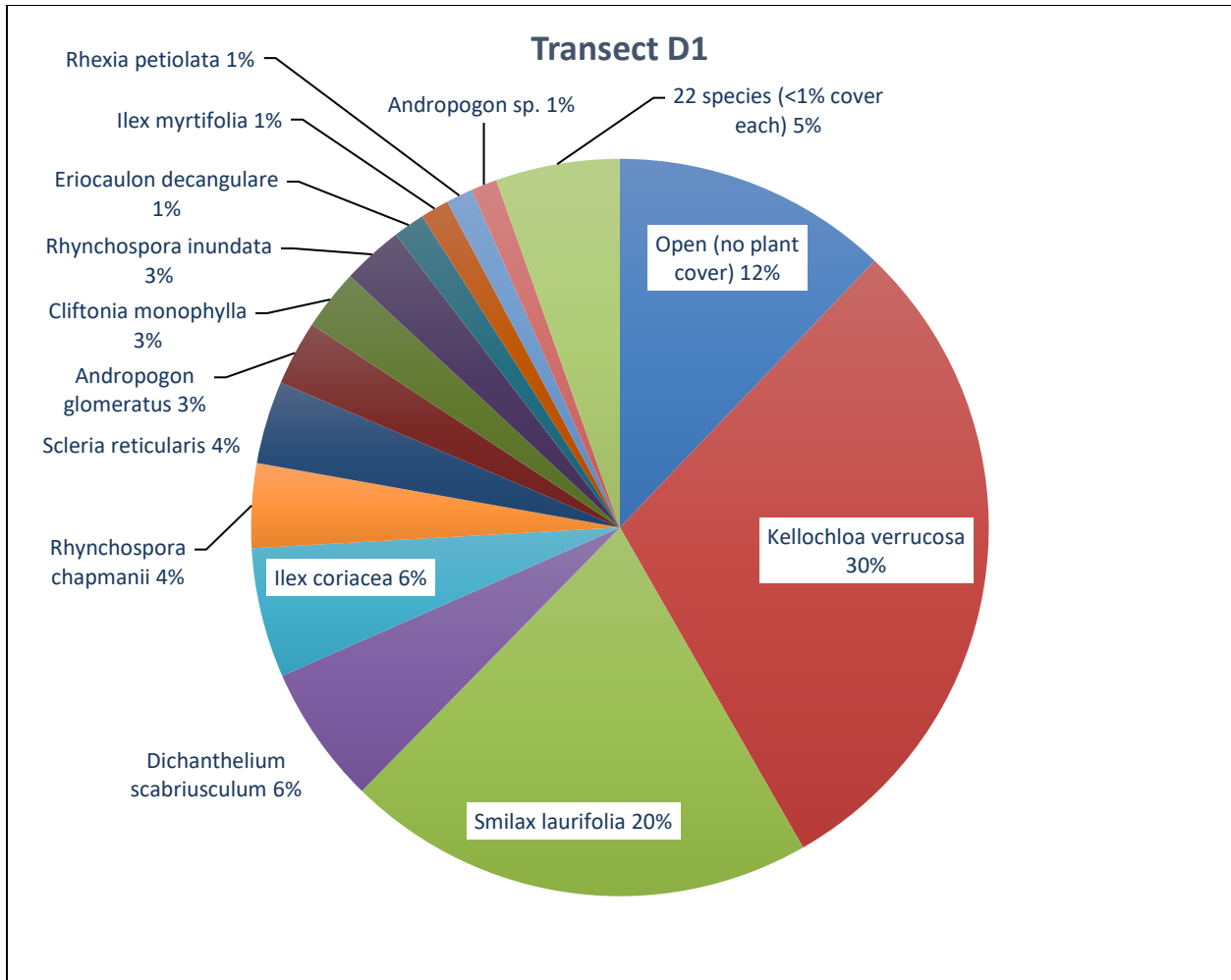


Figure 9. Percent relative cover of plant species in Transect D1.

Table 8. Percent cover of plant species in Transect D1 sampled on November 18, 2024.

Scientific name	Common name	Average percent cover per quadrat
<i>Amphicarpum muehlenbergianum</i>	blue maidencane	0.23
<i>Andropogon cretaceus</i>	purple bluestem	0.37
<i>Andropogon glomeratus</i>	bushy bluestem	2.67
<i>Andropogon sp.</i>	bluestem	1.07
<i>Andropogon virginicus</i>	broomsedge bluestem	0.60
<i>Anthenantia rufa</i>	purple silkyscale	0.10
<i>Aristida beyrichiana</i>	Southern wiregrass	0.50
<i>Cliftonia monophylla</i>	black titi	2.50
<i>Coleataenia longifolia</i>	ciliate redtop panicum	0.10
<i>Dichanthelium ensifolium</i>	small-leaved witchgrass	0.10
<i>Dichanthelium scabriusculum</i>	woolly witchgrass	5.70
<i>Eriocaulon compressum</i>	flattened pipewort	0.10
<i>Eriocaulon decangulare</i>	tenangle pipewort	1.30
<i>Eupatorium mohrii</i>	Mohr's thoroughwort	0.67

Scientific name	Common name	Average percent cover per quadrat
<i>Hypericum fasciculatum</i>	peelbark St. John's wort	0.03
<i>Hypericum</i> sp.	St. John's wort	0.23
<i>Ilex coriacea</i>	large gallberry	5.33
<i>Ilex myrtifolia</i>	myrtle-leaved holly	1.17
<i>Kellochloa verrucosa</i>	warty panicgrass	27.73
<i>Lachnanthes caroliniana</i>	Carolina redroot	0.03
<i>Lachnocaulon anceps</i>	whitehead bogbutton	0.10
<i>Lobelia brevifolia</i>	shortleaf lobelia	0.03
<i>Lycopodiella alopecuroides</i>	foxtail club-moss	0.23
<i>Rhexia mariana</i>	pale meadowbeauty	0.23
<i>Rhexia petiolata</i>	fringed meadowbeauty	1.10
<i>Rhynchospora chapmanii</i>	Chapman's beaksedge	3.47
<i>Rhynchospora gracilentata</i>	slender beaksedge	0.33
<i>Rhynchospora inundata</i>	narrowfruit horned beaksedge	2.50
<i>Rhynchospora</i> sp.	beaksedge	0.10
<i>Scleria ciliata</i>	hairy nutrush	0.23
<i>Scleria reticularis</i>	netted nutrush	3.40
<i>Smilax laurifolia</i>	laurel greenbrier	19.30
<i>Sphagnum</i> sp.	sphagnum moss	0.47
<i>Viola lanceolata</i>	bog white violet	0.27
<i>Xyris serotina</i>	acid swamp yellow-eyed grass	0.03
Open (no plant cover)		11.37

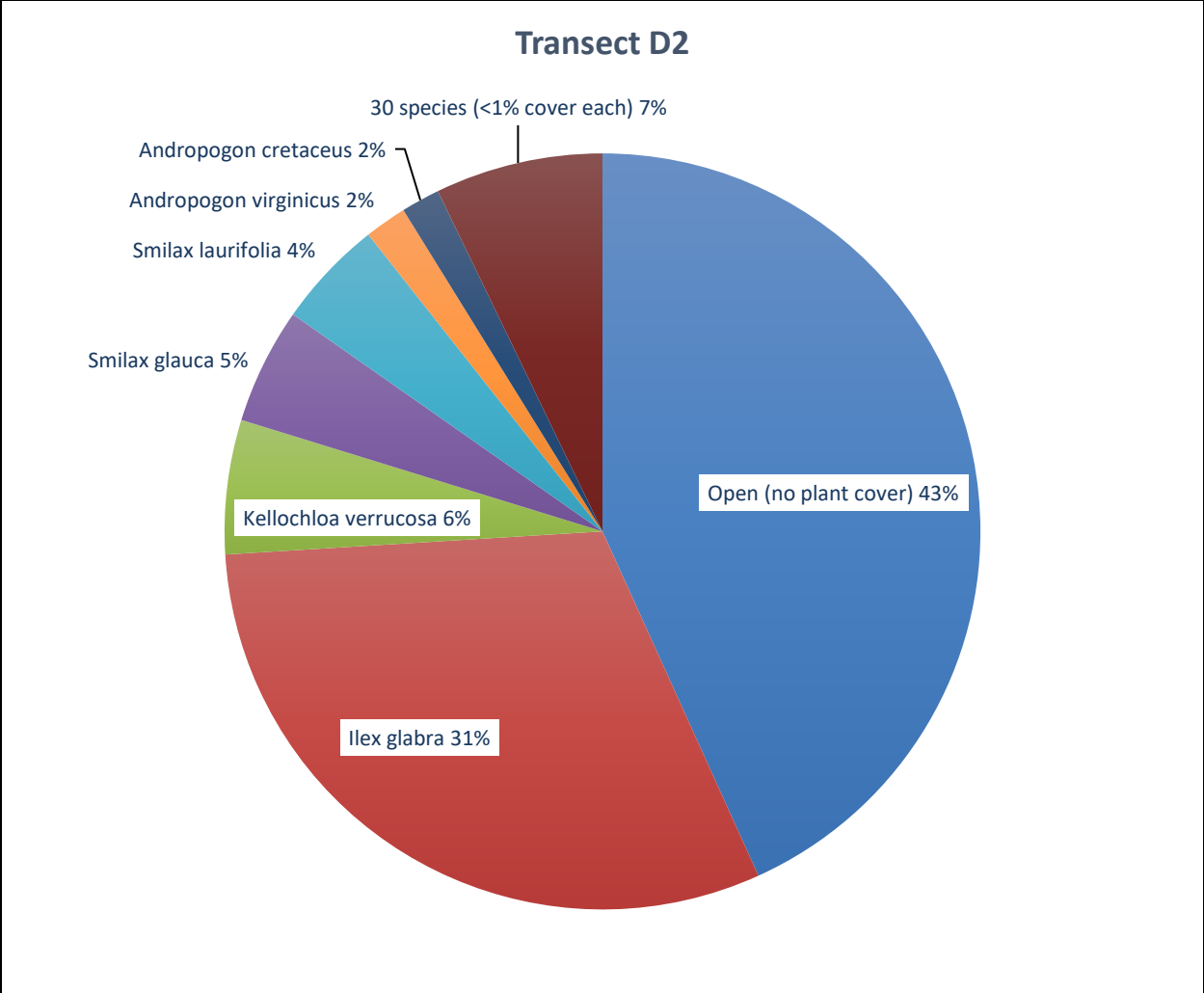


Figure 10. Percent relative cover of plant species in Transect D2.

Table 9. Percent cover of plant species in Transect D2 sampled on November 18, 2024.

Scientific name	Common name	Average percent cover per quadrat
<i>Andropogon cretaceus</i>	purple bluestem	1.50
<i>Andropogon virginicus</i>	broomsedge bluestem	1.63
<i>Aristida beyrichiana</i>	Southern wiregrass	0.10
<i>Aronia arbutifolia</i>	red chokeberry	0.10
<i>Clethra alnifolia</i>	sweet pepperbush	0.83
<i>Clethra tomentosa</i>	downy sweet pepperbush	0.50
<i>Dichanthelium sp.</i>	witchgrass	0.10
<i>Dichanthelium tenue</i>	white-edged witchgrass	0.03
<i>Eupatorium mohrii</i>	Mohr's thoroughwort	0.37
<i>Gaylussacia mosieri</i>	woolly huckleberry	0.70
<i>Hypericum hypericoides</i>	St. Andrew's cross	0.10
<i>Ilex coriacea</i>	large gallberry	0.23

<i>Ilex glabra</i>	gallberry	27.90
<i>Kelochloa verrucosa</i>	warty panicgrass	5.20
<i>Lachnanthes caroliniana</i>	Carolina redroot	0.23
<i>Lachnocaulon anceps</i>	whitehead bogbutton	0.13
<i>Lophiola aurea</i>	golden crest	0.10
<i>Morella cerifera</i>	southern bayberry	0.13
<i>Pinus elliotii</i>	slash pine	0.03
<i>Polygala lutea</i>	orange milkwort	0.03
<i>Pteridium pseudocaudatum</i>	tailed bracken	0.33
<i>Rhexia petiolata</i>	fringed meadowbeauty	0.23
<i>Rhexia</i> sp.	meadowbeauty	0.27
<i>Rhynchospora chapmanii</i>	Chapman's beaksedge	0.23
<i>Rhynchospora ciliaris</i>	fringed beaksedge	0.13
<i>Rubus pensilvanicus</i>	sawtooth blackberry	0.10
<i>Scleria ciliata</i>	hairy nutrush	0.57
<i>Scleria reticularis</i>	netted nutrush	0.10
<i>Scleria</i> sp.	nutrush	0.03
<i>Smilax auriculata</i>	earleaf greenbrier	0.10
<i>Smilax glauca</i>	cat greenbrier	4.50
<i>Smilax hispida</i>	bristly greenbrier	0.13
<i>Smilax laurifolia</i>	laurel greenbrier	4.20
<i>Sophronanthe hispida</i>	rough hedgehyssop	0.03
<i>Vaccinium fuscatum</i>	hairy highbush blueberry	0.47
<i>Xyris</i> sp.	yellow-eyed grass	0.03
Open (no plant cover)		39.17

Shrub Quadrats

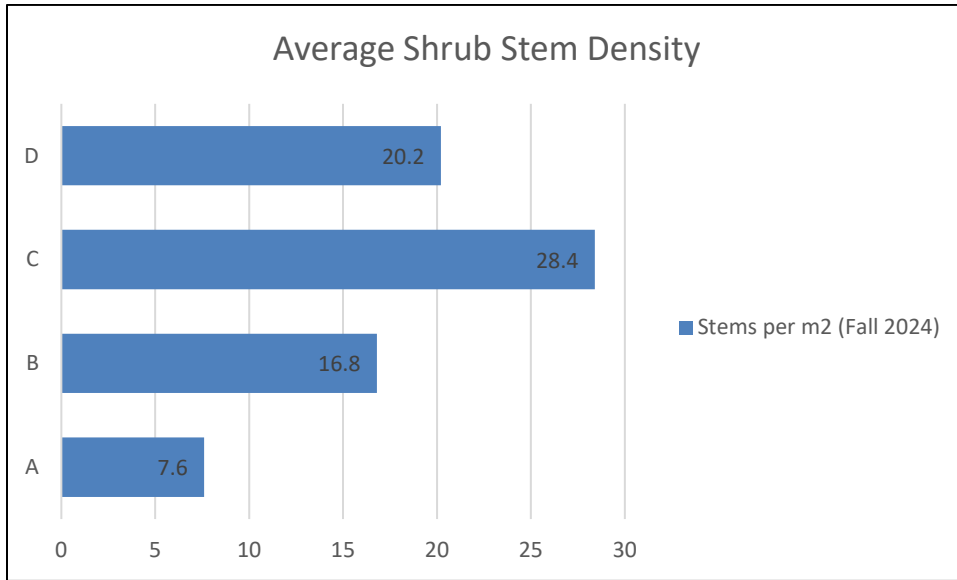


Figure 11. Average Rooted Shrub Stems per Square Meter (Fall 2024)

Table 10. Rooted Shrub Stems per Square Meter (Fall 2024)

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	0	1	10	1	119	1	26
2	25	2	1	2	3	2	24
3	0	3	36	3	0	3	0
4	8	4	32	4	2	4	6
5	5	5	5	5	18	5	45
AVG Stems per m ²	7.6	AVG Stems per m ²	16.8	AVG Stems per m ²	28.4	AVG Stems per m ²	20.2