BAYPORT MITIGATION

Fall 2018 Monitoring Report

USACE Permit No.:	SAJ-1997-07427 (SP-SWA), issued 7/9/2018
Permittee:	DJFO, Inc. c/o: Jay Odom P.O. Box 1735 Destin, FL 32540
Responsible Party for Monitoring:	Northwest Florida Water Management District 81 Water Management Drive Havana, FL 32333
Dates of Inspection:	12/13/2018 & 1/15/2019

Summary

This project (Bayport Mitigation) 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.). Mitigation, as authorized by SAJ-1997-07427 (SP-SWA), will restore 55.6 acres of hydric pine flatwoods / mixed forested wetlands within the Devils Swamp area of the Northwest Florida Water Management District (NWFWMD) 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. Prior to NWFWMD acquisition in 1992, the site had been converted to slash pine plantation.

As described in SAJ-1997-07427 (SP-SWA), the mitigation area is divided into four management polygons (A – D). The USACE permit describes Polygons A, C and D as wet prairie, and Polygon B as hydric pine flatwoods. However, the correct community composition designation is hydric pine flatwoods for Polygons A, B and D; mixed forested wetlands with hydric pine flatwood inclusions for Polygon C.

Mitigation activities implemented-to-date include 1) baseline monitoring (August 2017), 2) shrub reduction (October 2017), 3) prescribed fire (February 2018), 4) repeat panoramic photography (August 2017, March 2018, September 2018), and 5) post-baseline quantitative vegetation monitoring (April 2018 and December 2018 / January 2019).

Performance stands, as specified in SAJ-1997-07427 (SP-SWA), were met in 2018. However, the resprouting of shrubs will necessitate additional treatment to stay within shrub cover targets.

Performance Standards

Special Condition No. 9, Performance Standards, USACE SAJ-1997-07427 SP-SWA	Status
a. Within Mitigation Area A, reduce tree density to no more than 200 trees per acre and reduce shrub coverage to less than 5% cover, by January 2019	Tree cover reduced to ≤ 200/Acre in 2017. Shrub cover reduced to <5% in 2017/2018; however, shrub resprouting in Summer 2018 will necessitate additional treatments.
b. Within Mitigation Area B, reduce tree density to no more than 400 trees per acre and reduce shrub coverage to less than 5% cover, by January 2019.	Tree cover reduced to ≤ 400/Acre in 2017. Shrub cover reduced to <5% in 2017/2018; however, shrub resprouting in Summer 2018 will necessitate additional treatments.
c. Within Mitigation Area C, reduce tree density to no more than 200 trees per acre and reduce shrub coverage to less than 5% cover, by January 2019.	Tree cover reduced to ≤ 200/Acre in 2017. Shrub cover reduced to <5% in 2017/2018; however, shrub resprouting in Summer 2018 will necessitate additional treatments.
d. Within Mitigation Area D, reduce tree density to no more than 200 trees per acre and reduce shrub coverage to less than 5% cover, by January 2019.	Tree cover reduced to ≤ 200/Acre in 2017. Shrub cover reduced to <5% in 2017/2018; however, shrub resprouting in Summer 2018 will necessitate additional treatments.
e. Conduct prescribed burns of Mitigation Areas A, B, C, and D on 2-3 year cycles with the first burn occurring no later than March 2019.	Prescribed fire implemented in all polygons 2/22/2018; fire regime will continue on 2-3 year cycles.
f. Actively manage Mitigation Areas A, C, and D as wet prairie ecosystems and actively manage Mitigation Area B as a hydric pine flatwood ecosystem.	Mitigation Polygons are actively being restored to appropriate, natural wetland communities. Correct community composition designation is hydric pine flatwoods for Polygons A, B and D; mixed forested wetlands with hydric pine flatwood inclusions in Polygon C
g. Conduct annual monitoring of Mitigation Areas A, B, C, and D in accordance with the Monitoring and Reporting Timeframes special condition of this authorization.	Monitoring is being conducted in accordance with permit conditions.
h. Cover of Category I and II invasive exotic plant species, pursuant to the most current list established by the Florida Exotic Pest Plant Council at http://www.fleppc.org, shall total less than 1 percent.	Cover of Category I & II invasive exotic plant species is <1%.

Quantitative Monitoring

Percent vegetation cover was measured in 1 m^2 quadrats (10-foot intervals) along eight 150-foot transects (two transects per management polygon). The percent coverage for each species (and bare ground or open water) was determined by adding all quadrat observations together and dividing the total coverage by the cover of each species within each transect. This represents a modified Daubenmire cover scale where vegetation species statistics are used to determine the percent cover by bare ground, water and plant species.

Shrub density was monitored within each mitigation polygon using five 1 m^2 quadrats established at random. Within each quadrat, the number of rooted shrub stems were counted.

Transect A1 (Polygon A; Hydric Pine Flatwoods Restoration)

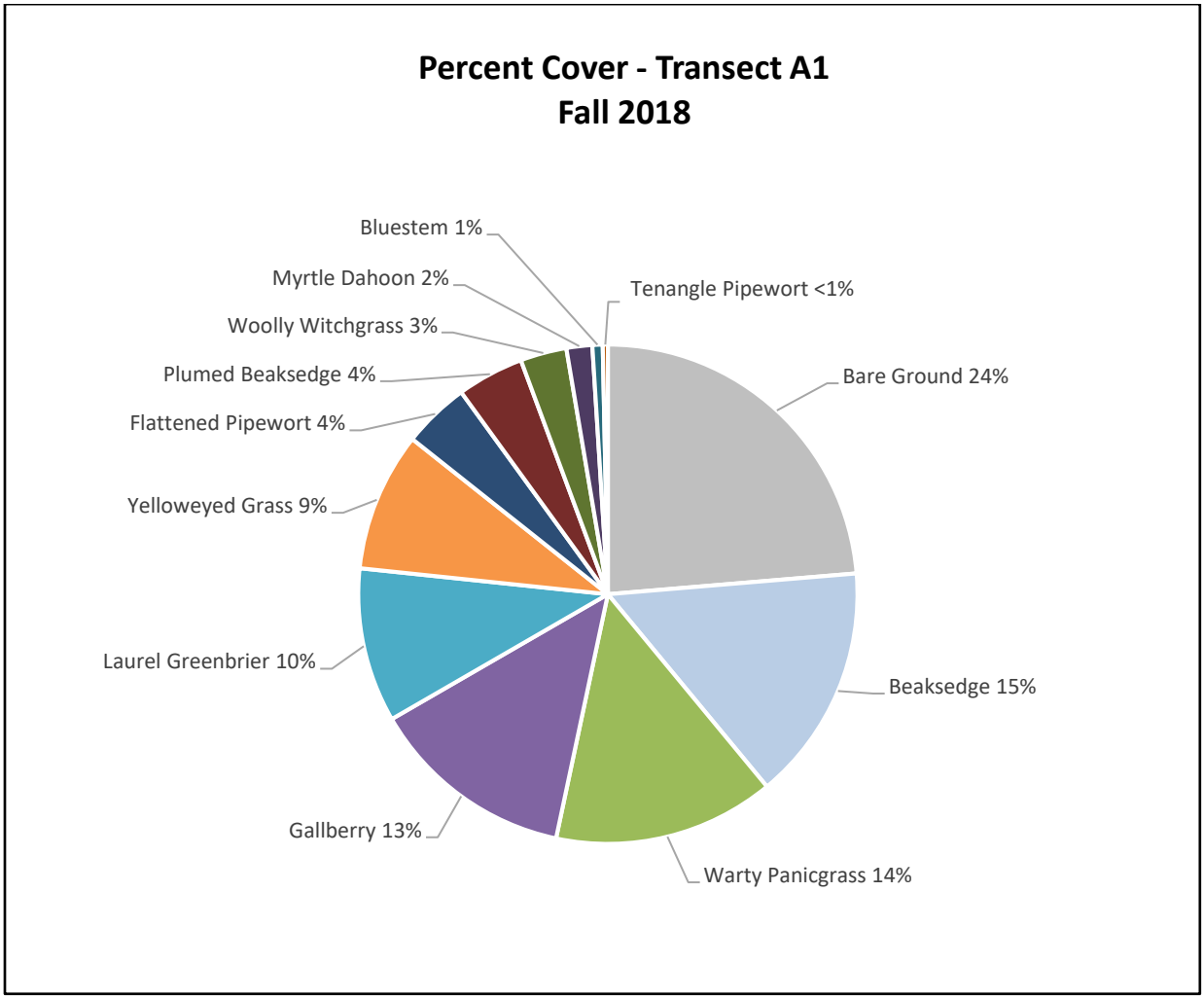

Table 1. Transect A1

Scientific Name	Common Name	Percent Cover Across Transect*
Andropogon spp.	Bluestem	0.7
Dichanthelium scabriusculum	Woolly Witchgrass	3.0
Eriocaulon compressum	Flattened Pipewort	4.3
Eriocaulon decangulare	Tenangle Pipewort	0.3
Ilex glabra	Gallberry	13.3
Ilex myrtifolia	Myrtle Dahoon	1.7
Kellochloa verrucosa	Warty Panicgrass	14.3
Rhynchospora plumosa	Plumed Beaksedge	4.3
Rhynchospora spp.	Beaksedge	15.3
Smilax laurifolia	Laurel Greenbrier	10.0
Xyris spp.	Yelloweyed Grass	9.0
Bare ground	Bare ground	23.7
		100.0

*Due to rounding, percent cover may not add up to precisely 100.0%.

Transect A2 (Polygon A; Hydric Pine Flatwoods Restoration)

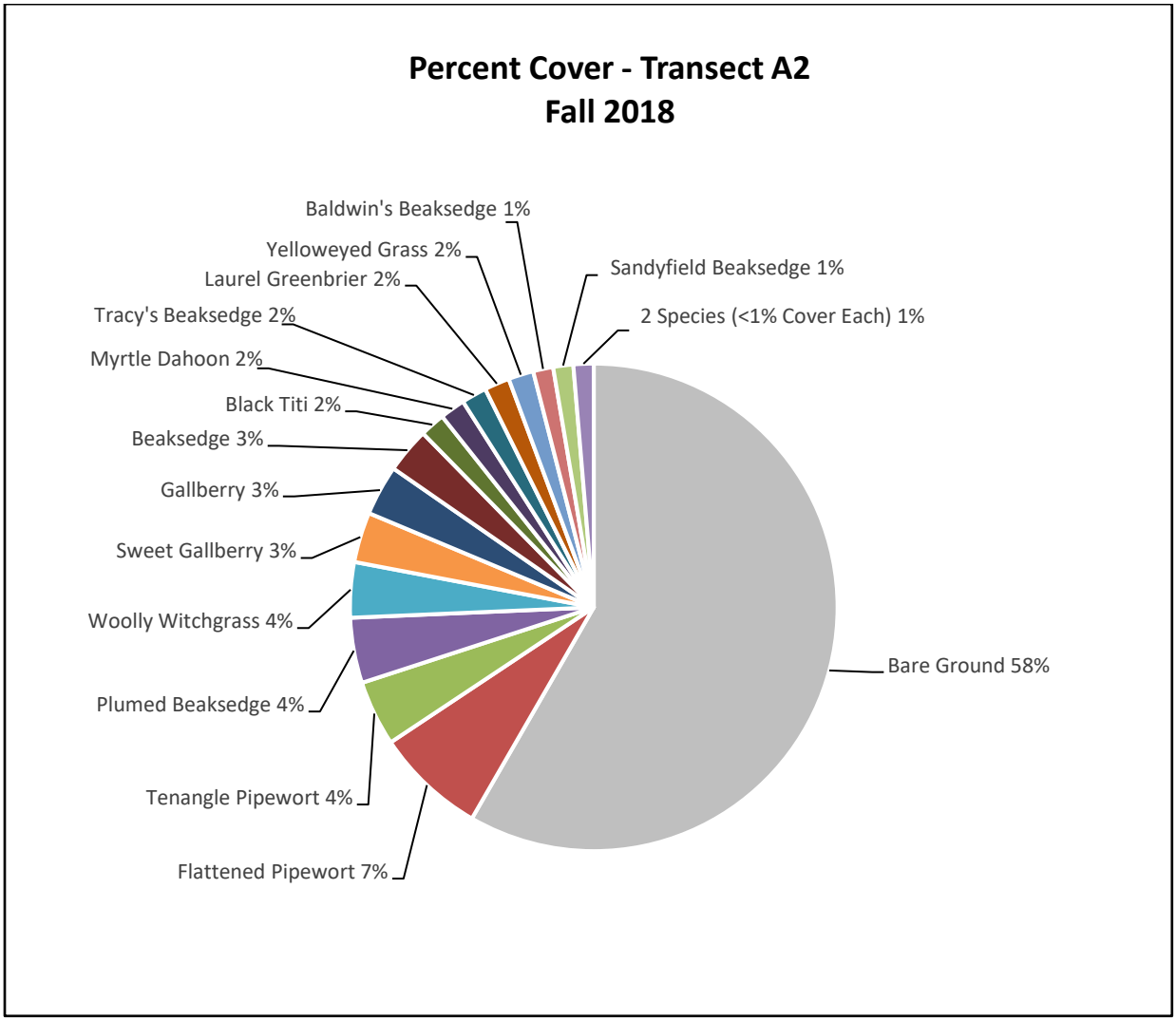

Table 2. Transect A2

Scientific Name	Common Name	Percent Cover Across Transect*
Cliftonia monophylla	Black Titi	1.7
Cyperus spp.	Flatsedge	0.7
Dichanthelium scabriusculum	Woolly Witchgrass	3.7
Eriocaulon compressum	Flattened Pipewort	7.3
Eriocaulon decangulare	Tenangle Pipewort	4.3
Ilex coriacea	Sweet Gallberry	3.3
Ilex glabra	Gallberry	3.3
Ilex myrtifolia	Myrtle Dahoon	1.7
Rhynchospora baldwinii	Baldwin's Beaksedge	1.3
Rhynchospora megalocarpa	Sandyfield Beaksedge	1.3
Rhynchospora plumosa	Plumed Beaksedge	4.3
Rhynchospora spp.	Beaksedge	3.0
Rhynchospora tracyi	Tracy's Beaksedge	1.7
Scleria spp.	Nutrush	0.7
Smilax laurifolia	Laurel Greenbrier	1.7
Xyris spp.	Yelloweyed Grass	1.7
Bare ground	Bare Ground	58.3
		100.0

*Due to rounding, percent cover may not add up to precisely 100.0%.

Transect B1 (Polygon B; Hydric Pine Flatwoods Restoration)

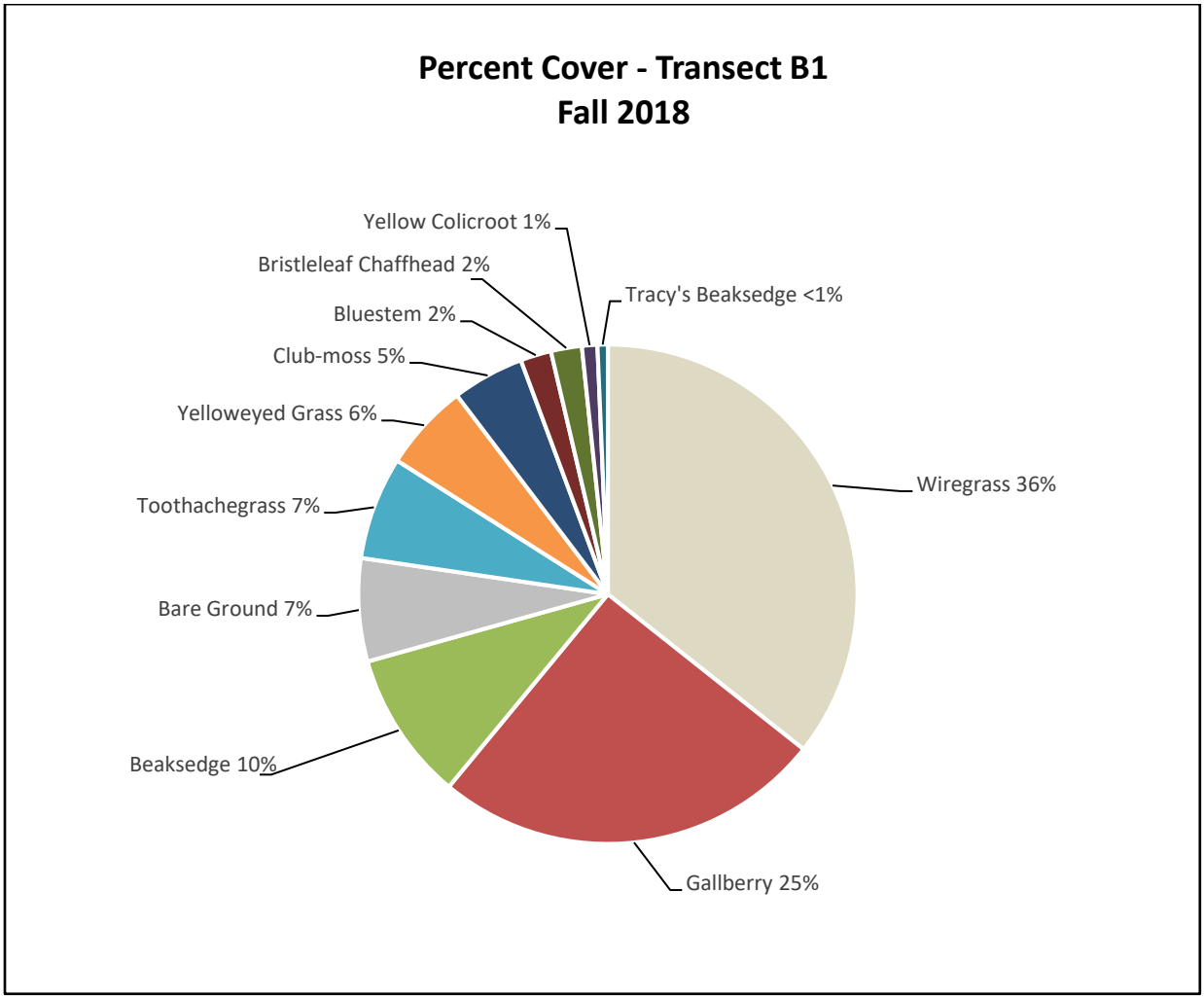

Table 3. Transect B1

Scientific Name	Common Name	Percent Cover Across Transect*
Aletris lutea	Yellow Colicroot	1.0
Andropogon spp.	Bluestem	2.0
Aristida stricta	Wiregrass	35.7
Carphephorus pseudoliatris	Bristleleaf Chaffhead	2.0
Ctenium aromaticum	Toothachegrass	6.7
Ilex glabra	Gallberry	25.3
Lycopodiella spp.	Club-moss	4.7
Rhynchospora spp.	Beaksedge	9.7
Rhynchospora tracyi	Tracy's Beaksedge	0.7
Xyris spp.	Yelloweyed Grass	5.7
Bare Ground	Bare Ground	6.7
		100.0

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Transect B2 (Polygon B; Hydric Pine Flatwoods Restoration)

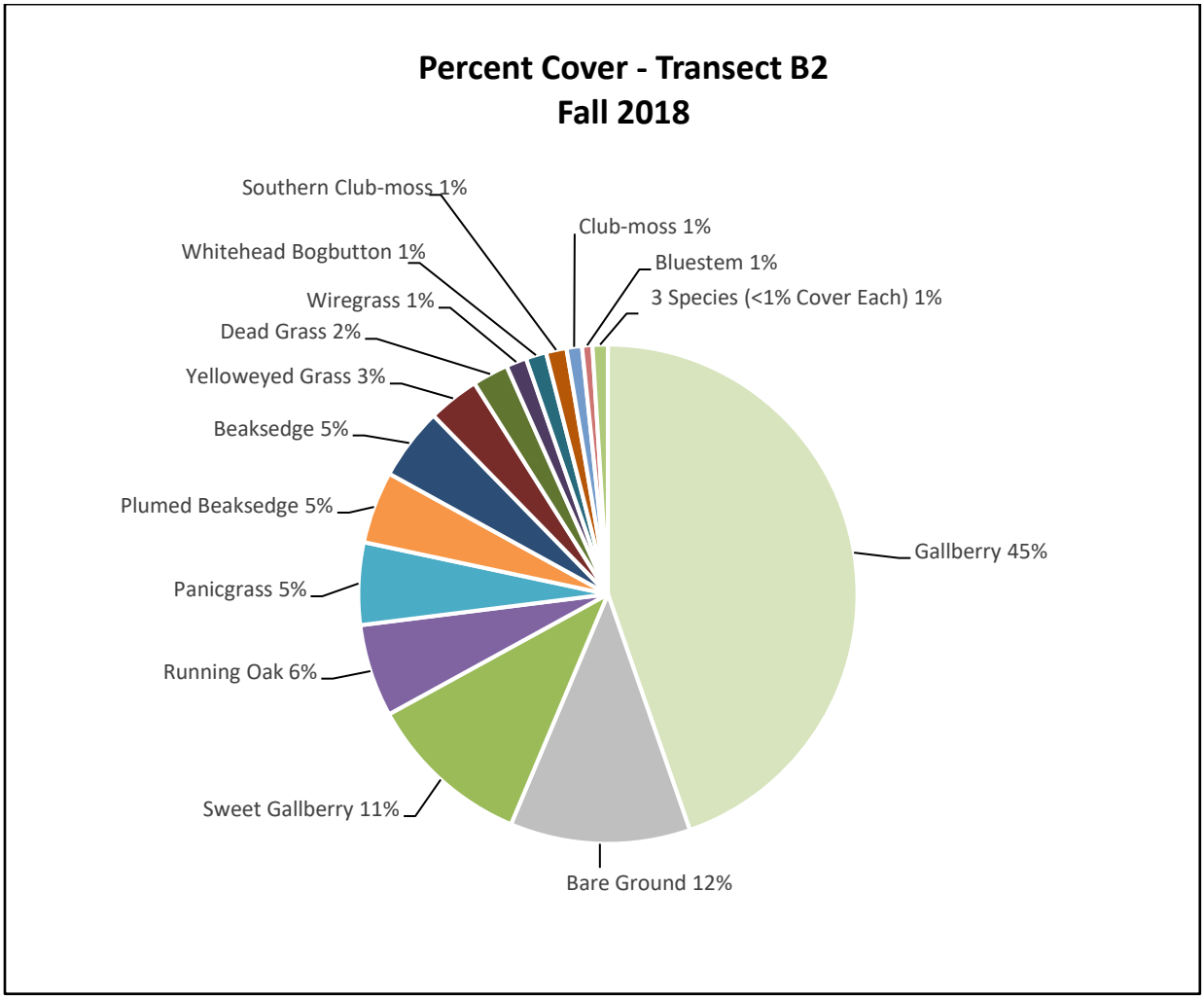

Table 4. Transect B2

Scientific Name	Common Name	Percent Cover Across Transect*
Andropogon spp.	Bluestem	0.7
Aristida scricta	Wiregrass	1.3
Dead grass	Dead Grass	2.3
Ilex coriacea	Sweet Gallberry	10.7
Ilex glabra	Gallberry	44.7
Ilex vomitoria	Yaupon	0.3
Lachnocaulon anceps	Whitehead Bogbutton	1.3
Lycopodiella appressa	Southern Club-moss	1.3
Lycopodiella spp.	Club-moss	1.0
Panicum spp.	Panicgrass	5.3
Quercus pumila	Running Oak	6.0
Rhynchospora plumosa	Plumed Beaksedge	4.7
Rhynchospora spp.	Beaksedge	4.7
Rhynchospora tracyi	Tracy's Beaksedge	0.3
Serenoa repens	Saw Palmetto	0.3
Xyris spp.	Yelloweyed Grass	3.3
Bare ground	Bare Ground	11.7
		100.0

*Due to rounding, percent cover may not add up to precisely 100.0%.

Transect C1 (Polygon C; Mixed Forested Wetlands w/Hydric Pine Flatwood Restoration)

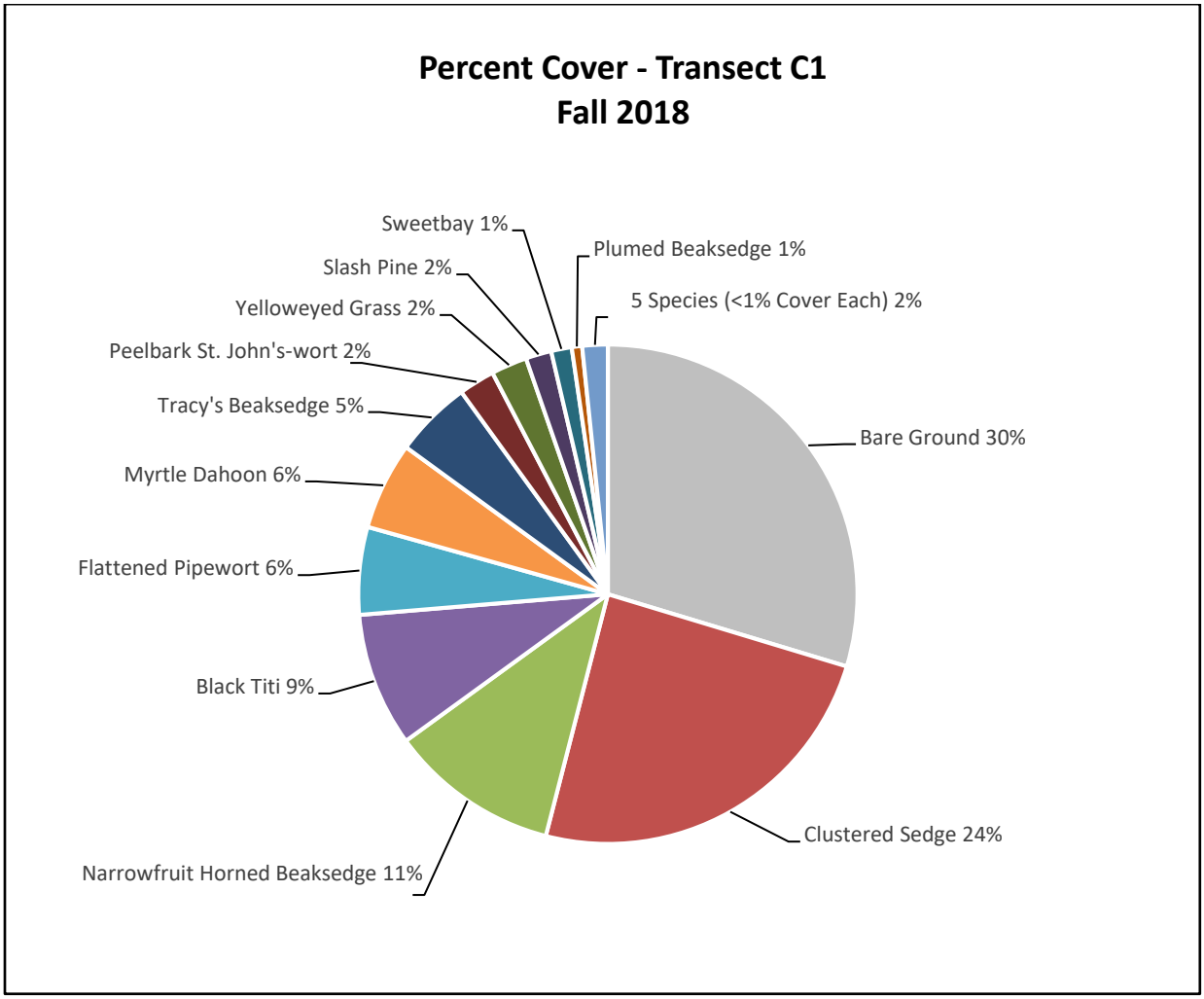

Table 5. Transect C1

Scientific Name	Common Name	Percent Cover Across Transect*
Andropogon spp.	Bluestem	0.3
Aristida scricta	Wiregrass	0.3
Carex glaucescens	Clustered Sedge	24.3
Clethra alnifolia	Coastal Sweetpepperbush	0.3
Cliftonia monophylla	Black Titi	8.7
Erigeron annuus	Eastern Daisy Fleabane	0.3
Eriocaulon compressum	Flattened Pipewort	5.7
Hypericum fasciculatum	Peelbark St. John's-wort	2.3
Ilex myrtifolia	Myrtle Dahoon	5.7
Lycopodiella spp.	Club-moss	0.3
Magnolia virginiana	Sweetbay	1.3
Pinus elliottii	Slash Pine	1.7
Rhynchospora inundata	Narrowfruit Horned Beaksedge	11.0
Rhynchospora plumosa	Plumed Beaksedge	0.7
Rhynchospora tracyi	Tracy's Beaksedge	5.0
Xyris spp.	Yelloweyed Grass	2.3
Bare ground	Bare Ground	29.7
		100.0

*Due to rounding, percent cover may not add up to precisely 100.0%.

Transect C2 (Polygon C; Mixed Forested Wetlands w/Hydric Pine Flatwood Restoration)

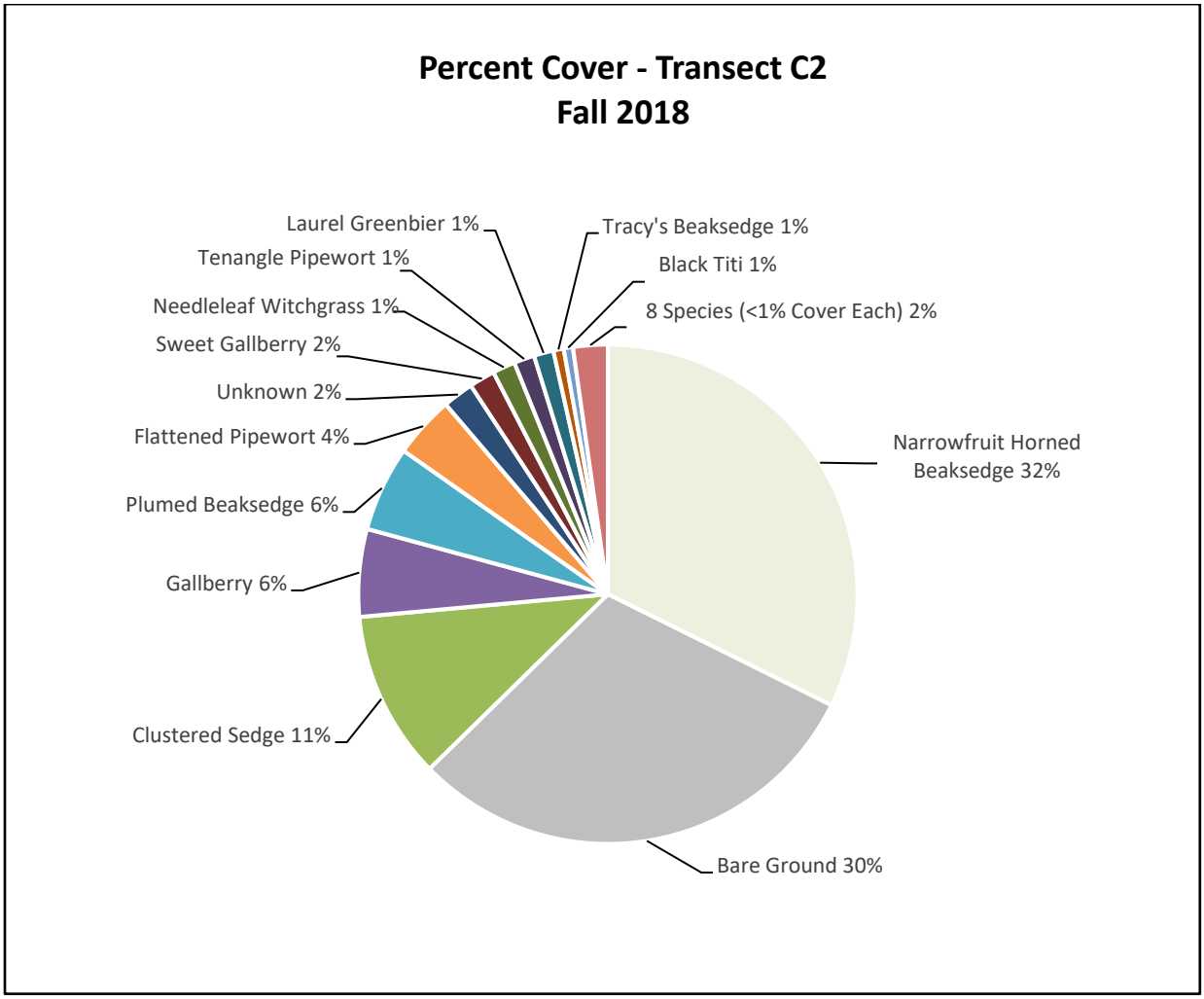

Table 6. Transect C2

Scientific Name	Common Name	Percent Cover Across Transect*
Carex glaucescens	Clustered Sedge	10.9
Cliftonia monophylla	Black Titi	0.6
Dichanthelium aciculare	Needleleaf Witchgrass	1.5
Dichanthelium scabriusculum	Woolly Witchgrass	0.3
Eriocaulon compressum	Flattened Pipewort	4.0
Eriocaulon decangulare	Tenangle Pipewort	1.3
Gelsemium sempervirens	Yellow Jessamine	0.1
Hypericum crux-andreae	St. Peter's-wort	0.3
Hypericum tetrapetalum	Fourpetal St. John's-wort	0.1
Ilex coriacea	Sweet Gallberry	1.7
Ilex glabra	Gallberry	5.7
Ilex myrtifolia	Myrtle Dahoon	0.3
Rhynchospora inundata	Narrowfruit Horned Beaksedge	32.3
Rhynchospora meglocarpa	Sandyfield Beaksedge	0.3
Rhynchospora plumosa	Plumed Beaksedge	5.5
Rhynchospora spp.	Beaksedge	0.3
Rhynchospora tracyi	Tracy's Beaksedge	0.7
Smilax laurifolia	Laurel Greenbier	1.3
UNK	Unknown	2.0
Xyris spp.	Yelloweyed Grass	0.3
Bare ground	Bare Ground	30.3
		100.0

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Transect D1 (Polygon B; Hydric Pine Flatwoods Restoration)

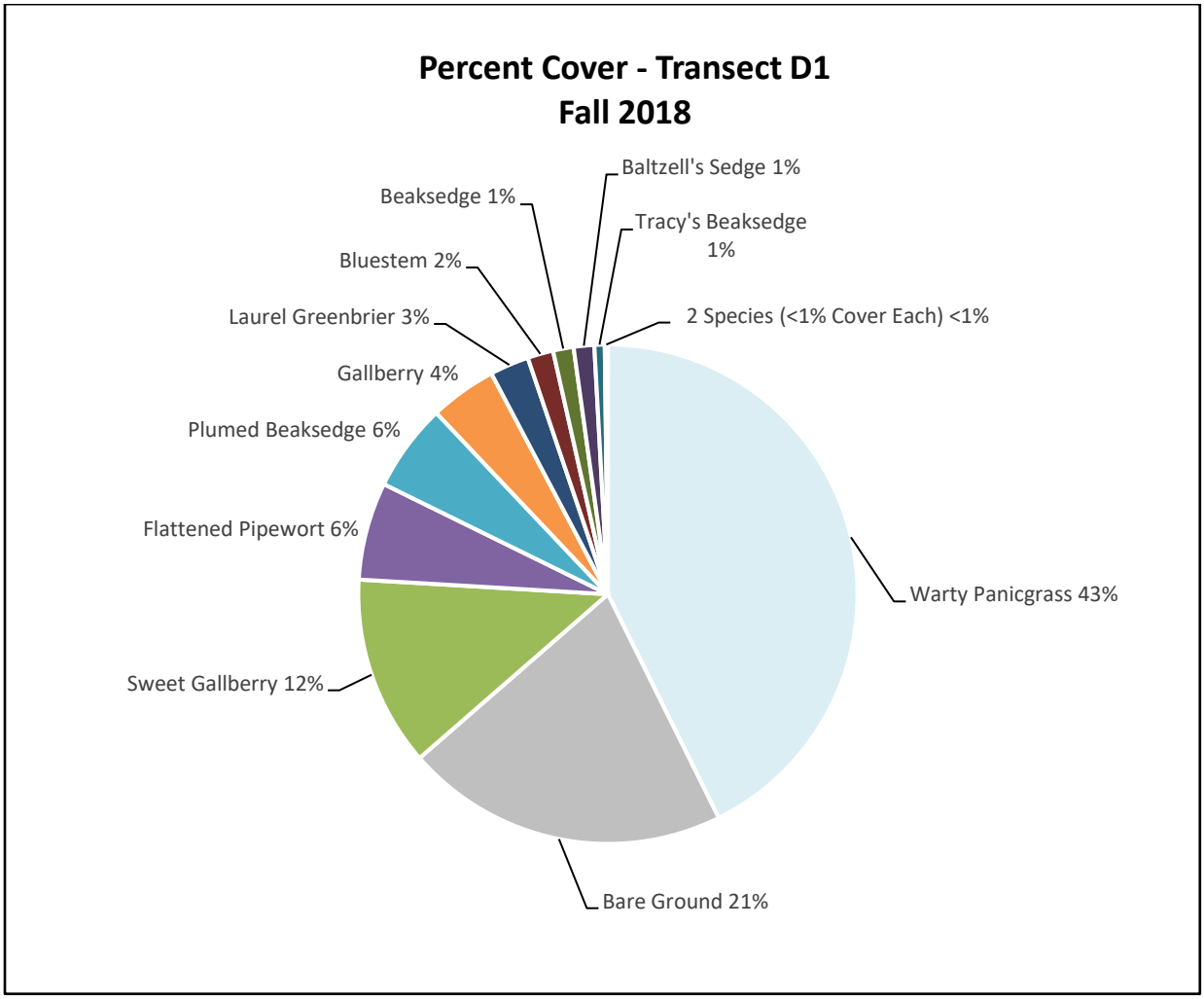

Table 7. Transect D1

Scientific Name	Common Name	Percent Cover Across Transect*
Andropogon spp.	Bluestem	1.7
Carex baltzellii	Baltzell's Sedge	1.3
Clethra alnifolia	Coastal Sweetpepperbush	0.1
Eriocaulon compressum	Flattened Pipewort	6.3
Ilex coriacea	Sweet Gallberry	12.3
Ilex glabra	Gallberry	4.3
Ilex myrtifolia	Myrtle Dahoon	0.1
Kellochloa verrucosa	Warty Panicgrass	42.7
Rhynchospora plumosa	Plumed Beaksedge	5.7
Rhynchospora spp.	Beaksedge	1.3
Rhynchospora tracyi	Tracy's Beaksedge	0.7
Smilax laurifolia	Laurel Greenbrier	2.5
Bare Ground	Bare Ground	20.9
		100.0

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Transect D2 (Polygon B; Hydric Pine Flatwoods Restoration)

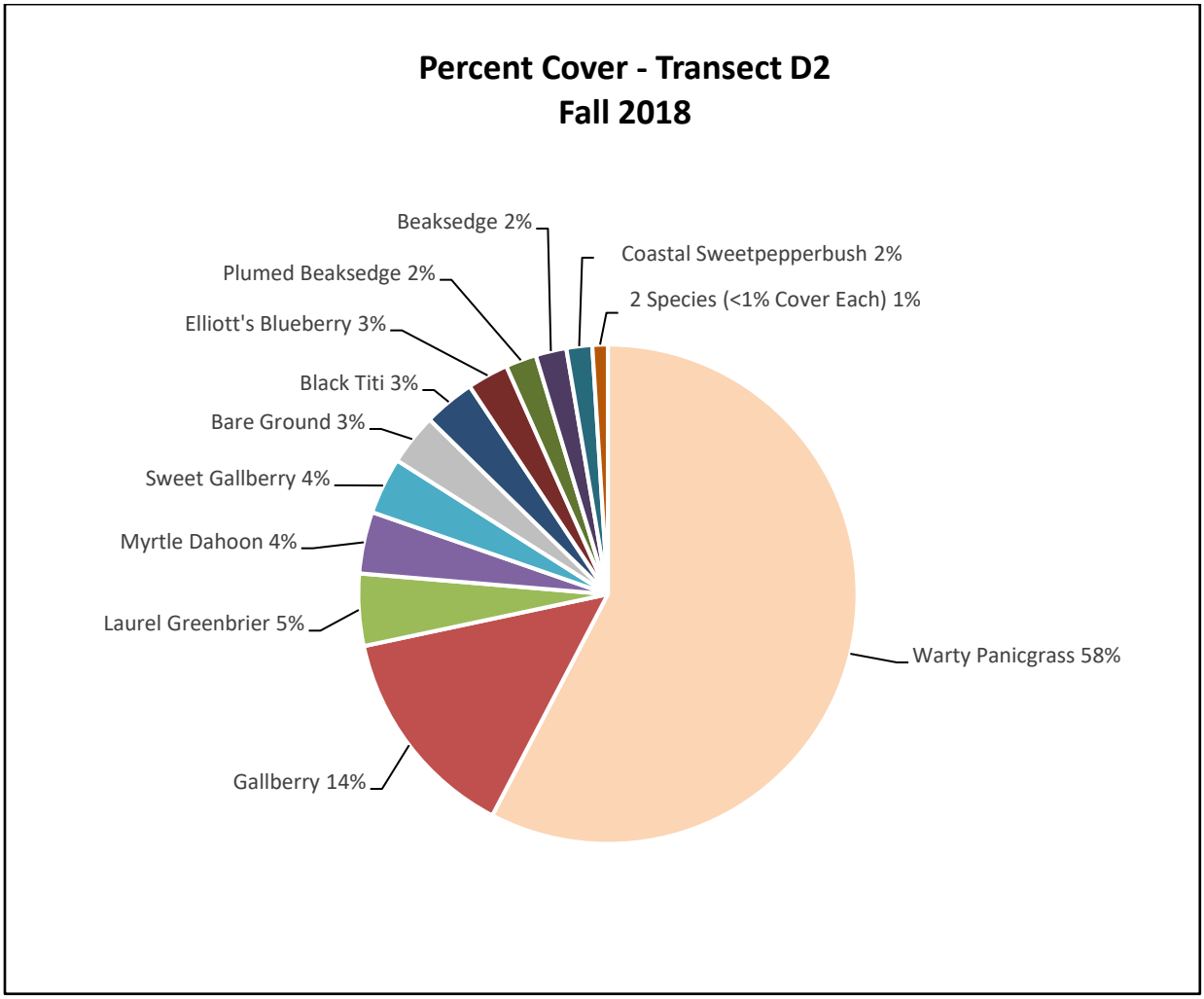


Table 8. Transect D2

Scientific Name	Common Name	Percent Cover Across Transect*
Clethra alnifolia	Coastal Sweetpepperbush	1.7
Cliftonia monophylla	Black Titi	3.3
Dichanthelium aciculare	Needleleaf Witchgrass	0.3
Ilex coreacea	Sweet Gallberry	3.7
Ilex glabra	Gallberry	14.0
Ilex myrtifolia	Myrtle Dahoon	4.0
Kellochloa verrucosa	Warty Panicgrass	57.7
Rhynchospora plumosa	Plumed Beaksedge	2.0
Rhynchospora spp.	Beaksedge	2.0
Smilax laurifolia	Laurel Greenbrier	4.7
Vaccinium elliottii	Elliott's Blueberry	2.7
Xyris spp.	Yelloweyed Grass	0.7
Bare Ground	Bare Ground	3.3
		100.0

*Due to rounding, percent cover may not add up to precisely 100.0%.

Average Shrub Density by Polygon

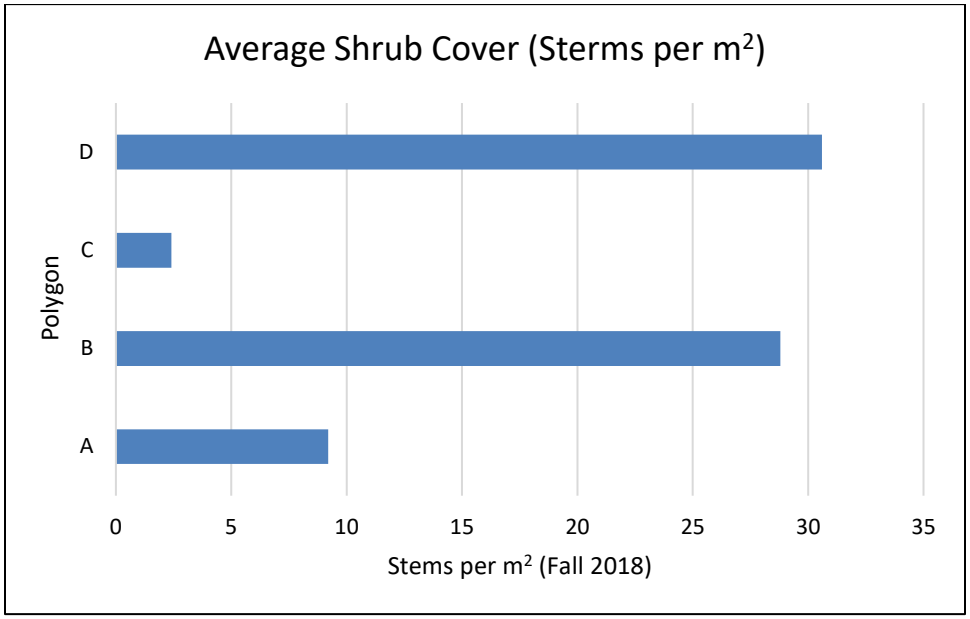


Figure 1. Average Shrub Stems per m^2

Panoramic Monitoring Photos

Photo Point 1
(Polygon B—Hydric Pine Flatwoods Restoration)

8/28/2017 (Baseline Conditions)

3/8/2018

9/18/2018

Photo Point 2
(Polygon B—Hydric Pine Flatwoods Restoration)

8/28/2017 (Baseline Conditions)

3/8/2018

9/18/2018

Photo Point 3
(Polygon D—Hydric Pine Flatwoods Restoration)

8/28/2017 (Baseline Conditions)

3/8/2018

9/18/2018

Photo Point 4
(Polygon D—Hydric Pine Flatwoods Restoration)

8/28/2017 (Baseline Conditions)

3/8/2018

9/18/2018

Photo Point 5
(Polygon A—Hydric Pine Flatwoods Restoration)

8/28/2017 (Baseline Conditions)

3/8/2018

9/18/2018

Photo Point 6
(Polygon A—Hydric Pine Flatwoods Restoration)

8/28/2017 (Baseline Conditions)

3/8/2018

9/18/2018

Photo Point 7
(Polygon C—Mixed Forested Wetlands w/Hydric Pine Flatwood Inclusions Restoration)

8/28/2017 (Baseline Conditions)

3/8/2018

9/18/2018

Photo Point 8
(Polygon C—Mixed Forested Wetlands w/Hydric Pine Flatwood Inclusions Restoration)

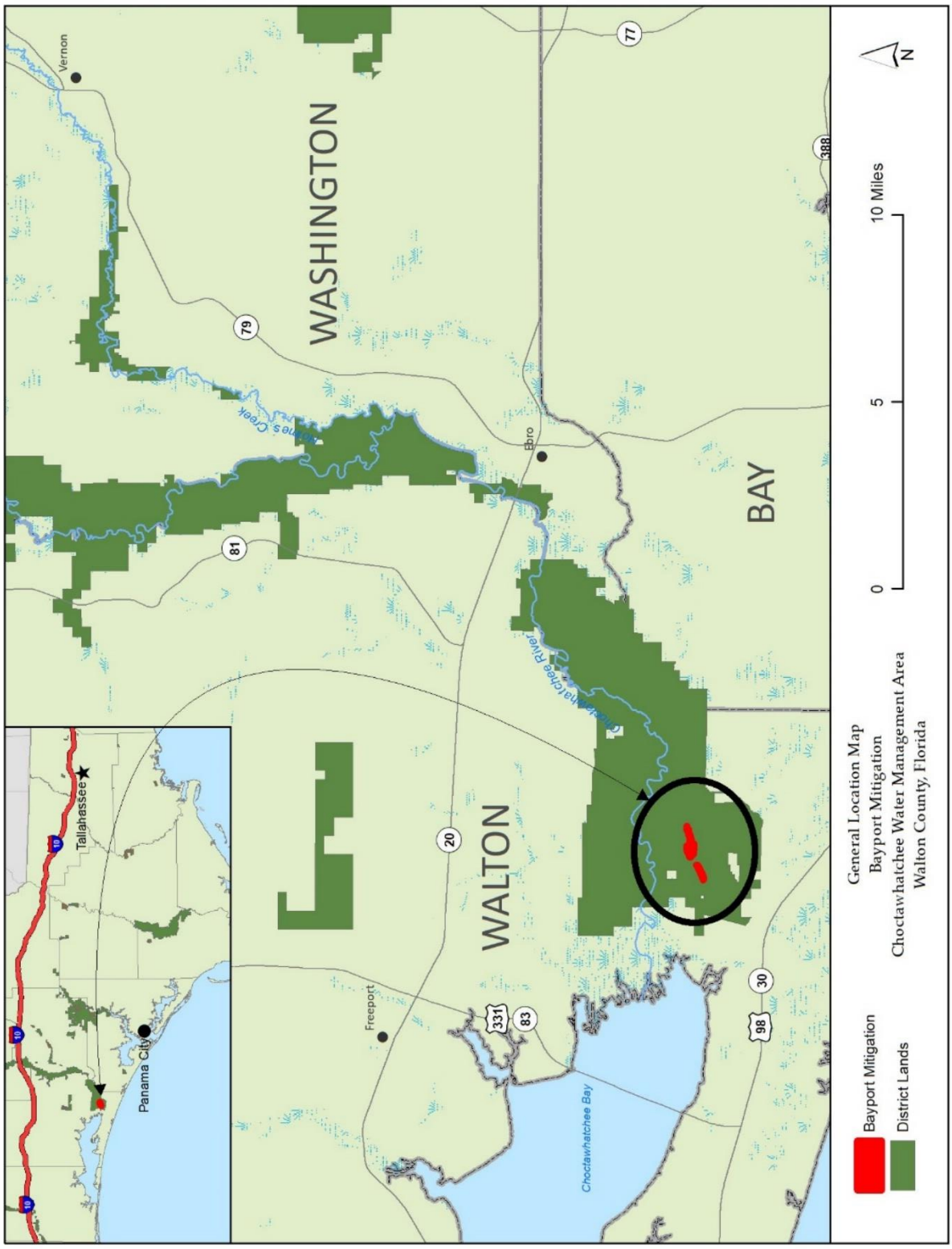
8/28/2017 (Baseline Conditions)

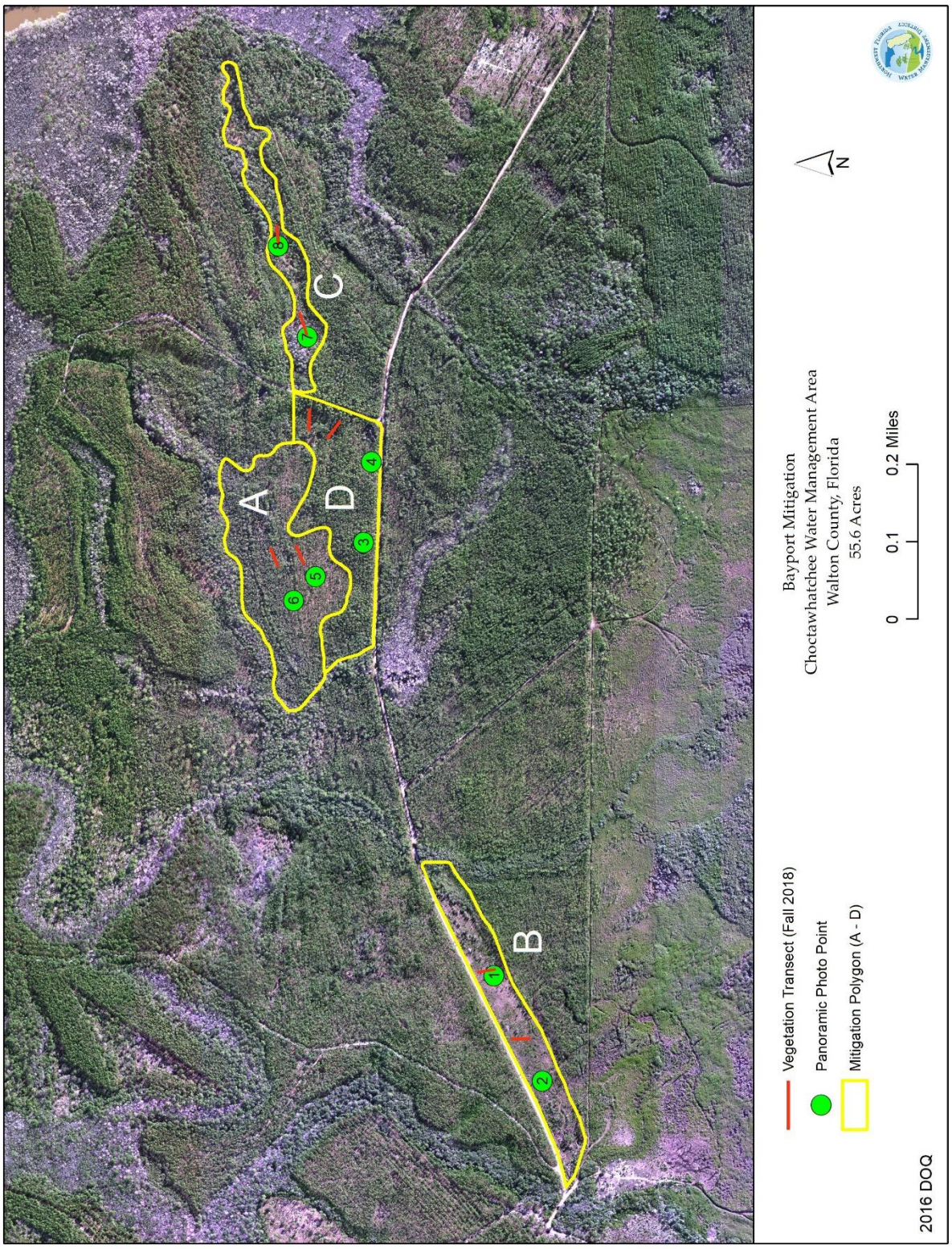
3/8/2018

9/18/2018

Conclusions

Mitigation and monitoring are being implemented per permit conditions of SAJ-1997-07427 (SP-SWA). Performance standards for tree densities, implementation of prescribed fire, monitoring, and invasive exotic plant species cover are being met. Shrub cover targets (<5% cover per mitigation polygon) were met by Spring 2018. However, resprouting caused the shrub cover to exceed targets by January 2018. Additional shrub reduction treatments will be implemented.


WASHINGTON
WALTON
BAY
Vernon
Ebro
Freeport
Choctawhatchee Bay
Holmes Creek
Choctawhatchee River
Tallahassee
Panama City
79
81
77
20
331
83
98
30
388
0
5
10 Miles
N
General Location Map
Bayport Mitigation
Choctawhatchee Water Management Area
Walton County, Florida
Bayport Mitigation
District Lands


A
B
C
D
1
2
3
4
5
6
7
8
Bayport Mitigation
Choctawhatchee Water Management Area
Walton County, Florida
55.6 Acres
0
0.1
0.2 Miles
N
Vegetation Transect (Fall 2018)
Panoramic Photo Point
Mitigation Polygon (A - D)
2016 DOQ