TOS SITE CHARACTERIZATION REPORT: DOMAIN 03

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See configuration management system for approval history.

The National Ecological Observatory Network is a project solely funded by the National Science Foundation and managed under cooperative agreement by Battelle. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

CHANGE RECORD

REVISION	DATE	ECO#	DESCRIPTION OF CHANGE
A	mm/dd/yyyy	ECO-xxxx	Initial Release
B	mm/dd/yyyy	ECO-xxxx	
C	mm/dd/yyyy	ECO-xxxx	

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1 DESCRIPTION

1.1 Purpose

Domain and site-specific information collected and described here is used to inform the execution of protocols for the NEON Terrestrial Observation System (TOS), and complements the official NEON TOS data products generated from each site. In addition, the TOS spatial layout and plot allocation is described for each site within the domain.

1.2 Scope

This document includes any site specific characterization methods and the results of characterization efforts for each of the three sites in the Southeast domain. For more information about the sampling methods, reference the TOS Site Characterization Methods Document (RD[06]). The geographic coordinates for all TOS sampling locations can be found in the Reference Documents area of the NEON Data Portal and are provided with TOS data product downloads.

2 RELATED DOCUMENTS AND ACRONYMS

2.1 Applicable Documents

Applicable documents contain information that shall be applied in the current document. Examples are higher level requirements documents, standards, rules and regulations.

AD[01]	NEON.DOC.004300	EHS Safety Policy and Program Manual
AD[02]	NEON.DOC.001155	NEON Training Plan
AD[03]	NEON.DOC.050005	Field Operations Job Instruction Training Plan
AD[04]	NEON.DOC.000909	TOS Science Design for Ground Beetle Abundance and Diversity
AD[05]	NEON.DOC.000910	TOS Science Design for Mosquito Abundance, Diversity and Phenology
AD[06]	NEON.DOC. 000912	TOS Science Design for Plant Diversity
AD[07]	NEON.DOC.000915	TOS Science Design for Small Mammal Abundance and Diversity
AD[08]	NEON.DOC.000914	TOS Science Design for Plant Biomass, Productivity, and Leaf Area Index
AD[09]	NEON.DOC.000001	NEON Observatory Design

2.2 Reference Documents

Reference documents contain information complementing, explaining, detailing, or otherwise supporting the information included in the current document.

RD[01]	NEON.DOC.000008	NEON Acronym List
RD[02]	NEON.DOC.000243	NEON Glossary of Terms
RD[03]	NEON.DOC.000913	TOS Science Design for Spatial Sampling
RD[04]	NEON.DOC.XXXXXX	TIS Site Characterization Report
RD[05]	NEON.DOC.XXXXXX	AOS Site Characterization Report
RD[06]	NEON.DOC.003885	TOS Site Characterization Methods
RD[07]	NEON.DOC.000481	TOS Protocol and Procedure: Small Mammal Sampling
RD[08]	NEON.DOC.01401	TOS Protocol and Procedure: Breeding Landbird Abundance and Diversity

2.3 Acronyms

Acronym	Definition
BOLD	Barcode of Life Datasystems
NLCD	National Land Cover Database

3 DOMAIN 03 OVERVIEW: SOUTHEAST DOMAIN

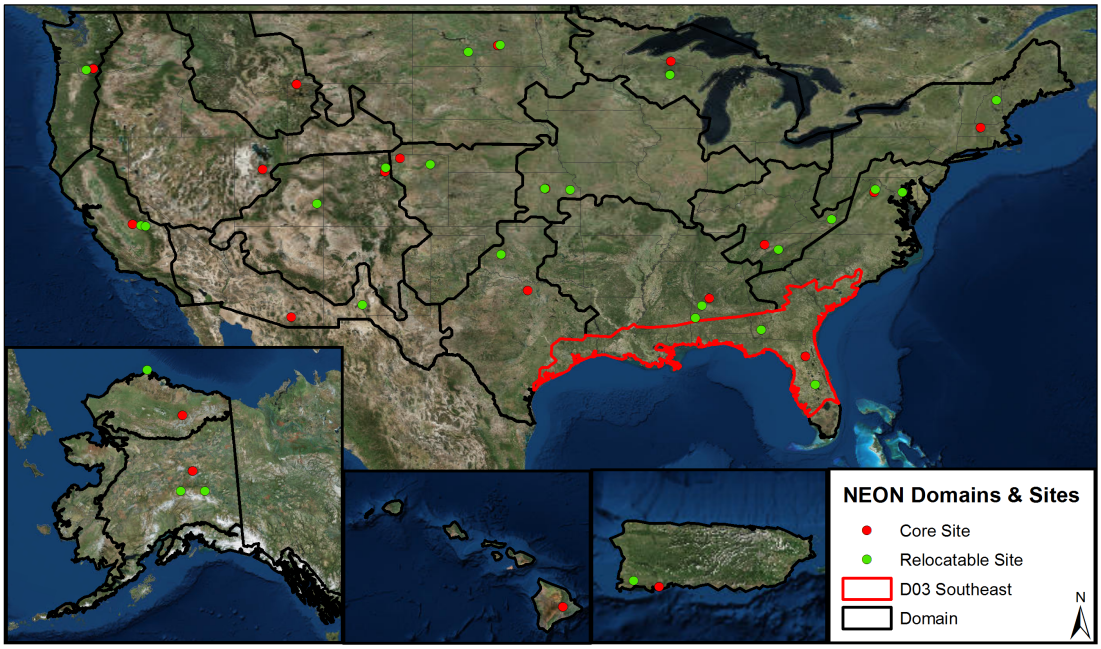

Figure 1: NEON project map with Domain 03 highlighted in red

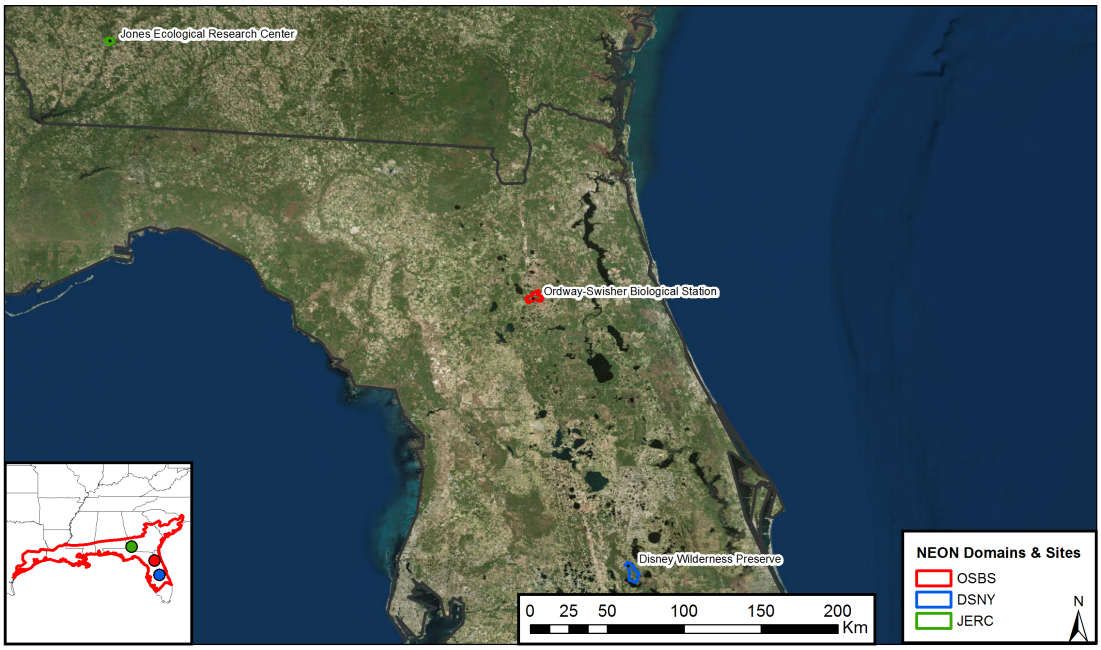

Figure 2: Site boundaries within Domain 03

- States included in the domain: Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Texas
- Core site: Ordway-Swisher Biological Station
- Relocatable 1: Disney Wilderness Preserve
- Relocatable 2: Jones Ecological Research Center
- Science themes: Forest Management

4 CORE SITE- ORDWAY-SWISHER BIOLOGICAL STATION (OSBS)

The Ordway-Swisher Biological Station (OSBS) is operated by the University of Florida and comprises over 9,300 acres (38km^2). It is a year-round field station established for the long-term study and conservation of unique ecosystems through management, research and education. The Station is located approximately 20 miles east of Gainesville in Melrose (Putnam County, Florida). The Ordway-Swisher Biological Station site is designed to study an intact longleaf pine ecosystem, which is one of the historically dominant forest types in the region. The longleaf pine ecosystem spans the region, with deep sandy soils through the central ridgeline from North-to-mid Florida.

- Site host: University of Florida Foundation
- Putnam/Florida
- Area: 38 km^2
- Elevation: 20-50m

- Dominant vegetation type- Ordway-Swisher is dominated by pine and turkey oak (*Quercus laevis Walter*) vegetation with a grass and forb groundcover. Pines are primarily Longleaf Pines (*Pinus palustris Mill.*) and Lobolly (*P. Taeda*) and the dominant perennial grass is wiregrass (*Aristida stricta Michx.*). Numerous species of other perennial grasses and forbs also present.
- General management: The forest is maintained by fire and has a relatively open structure: it is managed with prescribed burns at a frequency of 3-4 years.
- There are two aquatic arrays at Ordway-Swisher, representing the two dominant aquatic features on the landscape: 1) Suggs lake, a shallow surface water lake that is rich in taxa and biologically active in structure and function; and 2) Barco lake, a deep lake connected to ground water. See the AOS site characterization report for more details (RD[05]).
- Plot Selection: NEON TOS Plots were allocated across the site avoiding existing research.

4.1 TOS Spatial Sampling Design

TOS plots were allocated at OSBS according to a spatially balanced and stratified-random design (RD[3]). The 2006 National Land Cover Database (NLCD) was selected for stratification because of the consistent and comparable data availability across the United States. Due to a mismatch between a strata described by the NLCD (shrub scrub) and existing ground cover (turkey oak and long-leaf pine), TOS plots were not initially allocated to shrub scrub. The associated pixels will be reclassified with data from NEON's remote sensing platform such that this landscape component will be sampled early in NEON Operations. TOS plots that are distributed throughout the site according to the spatial design are hereafter referred to as 'distributed plots'. TOS plots that are randomly allocated within the airshed of the NEON Terrestrial Instrument System (TIS) tower to collect complementary data are not stratified by NLCD class; these plots are hereafter referred to as 'tower plots'. The maps below depict the plot locations for the first year of NEON sampling. Some plot locations may change over time due to logistics, safety, and science requirements. Please visit the NEON website (http://www.neonscience.org) for updated plot locations at each site.

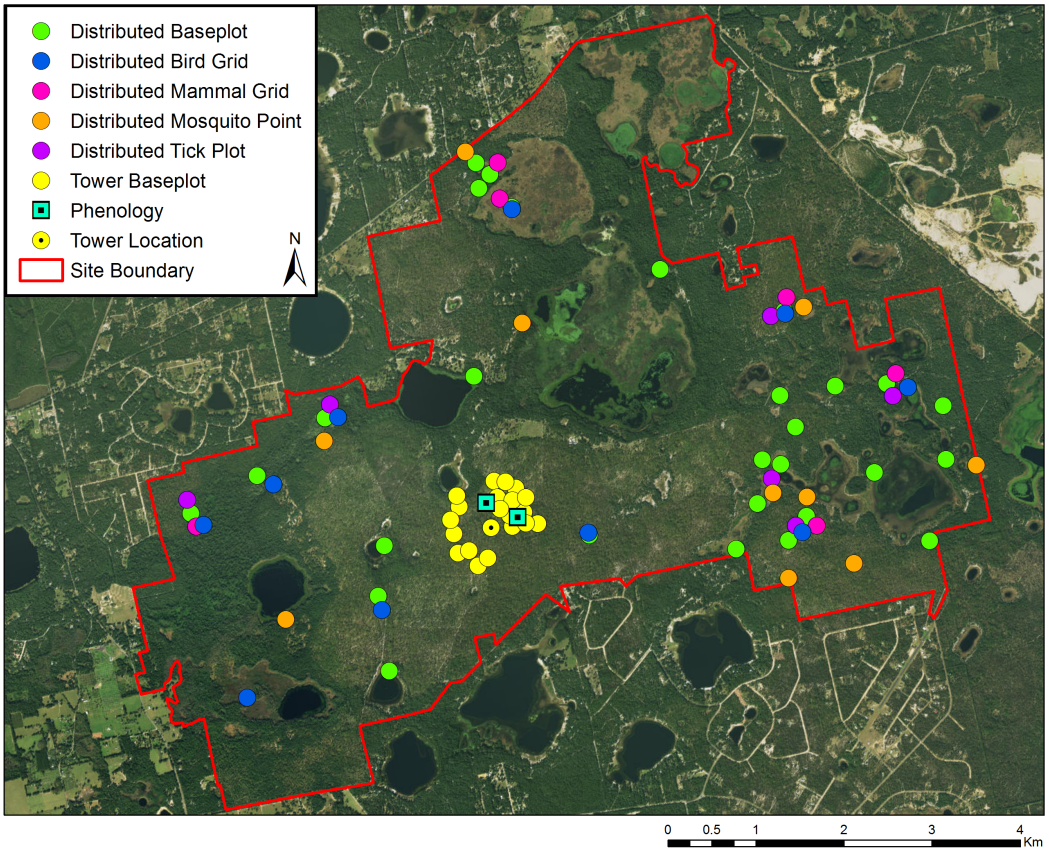

Figure 3: Map of TOS plot locations within the NEON TOS sampling boundary at OSBS

See RD[03] for additional information about the sampling that occurs at each plot type.

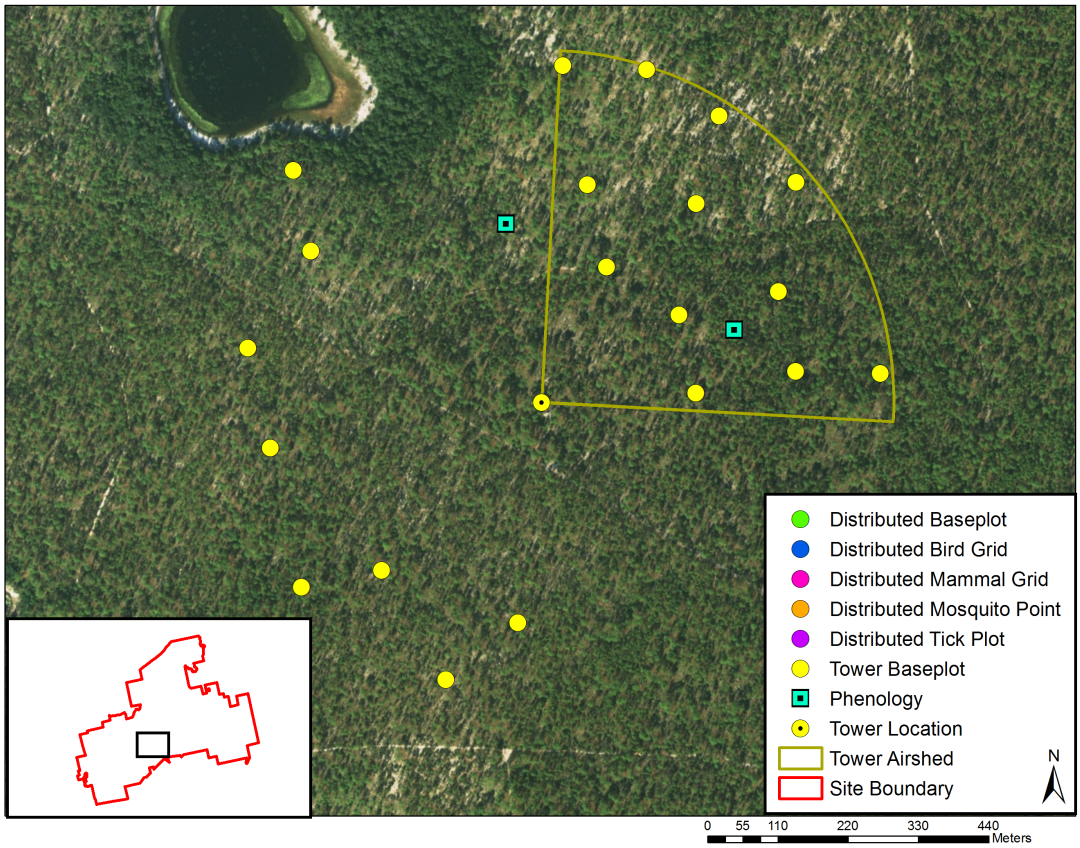

Figure 4: Map of the tower airshed at OSBS

More information about the tower airshed can be found in the FIU site characterization reports (RD[04])

Table 1: NLCD Land Cover Classes and Area within the TOS site boundary at OSBS

NLCD Class	**Site Area km^2**	**Percent**
Evergreen Forest	11.89	32.25
Shrub Scrub	8.99	24.38
Woody Wetlands	6.18	16.76
Emergent Herbaceous Wetlands	3.49	9.47
Developed Open Space	2.01	5.46
Open Water	2.01	5.44
Grassland Herbaceous	1.72	4.66
Pasture Hay	0.33	0.9
Mixed Forest	0.2	0.54
Deciduous Forest	0.04	0.1
Developed Low Intensity	0.01	0.03

Note: Any NLCD land cover classes less than 5% will not be sampled. Additionally, no sampling will take place in Water, Developed, or Barren NLCD classes.

Table 2: NLCD Land Cover Classes and TOS plot numbers at OSBS

Plot Type	**Plot Subtype**	**NLCD Class**	**Number of Plots Established**
distributed	base	Evergreen Forest	11
distributed	base	Woody Wetlands	10
distributed	base	Emergent Herbaceous Wetlands	7
distributed	bird	Evergreen Forest	5
distributed	bird	Woody Wetlands	4
distributed	bird	Emergent Herbaceous Wetlands	1
distributed	mammal	Evergreen Forest	4
distributed	mammal	Woody Wetlands	2
distributed	mammal	Emergent Herbaceous Wetlands	1
distributed	mosquito	Evergreen Forest	6
distributed	mosquito	Woody Wetlands	2
distributed	mosquito	Emergent Herbaceous Wetlands	2
distributed	tick	Evergreen Forest	3
distributed	tick	Woody Wetlands	2
distributed	tick	Emergent Herbaceous Wetlands	1

Table 2: NLCD Land Cover Classes and TOS plot numbers at OSBS

Plot Type	Plot Subtype	NLCD Class	Number of Plots Established
tower	base	NA	20
tower	phenology	NA	2

Note: NLCD land cover classes as not used to stratify tower plots

Table 3: Number of distributed base plots per NLCD Land Cover Class per protocol at OSBS. Distributed Base Plots typically support more than one TOS protocol; 'Number of Plots' cannot be added to get total TOS Distributed Base Plot number.

Plot Type	Plot Subtype	NLCD Class	Protocols	Number of Plots
Distributed	Base Plot	Emergent Herbaceous Wetlands	Beetles	2
Distributed	Base Plot	Evergreen Forest	Beetles	6
Distributed	Base Plot	Woody Wetlands	Beetles	2
Distributed	Base Plot	Emergent Herbaceous Wetlands	Biogeochemistry	2
Distributed	Base Plot	Evergreen Forest	Biogeochemistry	2
Distributed	Base Plot	Woody Wetlands	Biogeochemistry	2
Distributed	Base Plot	Emergent Herbaceous Wetlands	Canopy Foliage Chemistry	2
Distributed	Base Plot	Evergreen Forest	Canopy Foliage Chemistry	2
Distributed	Base Plot	Woody Wetlands	Canopy Foliage Chemistry	2
Distributed	Base Plot	Emergent Herbaceous Wetlands	Coarse Downed Debris	4
Distributed	Base Plot	Evergreen Forest	Coarse Downed Debris	9
Distributed	Base Plot	Woody Wetlands	Coarse Downed Debris	6
Distributed	Base Plot	Emergent Herbaceous Wetlands	Digital Hemispherical Photos for Leaf Area Index	4
Distributed	Base Plot	Evergreen Forest	Digital Hemispherical Photos for Leaf Area Index	9
Distributed	Base Plot	Woody Wetlands	Digital Hemispherical Photos for Leaf Area Index	6
Distributed	Base Plot	Emergent Herbaceous Wetlands	Herbaceous Productivity	4
Distributed	Base Plot	Evergreen Forest	Herbaceous Productivity	9
Distributed	Base Plot	Woody Wetlands	Herbaceous Productivity	6
Distributed	Base Plot	Emergent Herbaceous Wetlands	Plant Diversity	7
Distributed	Base Plot	Evergreen Forest	Plant Diversity	11
Distributed	Base Plot	Woody Wetlands	Plant Diversity	10
Distributed	Base Plot	Emergent Herbaceous Wetlands	Soil Microbes	2

Table 3: Number of distributed base plots per NLCD Land Cover Class per protocol at OSBS. Distributed Base Plots typically support more than one TOS protocol; 'Number of Plots' cannot be added to get total TOS Distributed Base Plot number.

Plot Type	Plot Subtype	NLCD Class	Protocols	Number of Plots
Distributed	Base Plot	Evergreen Forest	Soil Microbes	2
Distributed	Base Plot	Woody Wetlands	Soil Microbes	2
Distributed	Base Plot	Emergent Herbaceous Wetlands	Vegetation Structure	4
Distributed	Base Plot	Evergreen Forest	Vegetation Structure	9
Distributed	Base Plot	Woody Wetlands	Vegetation Structure	6

Table 4: Number of tower plots per protocol at OSBS.Tower Base Plots typically support more than one TOS protocol; 'Number of Plots' cannot be added to get total TOS Tower Base Plot number.

Plot Type	Plot Subtype	Protocols	Number of Plots
Tower	Base Plot	Below Ground Biomass Coring	20
Tower	Base Plot	Biogeochemistry	4
Tower	Base Plot	Canopy Foliage Chemistry	4
Tower	Base Plot	Coarse Downed Debris	20
Tower	Base Plot	Digital Hemispherical Photos for Leaf Area Index	20
Tower	Base Plot	Herbaceous Productivity	20
Tower	Base Plot	Litterfall and Fine Woody Debris	20
Tower	Base Plot	Mat-Forming Bryophyte Production	20
Tower	Base Plot	Plant Diversity	3
Tower	Base Plot	Soil Microbes	4
Tower	Base Plot	Vegetation Structure	20
Tower	Phenology	Plant Phenology	2

4.2 Belowground Biomass

4.2.1 Site-Specific Methods

Belowground biomass characterization data was collected down to 170 cm by NEON staff in June 2012. Since the NEON protocol for long-term, operational sampling of belowground biomass only collects data to a depth of 30cm, the belowground biomass site characterization data are critical for scaling belowground biomass measurements to greater depths; see the TOS Science Design for Plant Biomass, Productivity, and Leaf Area Index (RD[8]) for more information. The tables below summarize the belowground biomass site characterization work and more data and information can be found by searching the data product numbers in Appendix A. Samples were

collected following the standard methods outlined in TOS Site Characterization Methods (RD[6]), except a 5.08cm diameter bulk density soil corer, soil knife, and drill bit was used to extract soil to test out protocols methods at this site. The tables below summarize the belowground biomass site characterization work; more data and information can be found by searching the NEON data portal for the data product numbers in Appendix A.

4.2.2 Results

Table 5: Domain 03 OSBS fine root mass per depth increment

Upper Depth	Lower Depth	Mean mg per cm^3	Std Dev
0	10	1.77	2.06
10	20	0.99	0.7
20	30	1.61	1.19
30	40	0.71	0.66
40	50	0.21	0.19
50	60	0.22	0.05
60	70	0.18	0.14
70	80	0.12	0.04
80	90	0.05	0.03
90	100	0.05	0.01
100	110	0.02	0.02
110	120	0.15	0.08
120	130	0.02	0.03
130	140	0.06	0.05
140	150	0.01	0.01
150	160	0.01	0
160	170	0.02	0.01

Table 6: Domain 03 OSBS cumulative fine root mass as a function of depth

Upper Depth	Lower Depth	Mean Cumulative g per m^2	Cumulative Std Dev
0	10	177.1	205.81
10	20	275.73	274.98
20	30	436.34	394.37
30	40	507.11	456.76
40	50	528.38	475.39
50	60	550.25	478.45

Table 6: Domain 03 OSBS cumulative fine root mass as a function of depth

Upper Depth	Lower Depth	Mean Cumulative g per m^2	Cumulative Std Dev
60	70	568.64	484
70	80	581.06	480.52
80	90	586.05	477.76
90	100	590.79	478.95
100	110	592.99	477.57
110	120	608.37	472.38
120	130	610.74	471.31
130	140	617.13	468.68
140	150	618.57	468.32
150	160	619.19	468.32
160	170	620.72	467.43

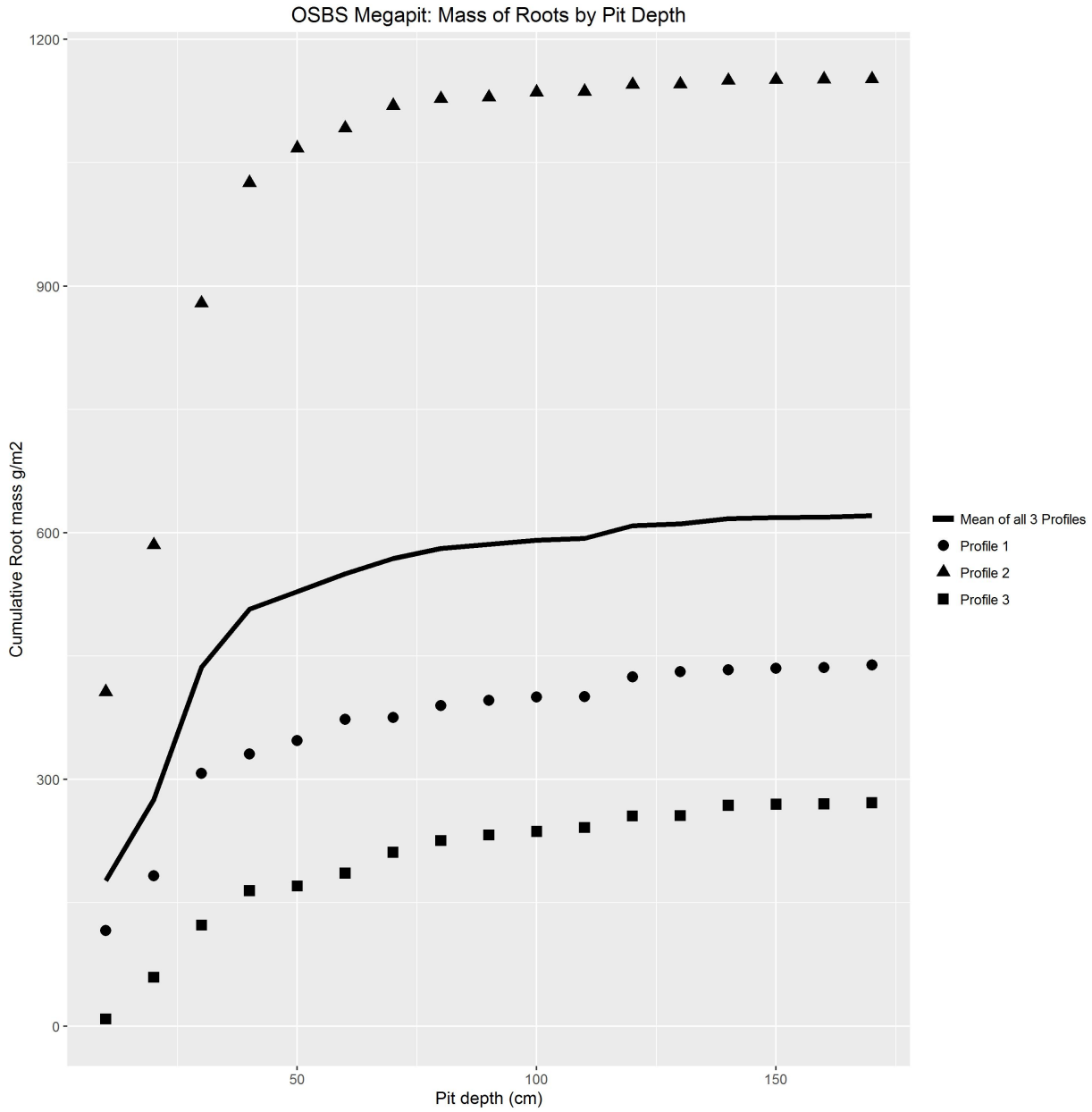

Figure 5: Domain 03 OSBS cumulative root mass by pit depth

Table 7: Domain 03 OSBS fine root biomass sampling summary data

Total Pit Depth cm	170
Total Cumulative Mass at 30cm g per m^2	436.34
Total Cumulative Mass at 100cm g per m^2	590.79

Total Cumulative Mass g per m^2	620.72

4.3 Plant Characterization and Phenology Species Selection

4.3.1 Site-Specific Methods

Plant characterization data were collected by an external contractor during the summer of July 2013 following the standard methods outlined in TOS Site Characterization Methods (RD[6]).For more information on this protocol and data product numbers see Appendix A.

4.3.2 Results

Table 8: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at OSBS

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
QULA2	*Quercus laevis* Walter	1	9	NA	2.22
PIPA2	*Pinus palustris* Mill.	2	3	NA	5.86
ARBE7	*Aristida beyrichiana* Trin. & Rupr.	3	5	NA	NA
LIMI5	*Licania michauxii* Prance	4	2	NA	NA
DAPI2	*Dalea pinnata* (J.F. Gmel.) Barneby	5	2	NA	NA
TECH	*Tephrosia chrysophylla* Pursh	6	1	NA	NA
SOSE5	*Sorghastrum secundum* (Elliott) Nash	7	<1	NA	NA
ASIN12	*Asimina incana* (W. Bartram) Exell	8	<1	NA	NA
PIGR4	*Pityopsis graminifolia* (Michx.) Nutt.	9	<1	NA	NA
DIVI5	*Diospyros virginiana* L.	10	<1	NA	NA
GARE2	*Galactia regularis* (L.) Britton, Sterns & Poggenb.	11	<1	NA	NA
CHFL2	*Chapmannia floridana* Torr. & A. Gray	12	<1	NA	NA
ARPU8	*Aristida purpurascens* Poir.	13	<1	NA	NA

Table 8: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at OSBS

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
SPJU	*Sporobolus junceus* (P. Beauv.) Kunth	14	<1	NA	NA
TEVI	*Tephrosia virginiana* (L.) Pers.	15	<1	NA	NA
DIAC	*Dichanthelium aciculare* (Desv. ex Poir.) Gould & C.A. Clark	16	<1	NA	NA
SCSC	*Schizachyrium scoparium* (Michx.) Nash	17	<1	NA	NA
LITE6	*Liatris tenuifolia* Nutt.	18	<1	NA	NA
TRAM7	*Triplasis americana* P. Beauv.	19	<1	NA	NA
CRAR2	*Croton argyranthemus* Michx.	20	<1	NA	NA
VAAR	*Vaccinium arboreum* Marshall	21	<1	NA	NA
ARMO3	*Aristida mohrii* Nash	22	<1	NA	NA
TRUR	*Tragia urens* L.	23	<1	NA	NA
AGFI2	*Agalinis filifolia* (Nutt.) Raf.	24	<1	NA	NA
BUWA	*Bulbostylis warei* (Torr.) C.B. Clarke	25	<1	NA	NA
CYRE5	*Cyperus retrorsus* Chapm.	25	<1	NA	NA
QUGE2	*Quercus geminata* Small	27	<1	NA	0.1
BUCI	*Bulbostylis ciliatifolia* (Elliott) Fernald	28	<1	NA	NA
RHCI3	*Rhynchosia cinerea* Nash	29	<1	NA	NA
STAB	*Stylisma abdita* Myint	29	<1	NA	NA
STSY	*Stillingia sylvatica* L.	31	<1	NA	NA
ERTO2	*Eriogonum tomentosum* Michx.	32	<1	NA	NA
PTAQ	*Pteridium aquilinum* (L.) Kuhn	32	<1	NA	NA

Table 8: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at OSBS

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
AGJU2	*Ageratina jucunda* (Greene) Clewell & Woot.	34	<1	NA	NA
ANFL	*Andropogon floridanus* Scribn.	34	<1	NA	NA
DYOB	*Dyschoriste oblongifolia* (Michx.) Kuntze	34	<1	NA	NA
PAPA16	*Paronychia patula* Shinners	34	<1	NA	NA
CRRO5	*Crotalaria rotundifolia* Walter ex J.F. Gmel.	38	<1	NA	NA
BAAN3	*Balduina angustifolia* (Pursh) B.L. Rob.	39	<1	NA	NA
COER	*Commelina erecta* L.	39	<1	NA	NA
STSE3	*Stipulicida setacea* Michx.	39	<1	NA	NA
CNURS	*Cnidoscolus urens* (L.) Arthur var. *stimulosus* (Michx.) Govaerts	42	<1	NA	NA
CLMA4	*Clitoria mariana* L.	43	<1	NA	NA
PASE5	*Paspalum setaceum* Michx.	43	<1	NA	NA
RHCO	*Rhus copallinum* L.	43	<1	NA	NA
TEFL	*Tephrosia florida* (F.G. Dietr.) C.E. Wood	43	<1	NA	NA
ANGY2	*Andropogon gyrans* Ashe	47	<1	NA	NA
OPHU	*Opuntia humifusa* (Raf.) Raf.	47	<1	NA	NA
STBI2	*Stylosanthes biflora* (L.) Britton, Sterns & Poggenb.	47	<1	NA	NA
ANTE2	*Andropogon ternarius* Michx.	50	<1	NA	NA
CACO37	*Carphephorus corymbosus* (Nutt.) Torr. & A. Gray	50	<1	NA	NA
CAGR25	*Callisia graminea* (Small) G. Tucker	50	<1	NA	NA

Table 8: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at OSBS

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
LEDE4	*Lechea deckertii* Small	50	<1	NA	NA
SCCI	*Scleria ciliata* Michx.	54	<1	NA	NA
STPA8	*Stylisma patens* (Desr.) Myint	54	<1	NA	NA
LEHI2	*Lespedeza hirta* (L.) Hornem.	56	<1	NA	NA
ORLU3	*Orbexilum lupinellum* (Michx.) Isely	56	<1	NA	NA
PAIN8	*Palafoxia integrifolia* (Nutt.) Torr. & A. Gray	56	<1	NA	NA
ARSE3	*Aristolochia serpentaria* L.	59	<1	NA	NA
CYCR6	*Cyperus croceus* Vahl	59	<1	NA	NA
DICHA2	*Dichanthelium* sp.	59	<1	NA	NA
MIMI22	*Mimosa microphylla* Dryand.	59	<1	NA	NA
QUHE2	*Quercus hemisphaerica* W. Bartram ex Willd.	59	<1	NA	NA
RHME	*Rhynchospora megalocarpa* A. Gray	59	<1	NA	NA
YUFI	*Yucca filamentosa* L.	59	<1	NA	NA
ARFL2	*Arnoglossum floridanum* (A. Gray) H. Rob.	66	<1	NA	NA
GYAM	*Gymnopogon ambiguus* (Michx.) Britton, Sterns & Poggenb.	66	<1	NA	NA
LYAP3	*Lygodesmia aphylla* (Nutt.) DC.	66	<1	NA	NA
PHAR14	*Physalis arenicola* Kearney	66	<1	NA	NA
RHGR2	*Rhynchospora grayi* Kunth	66	<1	NA	NA
ASTO	*Asclepias tomentosa* Elliott	71	<1	NA	NA
CRMI8	*Croton michauxii* G.L. Webster	71	<1	NA	NA

Table 8: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at OSBS

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
CYLU2	*Cyperus lupulinus* (Spreng.) Marcks	71	<1	NA	NA
PHGR12	*Phoebanthus grandiflorus* (Torr. & A. Gray) S.F. Blake	71	<1	NA	NA
RHRE	*Rhynchosia reniformis* DC.	71	<1	NA	NA
RUCAC	*Ruellia caroliniensis* (J.F. Gmel.) Steud. ssp. *ciliosa* (Pursh) R.W. Long	71	<1	NA	NA
SETO7	*Sericocarpus tortifolius* (Michx.) Nees	71	<1	NA	NA
SMAU	*Smilax auriculata* Walter	71	<1	NA	NA
AUPE	*Aureolaria pectinata* (Nutt.) Pennell	79	<1	NA	NA
COCA5	*Conyza canadensis* (L.) Cronquist	79	<1	NA	NA
CYPER	*Cyperus* sp.	79	<1	NA	NA
HIME	*Hieracium megacephalon* Nash	79	<1	NA	NA
SCSA	*Schizachyrium sanguineum* (Retz.) Alston	79	<1	NA	NA
TOPU2	*Toxicodendron pubescens* Mill.	79	<1	NA	NA
VAMY3	*Vaccinium myrsinites* Lam.	79	<1	NA	NA

Table 9: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at OSBS

Plot ID	Species Richness	Shannon Diversity Index	Percent Total Herbaceous Cover
OSBS_025	17	2.4	36
OSBS_026	25	2.9	86
OSBS_027	22	2.76	55
OSBS_028	33	3.19	91
OSBS_029	21	2.84	35
OSBS_030	30	3.01	88

Table 9: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at OSBS

Plot ID	Species Richness	Shannon Diversity Index	Percent Total Herbaceous Cover
OSBS_031	19	2.35	89
OSBS_032	17	2.73	26
OSBS_033	23	2.68	47
OSBS_034	16	2.59	33
OSBS_035	39	3.3	125
OSBS_036	16	2.23	54
OSBS_037	30	2.9	134
OSBS_038	21	2.7	62
OSBS_039	23	2.71	69
OSBS_040	22	2.78	39
OSBS_041	26	2.81	76
OSBS_042	28	3.16	69
OSBS_043	23	2.04	74
OSBS_044	21	2.41	59

4.4 Beetles

4.4.1 Site-Specific Methods

Beetle site characterization was conducted in June and July 2010 by NEON staff following the standard methods outlined in TOS Site Characterization Methods (RD[6]). Beetle site characterization data was collected to start site level teaching collections. For sequencing information visit http://www.boldsystems.org. For more information on this protocol and data product numbers see Appendix A.

4.4.2 Results

Table 10: OSBS Beetle Trap Locations

Trap ID	Lat	Long
1	31.183	-84.478
2	31.198	-84.477
3	31.198	-84.474
4	31.201	-84.473
5	31.187	-84.471
6	31.207	-84.457

Table 11: OSBS Beetle Identification Results

BOLD Sample ID	Scientific Name	Collection Date	Trap Location
NEONTcarabid6008	*Dicaelus dilatatus dilatatus*	7/20/2012	1
NEONTcarabid6009	*Dicaelus dilatatus dilatatus*	7/20/2012	1
NEONTcarabid6034	*Selenophorus opalinus*	8/24/2012	1
NEONTcarabid6016	*Selenophorus ellipticus*	7/27/2012	2
NEONTcarabid6013	*Selenophorus ellipticus*	7/20/2012	2
NEONTcarabid6015	*Selenophorus ellipticus*	7/27/2012	2
NEONTcarabid6018	*Selenophorus ellipticus*	7/20/2012	2
NEONTcarabid6014	*Selenophorus ellipticus*	8/3/2012	2
NEONTcarabid6038	*Tetragonoderus intersectus*	8/3/2012	2
NEONTcarabid6032	*Tetracha carolina*	8/10/2012	2
NEONTcarabid6019	*Selenophorus ellipticus*	7/20/2012	2
NEONTcarabid6022	*Selenophorus ellipticus*	7/27/2012	2
NEONTcarabid6037	*Tetragonoderus intersectus*	8/24/2012	2
NEONTcarabid6020	*Selenophorus ellipticus*	7/20/2012	2
NEONTcarabid6017	*Selenophorus ellipticus*	8/3/2012	2
NEONTcarabid6006	*Pasimachus sublaevis*	7/20/2012	2
NEONTcarabid6021	*Selenophorus ellipticus*	7/27/2012	2
NEONTcarabid6011	*Anisodactylus haplomus*	8/10/2012	2
NEONTcarabid6036	*Tetragonoderus intersectus*	8/10/2012	2
NEONTcarabid6028	*Anisodactylus haplomus*	8/17/2012	2
NEONTcarabid6007	*Pasimachus sublaevis*	7/27/2012	3
NEONTcarabid6001	*Pasimachus sublaevis*	8/17/2012	3
NEONTcarabid6003	*Pasimachus sublaevis*	8/10/2012	3
NEONTcarabid6004	*Pasimachus sublaevis*	8/10/2012	3
NEONTcarabid6005	*Pasimachus sublaevis*	8/24/2012	4
NEONTcarabid6002	*Pasimachus sublaevis*	7/27/2012	4
NEONTcarabid6000	*Pasimachus sublaevis*	8/10/2012	4
NEONTcarabid6035	*Apenes sinuatus*	7/20/2012	5
NEONTcarabid6033	*Tetracha carolina*	8/24/2012	6
NEONTcarabid6039	*Tetragonoderus intersectus*	8/3/2012	6

4.5 Mosquitoes

4.5.1 Site-Specific Methods

Mosquito site characterization was conducted in June and July 2010 by NEON staff following the standard methods outlined in TOS Site Characterization Methods (RD[6]) to test protocol methods and start site level species lists. No pathogen testing was performed. For sequencing information visit http://www.boldsystems.org. For more information on this protocol and data product numbers see Appendix A.

4.5.2 Results

Table 12: OSBS Mosquito Trap Locations

Trap ID	Lat	Long
1	29.697	-82.026
2	29.7	-82.019
3	29.678	-82.004
4	29.697	-81.994
5	29.687	-81.983
6	29.691	-81.976
7	29.73	-81.974
8	29.728	-81.968
9	29.692	-81.959

Table 13: OSBS Mosquito Identification Results

BOLD Sample ID	Scientific Name	Collection Date	Trap Location
NEONTculicid6239	*Aedes triseriatus*	7/26/2012	1
NEONTculicid6258	*Aedes fulvus pallens*	7/25/2012	1
NEONTculicid6416	*Psorophora ferox*	7/25/2012	1
NEONTculicid6257	*Aedes fulvus pallens*	7/25/2012	1
NEONTculicid6385	*Psorophora ferox*	9/5/2012	1
NEONTculicid6256	*Aedes fulvus pallens*	7/25/2012	1
NEONTculicid6275	*Psorophora ferox*	7/25/2012	1
NEONTculicid6253	*Psorophora howardii*	9/5/2012	1
NEONTculicid6250	*Psorophora howardii*	9/5/2012	1
NEONTculicid6251	*Psorophora howardii*	9/5/2012	1
NEONTculicid6249	*Psorophora howardii*	9/5/2012	1

Table 13: OSBS Mosquito Identification Results

BOLD Sample ID	Scientific Name	Collection Date	Trap Location
NEONTculicid6246	*Psorophora howardii*	9/5/2012	1
NEONTculicid6247	*Psorophora howardii*	9/5/2012	1
NEONTculicid6262	*Aedes atlanticus*	7/25/2012	1
NEONTculicid6245	*Psorophora howardii*	9/5/2012	1
NEONTculicid6255	*Aedes fulvus pallens*	7/25/2012	1
NEONTculicid6263	*Aedes atlanticus*	7/25/2012	1
NEONTculicid6259	*Aedes fulvus pallens*	7/25/2012	1
NEONTculicid6254	*Psorophora howardii*	9/5/2012	1
NEONTculicid6248	*Psorophora howardii*	9/5/2012	1
NEONTculicid6252	*Psorophora howardii*	9/5/2012	1
NEONTculicid6242	*Aedes triseriatus*	7/25/2012	2
NEONTculicid6241	*Aedes triseriatus*	7/25/2012	2
NEONTculicid6236	*Aedes triseriatus*	7/26/2012	2
NEONTculicid6238	*Aedes triseriatus*	7/26/2012	2
NEONTculicid6237	*Aedes hendersoni*	7/26/2012	2
NEONTculicid6243	*Aedes triseriatus*	7/25/2012	3
NEONTculicid6314	*Aedes atlanticus*	9/6/2012	4
NEONTculicid6240	*Aedes triseriatus*	7/26/2012	4
NEONTculicid6351	*Aedes mitchellae*	9/5/2012	5
NEONTculicid6274	*Culex coronator*	9/5/2012	5
NEONTculicid6273	*Culex coronator*	9/5/2012	6
NEONTculicid6218	*Uranotaenia sapphirina*	9/25/2012	7
NEONTculicid6215	*Uranotaenia sapphirina*	9/25/2012	7
NEONTculicid6217	*Uranotaenia sapphirina*	9/25/2012	7
NEONTculicid6235	*Aedes triseriatus*	9/26/2012	7
NEONTculicid6216	*Uranotaenia sapphirina*	9/25/2012	7
NEONTculicid6276	*Culex tarsalis*	7/25/2012	8
NEONTculicid6281	*Culex salinarius*	9/25/2012	8
NEONTculicid6214	*Culex salinarius*	9/25/2012	8
NEONTculicid6279	*Culex salinarius*	9/25/2012	8
NEONTculicid6280	*Culex salinarius*	9/25/2012	8
NEONTculicid6261	*Culex erraticus*	7/25/2012	9
NEONTculicid6267	*Aedes infirmatus*	7/25/2012	9

Table 13: OSBS Mosquito Identification Results

BOLD Sample ID	Scientific Name	Collection Date	Trap Location
NEONTculicid6260	*Culex erraticus*	7/25/2012	9
NEONTculicid6268	*Aedes infirmatus*	7/25/2012	9
NEONTculicid6265	*Psorophora columbiae*	7/25/2012	9
NEONTculicid6271	*Aedes mitchellae*	7/25/2012	9
NEONTculicid6414	*Psorophora columbiae*	7/25/2012	9
NEONTculicid6264	*Psorophora columbiae*	7/25/2012	9
NEONTculicid6272	*Aedes mitchellae*	7/25/2012	9
NEONTculicid6270	*Aedes mitchellae*	7/25/2012	9
NEONTculicid6266	*Psorophora columbiae*	7/25/2012	9
NEONTculicid6244	*Aedes triseriatus*	7/25/2012	9
NEONTculicid6411	*Uranotaenia sapphirina*	9/6/2012	9
NEONTculicid6269	*Aedes infirmatus*	7/25/2012	9
NEONTculicid6586	*Culex erraticus*	7/25/2012	9
NEONTculicid6590	*Aedes infirmatus*	7/25/2012	9

4.6 Ticks

4.6.1 Site-Specific Methods

There was no tick site characterization work done at OSBS. For more information on this protocol and data product numbers see Appendix A

4.7 Species Reference Lists

5 RELOCATABLE SITE- DISNEY WILDERNESS PRESERVE (DSNY)

The 12,000-acre Disney Wilderness Preserve (DSNY) straddles the headwaters of the Everglades ecosystem in south-central Florida. This site is seasonally wet and flooded. Data from DSNY supports greater understanding of wetland regeneration, water storage and quality, and predictive models for future large-scale restorations.

- Site host: The Nature Conservancy
- Polk and Osceola County/Florida
- Area: 49 km^2
- Elevation: 16-22 m
- Dominant vegetation type- The predominant ecosystem type is restored wet prairie with regenerating longleaf pine; vegetation cover at Disney site is primarily restored broom sedge prairie, interspersed with

perennial grasses. The Disney site is composed of short gasses ranging from 1-1.5 meters in height on average, interspersed with longleaf pine sapling that are less than 30 cm tall on average. Some pine forests surround the east, northeast and southeast edges of the prairie, with an average height of 25 meters. Dominant vegetation types within the Disney Wilderness Preserve include:

  - Pine Flatwoods
  - Southern Coastal Plain Non-riverine Cypress Dome
  - Florida Dry Prairie

- The dominant perennial grass at the site is wiregrass (*Aristida stricta* Michx.), with numerous other species of perennial grasses also present, including:

  - *Andropogon* sp
  - Bottlebrush threeawn (*Aristida spiciformis*)
  - Broom sedge (*Andropogon virginicus*)

- General management: The Disney site was heavily logged and used as ranchland for decades. However, vegetation and site conditions have been restored to closely represent site condition records, documented by the area's first Spanish missionaries. The large-scale wetland and upland restoration at Disney included the removal of non-native, invasive plants and grasses and the removal of agricultural ditches. The primary management activity is controlled burns.
- Plot Selection: NEON TOS Plots were allocated across the site avoiding existing research.

5.1 TOS Spatial Sampling Design

TOS plots were allocated at Disney Wilderness Preserve according to a spatially balanced and stratified-random design (RD[3]). The 2006 National Land Cover Database (NLCD) was selected for stratification because of the consistent and comparable data availability across the United States.The maps below depict the plot locations for the first year of NEON sampling. Some plot locations may change over time due to logistics, safety, and science requirements. Please visit the NEON website (http://www.neonscience.org) for updated plot locations at each site.

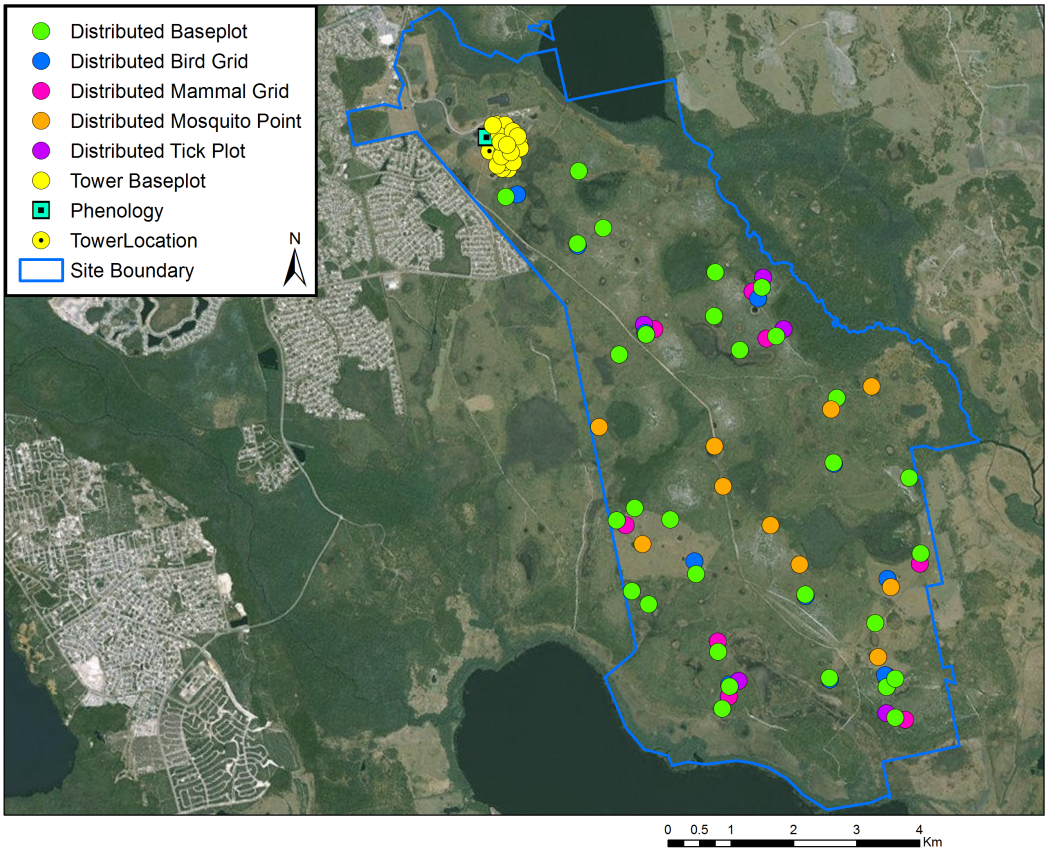

Figure 6: Map of TOS plot locations within the NEON TOS sampling boundary at DSNY

See RD[03] for additional information about the sampling that occurs at each plot type.

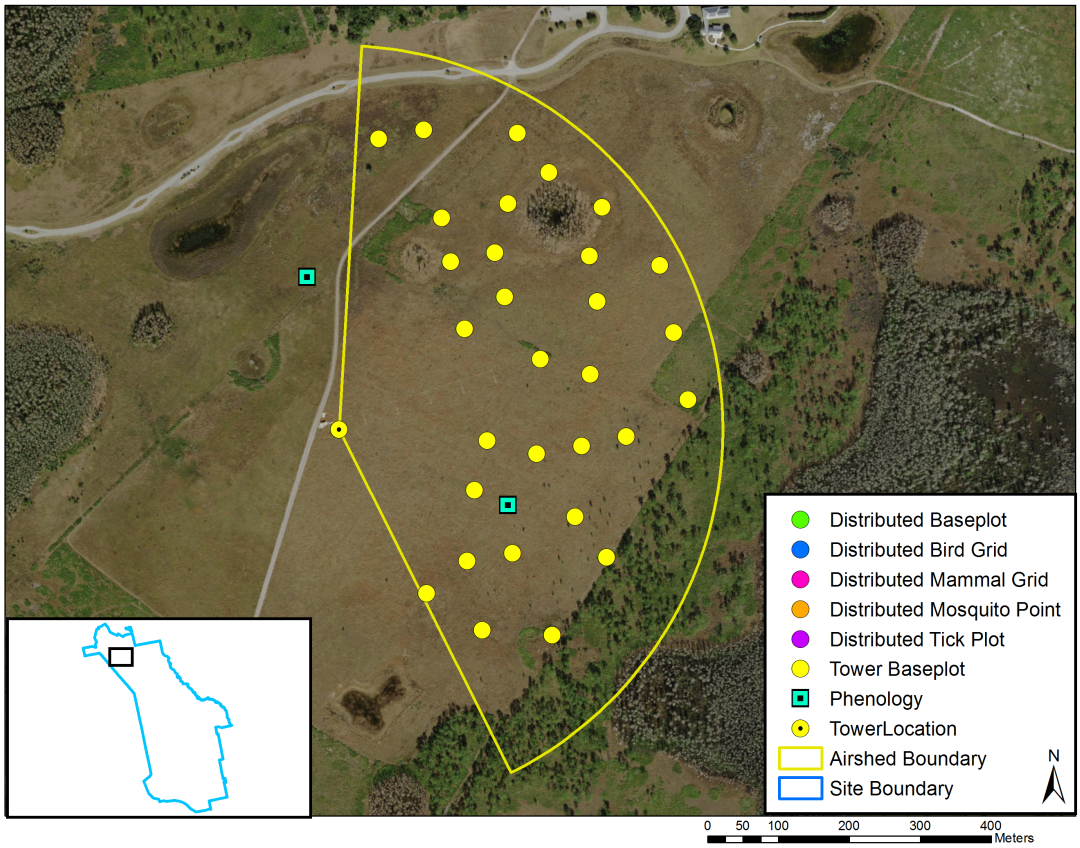

Figure 7: Map of the tower airshed at DSNY

More information about the tower airshed can be found in the FIU site characterization reports (RD[04])

Table 14: NLCD Land Cover Classes and Area within the TOS site boundary at DSNY

NLCD Class	Site Area km^2	Percent
Woody Wetlands	39.58	81.5
Pasture Hay	3.99	8.22
Emergent Herbaceous Wetlands	2.33	4.79
Shrub Scrub	0.78	1.61
Open Water	0.69	1.43
Grassland Herbaceous	0.7	1.43
Developed Open Space	0.48	1
Developed Low Intensity	0.01	0.03

Note: Any NLCD land cover classes less than 5% will not be sampled. Additionally, no sampling will take place in Water, Developed, or Barren NLCD classes.

Table 15: NLCD Land Cover Classes and TOS plot numbers at DSNY

Plot Type	Plot Subtype	NLCD Class	Number of Plots Established
distributed	base	Woody Wetlands	23
distributed	base	Pasture Hay	7
distributed	bird	Woody Wetlands	8
distributed	bird	Pasture Hay	3
distributed	mammal	Woody Wetlands	6
distributed	mammal	Pasture Hay	3
distributed	mosquito	Woody Wetlands	7
distributed	mosquito	Pasture Hay	3
distributed	tick	Woody Wetlands	5
distributed	tick	Pasture Hay	1
tower	base	NA	30
tower	phenology	NA	13

Note: NLCD land cover classes as not used to stratify tower plots

Table 16: Number of distributed base plots per NLCD Land Cover Class per protocol at DSNY. Distributed Base Plots typically support more than one TOS protocol; 'Number of Plots' cannot be added to get total TOS Distributed Base Plot number.

Plot Type	Plot Subtype	NLCD Class	Protocols	Number of Plots
Distributed	Base Plot	Pasture Hay	Beetles	3
Distributed	Base Plot	Woody Wetlands	Beetles	7
Distributed	Base Plot	Pasture Hay	Biogeochemistry	2
Distributed	Base Plot	Woody Wetlands	Biogeochemistry	4
Distributed	Base Plot	Pasture Hay	Canopy Foliage Chemistry	2
Distributed	Base Plot	Woody Wetlands	Canopy Foliage Chemistry	4
Distributed	Base Plot	Pasture Hay	Coarse Downed Debris	5
Distributed	Base Plot	Woody Wetlands	Coarse Downed Debris	15
Distributed	Base Plot	Pasture Hay	Digital Hemispherical Photos for Leaf Area Index	5
Distributed	Base Plot	Woody Wetlands	Digital Hemispherical Photos for Leaf Area Index	15

Table 16: Number of distributed base plots per NLCD Land Cover Class per protocol at DSNY. Distributed Base Plots typically support more than one TOS protocol; 'Number of Plots' cannot be added to get total TOS Distributed Base Plot number.

Plot Type	Plot Subtype	NLCD Class	Protocols	Number of Plots
Distributed	Base Plot	Pasture Hay	Herbaceous Productivity	5
Distributed	Base Plot	Woody Wetlands	Herbaceous Productivity	15
Distributed	Base Plot	Pasture Hay	Plant Diversity	7
Distributed	Base Plot	Woody Wetlands	Plant Diversity	23
Distributed	Base Plot	Pasture Hay	Soil Microbes	2
Distributed	Base Plot	Woody Wetlands	Soil Microbes	4
Distributed	Base Plot	Pasture Hay	Vegetation Structure	5
Distributed	Base Plot	Woody Wetlands	Vegetation Structure	15

Table 17: Number of tower plots per protocol at DSNY.Tower Base Plots typically support more than one TOS protocol; 'Number of Plots' cannot be added to get total TOS Tower Base Plot number.

Plot Type	Plot Subtype	Protocols	Number of Plots
Tower	Base Plot	Below Ground Biomass Coring	30
Tower	Base Plot	Biogeochemistry	4
Tower	Base Plot	Canopy Foliage Chemistry	4
Tower	Base Plot	Coarse Downed Debris	30
Tower	Base Plot	Digital Hemispherical Photos for Leaf Area Index	30
Tower	Base Plot	Herbaceous Productivity	30
Tower	Base Plot	Litterfall and Fine Woody Debris	30
Tower	Base Plot	Mat-Forming Bryophyte Production	30
Tower	Base Plot	Plant Diversity	3
Tower	Base Plot	Soil Microbes	4
Tower	Base Plot	Vegetation Structure	30
Tower	Phenology	Plant Phenology	2

5.2 Belowground Biomass

5.2.1 Site-Specific Methods

Ex. Belowground biomass characterization data was collected down to 120 cm by NEON staff in February 2013. Since the NEON protocol for long-term, operational sampling of belowground biomass only collects data to a depth of 30cm, the belowground biomass site characterization data are critical for scaling belowground biomass

measurements to greater depths; see the TOS Science Design for Plant Biomass, Productivity, and Leaf Area Index (RD[8]) for more information. The tables below summarize the belowground biomass site characterization work and more data and information can be found by searching the data product numbers in Appendix A. Samples were collected following the standard methods outlined in TOS Site Characterization Methods (RD[6]), except a 5.08cm diameter bulk density soil corer, soil knife, and drill bit was used to extract soil to test out protocols methods at this site. The tables below summarize the belowground biomass site characterization work; more data and information can be found by searching the NEON data portal for the data product numbers in Appendix A.

5.2.2 Results

Table 18: Domain 03 DSNY fine root mass per depth increment

Upper Depth	Lower Depth	Mean mg per cm^3	Std Dev
0	10	2.3	0.94
10	20	0.92	0.16
20	30	0.72	0.28
30	40	0.78	0.15
40	50	0.38	0.16
50	60	0.16	0.14
60	70	0.07	0.05
70	80	0.11	0.11
80	90	0.04	0.03
90	100	0.05	0.05
100	120	0.03	0.01

Table 19: Domain 03 DSNY cumulative fine root mass as a function of depth

Upper Depth	Lower Depth	Mean Cumulative g per m^2	Cumulative Std Dev
0	10	229.84	93.84
10	20	322.23	79.11
20	30	394.45	90.54
30	40	472.64	77.19
40	50	510.42	73.29
50	60	526.86	74.3
60	70	533.64	76.2
70	80	544.54	84.79
80	90	548.25	86.16

Table 19: Domain 03 DSNY cumulative fine root mass as a function of depth

Upper Depth	Lower Depth	Mean Cumulative g per m^2	Cumulative Std Dev
90	100	553.29	88
100	120	559.65	88.48

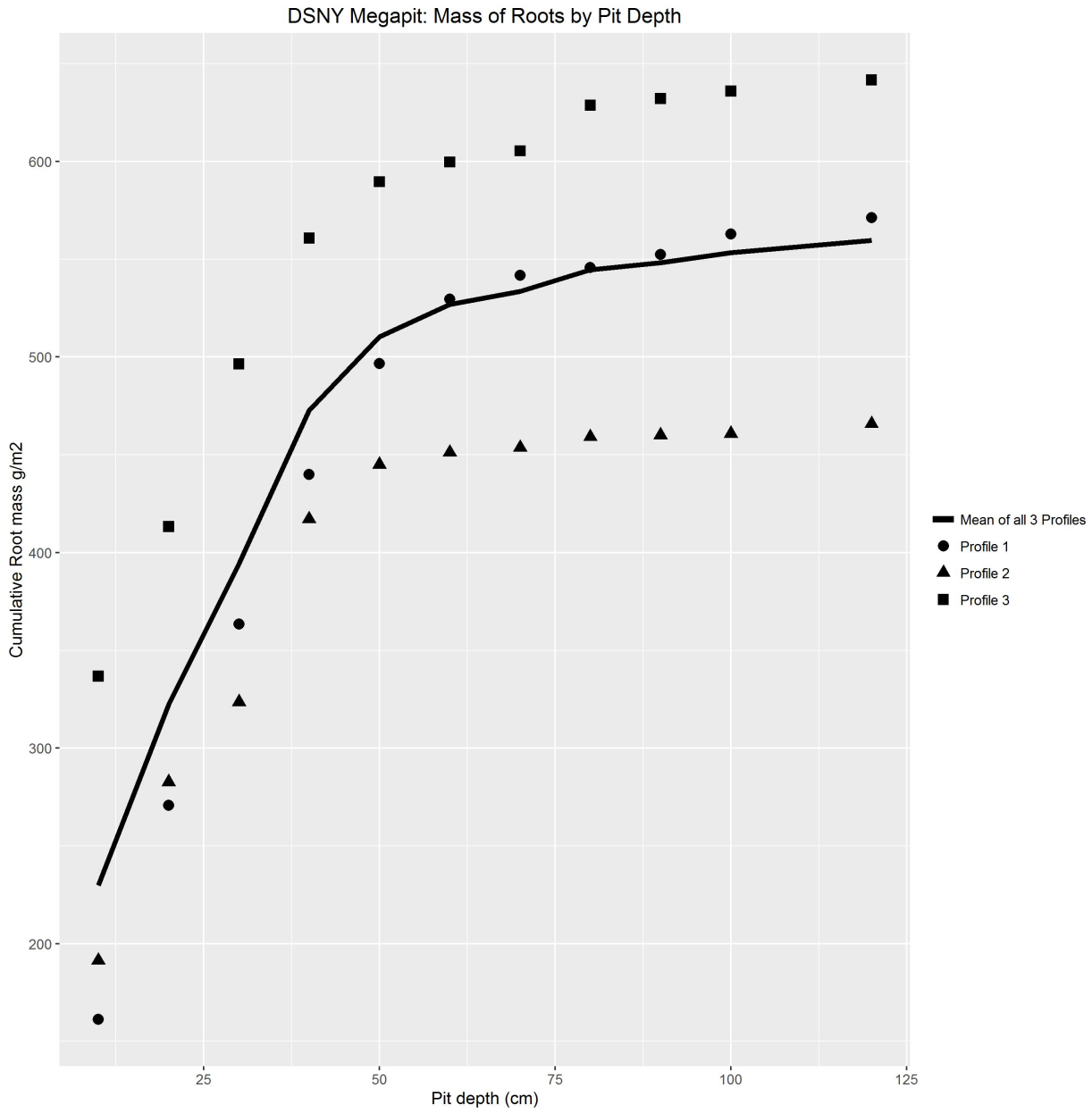

Figure 8: Domain 03 DSNY cumulative root mass by pit depth

Table 20: Domain 03 DSNY fine root biomass sampling summary data

Total Pit Depth cm	120
Total Cumulative Mass at 30cm g per m^2	394.45
Total Cumulative Mass at 100cm g per m^2	553.29
Total Cumulative Mass g per m^2	559.65

5.3 Plant Characterization and Phenology Species Selection

5.3.1 Site-Specific Methods

Plant characterization data were collected by an external contractor during the summer of July 2013 by NEON technicians following the standard methods outlined in TOS Site Characterization Methods (RD[6]).For more information on this protocol and data product numbers see Appendix A.

5.3.2 Results

Table 21: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at DSNY

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
ANVI2	*Andropogon virginicus* L.	1	24	NA	NA
ARBE7	*Aristida beyrichiana* Trin. & Rupr.	2	14	NA	NA
AXFU	*Axonopus furcatus* (FlueggÃ©) Hitchc.	3	7	NA	NA
EUCA26	*Euthamia caroliniana* (L.) Greene ex Porter & Britton	4	6	NA	NA
POPR4	*Polypremum procumbens* L.	5	2	NA	NA
SERE2	*Serenoa repens* (W. Bartram) Small	6	2	NA	NA
SCSC	*Schizachyrium scoparium* (Michx.) Nash	7	2	NA	NA
GAEL2	*Galactia elliottii* Nutt.	8	2	NA	NA
DISAT	*Dichanthelium sabulorum* (Lam.) Gould & C.A. Clark var. *thinium* (Hitchc. & Chase) Gould & C.A. Clark	9	2	NA	NA

Table 21: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at DSNY

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
SOSE5	*Sorghastrum secundum* (Elliott) Nash	10	2	NA	NA
AXFI	*Axonopus fissifolius* (Raddi) Kuhlm.	11	2	NA	NA
ANGL10	*Andropogon glaucopsis* Elliott	12	2	NA	NA
CYRE5	*Cyperus retrorsus* Chapm.	13	1	NA	NA
EUCA5	*Eupatorium capillifolium* (Lam.) Small	14	1	NA	NA
CAVE8	*Carex verrucosa* Muhl.	15	1	NA	NA
PAHE2	*Panicum hemitomon* Schult.	16	1	NA	NA
CEER2	*Centella erecta* (L. f.) Fernald	17	<1	NA	NA
PALA10	*Paspalum laeve* Michx.	18	<1	NA	NA
DIDIT	*Dichanthelium dichotomum* (L.) Gould var. *tenue* (Muhl.) Gould & C.A. Clark	19	<1	NA	NA
PLRO	*Pluchea rosea* Godfrey	20	<1	NA	NA
JUMA4	*Juncus marginatus* Rostk.	21	<1	NA	NA
LUMA4	*Ludwigia maritima* Harper	22	<1	NA	NA
SAGI	*Saccharum giganteum* (Walter) Pers.	23	<1	NA	NA
SOFI	*Solidago fistulosa* Mill.	24	<1	NA	NA
ANGLP	*Andropogon glomeratus* (Walter) Britton, Sterns & Poggenb. var. *pumilus* Vasey ex L.H. Dewey	25	<1	NA	NA
CIHO2	*Cirsium horridulum* Michx.	26	<1	NA	NA
MISC	*Mikania scandens* (L.) Willd.	27	<1	NA	NA
RHMI7	*Rhynchospora microcarpa* Baldw. ex A. Gray	28	<1	NA	NA

Table 21: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at DSNY

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
ARPUT	*Aristida purpurascens* Poir. var. *tenuispica* (Hitchc.) Allred	29	<1	NA	NA
ERRE	*Eragrostis refracta* (Muhl.) Scribn.	30	<1	NA	NA
DISAP	*Dichanthelium sabulorum* (Lam.) Gould & C.A. Clark var. *patulum* (Scribn. & Merr.) Gould & C.A. Clark	31	<1	NA	NA
RHMA	*Rhexia mariana* L.	32	<1	NA	NA
PHAR14	*Physalis arenicola* Kearney	33	<1	NA	NA
ANVID	*Andropogon virginicus* L. var. *decipiens* C.S. Campbell	34	<1	NA	NA
QUMI2	*Quercus minima* (Sarg.) Small	35	<1	NA	NA
ANBR2	*Andropogon brachystachyus* Chapm.	36	<1	NA	NA
OLUN	*Oldenlandia uniflora* L.	37	<1	NA	NA
HYCI	*Hypericum cistifolium* Lam.	38	<1	NA	NA
PRPE	*Proserpinaca pectinata* Lam.	39	<1	NA	NA
ERHI2	*Erechtites hieraciifolia* (L.) Raf. ex DC.	40	<1	NA	NA
AMMU2	*Amphicarpum muehlenbergianum* (Schult.) Hitchc.	41	<1	NA	NA
RHCH2	*Rhynchospora chalarocephala* Fernald & Gale	42	<1	NA	NA
ASRE7	*Asimina reticulata* Shuttlw. ex Chapm.	43	<1	NA	NA
LUVI2	*Ludwigia virgata* Michx.	44	<1	NA	NA

Table 21: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at DSNY

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
CHNIN	*Chamaecrista nictitans* (L.) Moench ssp. *nictitans* (L.) Moench ssp. nictitans	45	<1	NA	NA
EREL	*Eragrostis elliottii* S. Watson	46	<1	NA	NA
JUDI	*Juncus dichotomus* Elliott	46	<1	NA	NA
CYPO	*Cyperus polystachyos* Rottb.	48	<1	NA	NA
DISTG	*Dichanthelium strigosum* (Muhl. ex Elliott) Freckmann var. *glabrescens* (Griseb.) Freckmann	48	<1	NA	NA
DIVI3	*Diodia virginiana* L.	48	<1	NA	NA
ELEL3	*Elephantopus elatus* Bertol.	51	<1	NA	NA
DISE3	*Digitaria serotina* (Walter) Michx.	52	<1	NA	NA
BAHA	*Baccharis halimifolia* L.	53	<1	NA	NA
HYAL	*Hyptis alata* (Raf.) Shinners	54	<1	NA	NA
BUAM	*Buchnera americana* L.	55	<1	NA	NA
HYMY	*Hypericum myrtifolium* Lam.	56	<1	NA	NA
LACA5	*Lachnanthes caroliana* (Lam.) Dandy	57	<1	NA	NA
PASE5	*Paspalum setaceum* Michx.	57	<1	NA	NA
DIDIE	*Dichanthelium dichotomum* (L.) Gould var. *ensifolium* (Baldw. ex Elliott) Gould & C.A. Clark	59	<1	NA	NA
DISC2	*Dichanthelium scabriusculum* (Elliott) Gould & C.A. Clark	59	<1	NA	NA
ERAGR	*Eragrostis* sp.	59	<1	NA	NA

Table 21: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at DSNY

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
ARPU8	*Aristida purpurascens* Poir.	62	<1	NA	NA
CTAR	*Ctenium aromaticum* (Walter) Alph. Wood	63	<1	NA	NA
ELBA2	*Eleocharis baldwinii* (Torr.) Chapm.	63	<1	NA	NA
PANO2	*Paspalum notatum* FlueggÃ©	63	<1	NA	NA
SCDU3	*Scoparia dulcis* L.	63	<1	NA	NA
RHPU3	*Rhynchospora pusilla* Chapm. ex M.A. Curtis	67	<1	NA	NA
VILA4	*Viola lanceolata* L.	67	<1	NA	NA
LAAN	*Lachnocaulon anceps* (Walter) Morong	69	<1	NA	NA
PIGR4	*Pityopsis graminifolia* (Michx.) Nutt.	69	<1	NA	NA
TAAS	*Taxodium ascendens* Brongn.	71	<1	NA	NA
HYTE4	*Hypericum tetrapetalum* Lam.	72	<1	NA	NA
HYFA	*Hypericum fasciculatum* Lam.	73	<1	NA	NA
CINU	*Cirsium nuttallii* DC.	74	<1	NA	NA
CRRO5	*Crotalaria rotundifolia* Walter ex J.F. Gmel.	74	<1	NA	NA
SAGR8	*Sabatia grandiflora* (A. Gray) Small	74	<1	NA	NA
SAST	*Sacciolepis striata* (L.) Nash	74	<1	NA	NA
URLO	*Urena lobata* L.	74	<1	NA	NA
FIPU	*Fimbristylis puberula* (Michx.) Vahl	79	<1	NA	NA
JUSC	*Juncus scirpoides* Lam.	79	<1	NA	NA
WOVI	*Woodwardia virginica* (L.) Sm.	79	<1	NA	NA

Table 21: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at DSNY

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
EURO4	*Eupatorium rotundifolium* L.	82	<1	NA	NA
FUSC	*Fuirena scirpoidea* Michx.	82	<1	NA	NA
HYMU	*Hypericum mutilum* L.	82	<1	NA	NA
SAIN	*Sacciolepis indica* (L.) Chase	82	<1	NA	NA
SAPA	*Sabal palmetto* (Walter) Lodd. ex Schult. & Schult. f.	86	<1	NA	NA
HEAN2	*Helianthus angustifolius* L.	87	<1	NA	NA
JUEF	*Juncus effusus* L.	87	<1	NA	NA
PASPA2	*Paspalum* sp.	87	<1	NA	NA
RUAR2	*Rubus argutus* Link	87	<1	NA	NA
CHNI2	*Chamaecrista nictitans* (L.) Moench	91	<1	NA	NA
CHNIA	*Chamaecrista nictitans* (L.) Moench ssp. *nictitans* var. *aspera* (Muhl. ex Elliott) Irwin & Barneby	91	<1	NA	NA
COCA5	*Conyza canadensis* (L.) Cronquist	91	<1	NA	NA
COER	*Commelina erecta* L.	91	<1	NA	NA
FIAN	*Fimbristylis annua* (All.) Roem. & Schult.	91	<1	NA	NA
LUPA	*Ludwigia palustris* (L.) Elliott	91	<1	NA	NA
PARE3	*Panicum repens* L.	91	<1	NA	NA
PTPY2	*Pterocaulon pycnostachyum* (Michx.) Elliott	91	<1	NA	NA
RHFA	*Rhynchospora fascicularis* (Michx.) Vahl	91	<1	NA	NA
RHPL3	*Rhynchospora plumosa* Elliott	91	<1	NA	NA
RHYNC3	*Rhynchospora* sp.	91	<1	NA	NA

Table 21: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at DSNY

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
VAMY3	*Vaccinium myrsinites* Lam.	91	<1	NA	NA
XYEL2	*Xyris elliottii* Chapm.	91	<1	NA	NA
QUVI	*Quercus virginiana* Mill.	104	<1	NA	NA
CHNIN2	*Chamaecrista nictitans* (L.) Moench ssp. *nictitans* var. nictitans	105	<1	NA	NA
CYSU	*Cyperus surinamensis* Rottb.	105	<1	NA	NA
LACA	*Lactuca canadensis* L.	105	<1	NA	NA
LERE2	*Lespedeza repens* (L.) W.P.C. Barton	105	<1	NA	NA
LUDE4	*Ludwigia decurrens* Walter	105	<1	NA	NA
LYAP3	*Lygodesmia aphylla* (Nutt.) DC.	105	<1	NA	NA
MISE3	*Mitreola sessilifolia* (J.F. Gmel.) G. Don	105	<1	NA	NA
OXCO	*Oxalis corniculata* L.	105	<1	NA	NA
PHNO2	*Phyla nodiflora* (L.) Greene	105	<1	NA	NA
POLU	*Polygala lutea* L.	105	<1	NA	NA
PSOB3	*Pseudognaphalium obtusifolium* (L.) Hilliard & B.L. Burtt	105	<1	NA	NA
SCBA2	*Scleria baldwinii* (Torr.) Steud.	105	<1	NA	NA
TEHI2	*Tephrosia hispidula* (Michx.) Pers.	105	<1	NA	NA
MOCE2	*Morella cerifera* (L.) Small	118	<1	NA	NA
PIPA2	*Pinus palustris* Mill.	119	<1	NA	NA
LYFR3	*Lyonia fruticosa* (Michx.) G.S. Torr.	120	<1	NA	NA
RHCO	*Rhus copallinum* L.	121	<1	NA	NA

Table 21: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at DSNY

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
HYTE11	*Hypericum tenuifolium* Pursh	122	<1	NA	NA
HYHY	*Hypericum hypericoides* (L.) Crantz	123	<1	NA	NA

5.4 Beetles

5.4.1 Site-Specific Methods

Beetle site characterization was conducted in June and July 2012 by NEON staff following the standard methods outlined in TOS Site Characterization Methods (RD[6]). Beetle site characterization data was collected to start site level teaching collections. For sequencing information visit http://www.boldsystems.org. For more information on this protocol and data product numbers see Appendix A.

5.4.2 Results

Table 22: DSNY Beetle Trap Locations

Trap ID	Lat	Long
1	31.183	-84.478
2	31.198	-84.477
3	31.198	-84.474
4	31.201	-84.473
5	31.187	-84.471
6	31.207	-84.457

Table 23: DSNY Beetle Identification Results

BOLD Sample ID	Scientific Name	Collection Date	Trap Location
NEONTcarabid6008	*Dicaelus dilatatus dilatatus*	7/20/2012	1
NEONTcarabid6009	*Dicaelus dilatatus dilatatus*	7/20/2012	1
NEONTcarabid6034	*Selenophorus opalinus*	8/24/2012	1
NEONTcarabid6016	*Selenophorus ellipticus*	7/27/2012	2
NEONTcarabid6013	*Selenophorus ellipticus*	7/20/2012	2

Table 23: DSNY Beetle Identification Results

BOLD Sample ID	Scientific Name	Collection Date	Trap Location
NEONTcarabid6015	*Selenophorus ellipticus*	7/27/2012	2
NEONTcarabid6018	*Selenophorus ellipticus*	7/20/2012	2
NEONTcarabid6014	*Selenophorus ellipticus*	8/3/2012	2
NEONTcarabid6038	*Tetragonoderus intersectus*	8/3/2012	2
NEONTcarabid6032	*Tetracha carolina*	8/10/2012	2
NEONTcarabid6019	*Selenophorus ellipticus*	7/20/2012	2
NEONTcarabid6022	*Selenophorus ellipticus*	7/27/2012	2
NEONTcarabid6037	*Tetragonoderus intersectus*	8/24/2012	2
NEONTcarabid6020	*Selenophorus ellipticus*	7/20/2012	2
NEONTcarabid6017	*Selenophorus ellipticus*	8/3/2012	2
NEONTcarabid6006	*Pasimachus sublaevis*	7/20/2012	2
NEONTcarabid6021	*Selenophorus ellipticus*	7/27/2012	2
NEONTcarabid6011	*Anisodactylus haplomus*	8/10/2012	2
NEONTcarabid6036	*Tetragonoderus intersectus*	8/10/2012	2
NEONTcarabid6028	*Anisodactylus haplomus*	8/17/2012	2
NEONTcarabid6007	*Pasimachus sublaevis*	7/27/2012	3
NEONTcarabid6001	*Pasimachus sublaevis*	8/17/2012	3
NEONTcarabid6003	*Pasimachus sublaevis*	8/10/2012	3
NEONTcarabid6004	*Pasimachus sublaevis*	8/10/2012	3
NEONTcarabid6005	*Pasimachus sublaevis*	8/24/2012	4
NEONTcarabid6002	*Pasimachus sublaevis*	7/27/2012	4
NEONTcarabid6000	*Pasimachus sublaevis*	8/10/2012	4
NEONTcarabid6035	*Apenes sinuatus*	7/20/2012	5
NEONTcarabid6033	*Tetracha carolina*	8/24/2012	6
NEONTcarabid6039	*Tetragonoderus intersectus*	8/3/2012	6

5.5 Mosquitoes

5.5.1 Site-Specific Methods

Mosquito site characterization was conducted in June and July 2012 by NEON staff following the standard methods outlined in TOS Site Characterization Methods (RD[6]) to test protocol methods and start site level species lists. No pathogen testing was performed. For sequencing information visit http://www.boldsystems.org. For more information on this protocol and data product numbers see Appendix A.

5.5.2 Results

Table 24: JERC Mosquito Trap Locations

Trap ID	Lat	Long
1	29.697	-82.026
2	29.7	-82.019
3	29.678	-82.004
4	29.697	-81.994
5	29.687	-81.983
6	29.691	-81.976
7	29.73	-81.974
8	29.728	-81.968
9	29.692	-81.959

Table 25: DSNY Mosquito Identification Results

BOLD Sample ID	Scientific Name	Collection Date	Trap Location
NEONTculicid6239	*Aedes triseriatus*	7/26/2012	1
NEONTculicid6258	*Aedes fulvus pallens*	7/25/2012	1
NEONTculicid6416	*Psorophora ferox*	7/25/2012	1
NEONTculicid6257	*Aedes fulvus pallens*	7/25/2012	1
NEONTculicid6385	*Psorophora ferox*	9/5/2012	1
NEONTculicid6256	*Aedes fulvus pallens*	7/25/2012	1
NEONTculicid6275	*Psorophora ferox*	7/25/2012	1
NEONTculicid6253	*Psorophora howardii*	9/5/2012	1
NEONTculicid6250	*Psorophora howardii*	9/5/2012	1
NEONTculicid6251	*Psorophora howardii*	9/5/2012	1
NEONTculicid6249	*Psorophora howardii*	9/5/2012	1
NEONTculicid6246	*Psorophora howardii*	9/5/2012	1
NEONTculicid6247	*Psorophora howardii*	9/5/2012	1
NEONTculicid6262	*Aedes atlanticus*	7/25/2012	1
NEONTculicid6245	*Psorophora howardii*	9/5/2012	1
NEONTculicid6255	*Aedes fulvus pallens*	7/25/2012	1
NEONTculicid6263	*Aedes atlanticus*	7/25/2012	1
NEONTculicid6259	*Aedes fulvus pallens*	7/25/2012	1

Table 25: DSNY Mosquito Identification Results

BOLD Sample ID	Scientific Name	Collection Date	Trap Location
NEONTculicid6254	*Psorophora howardii*	9/5/2012	1
NEONTculicid6248	*Psorophora howardii*	9/5/2012	1
NEONTculicid6252	*Psorophora howardii*	9/5/2012	1
NEONTculicid6242	*Aedes triseriatus*	7/25/2012	2
NEONTculicid6241	*Aedes triseriatus*	7/25/2012	2
NEONTculicid6236	*Aedes triseriatus*	7/26/2012	2
NEONTculicid6238	*Aedes triseriatus*	7/26/2012	2
NEONTculicid6237	*Aedes hendersoni*	7/26/2012	2
NEONTculicid6243	*Aedes triseriatus*	7/25/2012	3
NEONTculicid6314	*Aedes atlanticus*	9/6/2012	4
NEONTculicid6240	*Aedes triseriatus*	7/26/2012	4
NEONTculicid6351	*Aedes mitchellae*	9/5/2012	5
NEONTculicid6274	*Culex coronator*	9/5/2012	5
NEONTculicid6273	*Culex coronator*	9/5/2012	6
NEONTculicid6218	*Uranotaenia sapphirina*	9/25/2012	7
NEONTculicid6215	*Uranotaenia sapphirina*	9/25/2012	7
NEONTculicid6217	*Uranotaenia sapphirina*	9/25/2012	7
NEONTculicid6235	*Aedes triseriatus*	9/26/2012	7
NEONTculicid6216	*Uranotaenia sapphirina*	9/25/2012	7
NEONTculicid6276	*Culex tarsalis*	7/25/2012	8
NEONTculicid6281	*Culex salinarius*	9/25/2012	8
NEONTculicid6214	*Culex salinarius*	9/25/2012	8
NEONTculicid6279	*Culex salinarius*	9/25/2012	8
NEONTculicid6280	*Culex salinarius*	9/25/2012	8
NEONTculicid6261	*Culex erraticus*	7/25/2012	9
NEONTculicid6267	*Aedes infirmatus*	7/25/2012	9
NEONTculicid6260	*Culex erraticus*	7/25/2012	9
NEONTculicid6268	*Aedes infirmatus*	7/25/2012	9
NEONTculicid6265	*Psorophora columbiae*	7/25/2012	9
NEONTculicid6271	*Aedes mitchellae*	7/25/2012	9
NEONTculicid6414	*Psorophora columbiae*	7/25/2012	9
NEONTculicid6264	*Psorophora columbiae*	7/25/2012	9
NEONTculicid6272	*Aedes mitchellae*	7/25/2012	9

Table 25: DSNY Mosquito Identification Results

BOLD Sample ID	Scientific Name	Collection Date	Trap Location
NEONTculicid6270	*Aedes mitchellae*	7/25/2012	9
NEONTculicid6266	*Psorophora columbiae*	7/25/2012	9
NEONTculicid6244	*Aedes triseriatus*	7/25/2012	9
NEONTculicid6411	*Uranotaenia sapphirina*	9/6/2012	9
NEONTculicid6269	*Aedes infirmatus*	7/25/2012	9
NEONTculicid6586	*Culex erraticus*	7/25/2012	9
NEONTculicid6590	*Aedes infirmatus*	7/25/2012	9

5.6 Ticks

5.6.1 Site-Specific Methods

There was no tick site characterization work done at DSNY. For more information on this protocol and data product numbers see Appendix A

5.7 Species Reference Lists

6 CORE SITE- JONES ECOLOGICAL RESEARCH CENTER (JERC)

The Joseph Jones Ecological Research Center (JERC) is an 11,000-hectare (13 km^2) reserve located within the Lower Coastal Plains and Flatwoods areas in southern Georgia. There is an aquatic array at the Jones site in a representative perennial, ground- and surface-water fed stream, called the Ichawaynochaway creek.

- Site host: Private Owner
- Baker/Georgia
- Area: 13 km^2
- Elevation: 30-60m
- Dominant vegetation type- The dominant vegetation cover at Joseph Jones is a mix of Longleaf Pine (*Pinus palustris* Mill.), Oaks (various) and wiregrass (*Aristida stricta* Michx.); numerous species of other perennial grasses and forbs are also present. In addition, this site is interspersed with several species of oaks that change the natural fire frequency and fuel quality..
- General management: The Jones site has been managed with low intensity, dormant-season prescribed fires for the past 75 years at a frequency of every 3-4 years.
- The aquatic site Flint River (FLNT) is located within the JERC TOS boundary. See the AOS site characterization report for more details (RD[05]).
- Plot Selection: NEON TOS Plots were allocated across the site avoiding existing research.

6.1 TOS Spatial Sampling Design

TOS plots were allocated at JERC according to a spatially balanced and stratified-random design (RD[3]). The 2006 National Land Cover Database (NLCD) was selected for stratification because of the consistent and comparable data availability across the United States. Due to a mismatch between a strata described by the NLCD (shrub scrub) and existing ground cover (turkey oak and long-leaf pine), TOS plots were not initially allocated to shrub scrub. The associated pixels will be reclassified with data from NEON's remote sensing platform such that this landscape component will be sampled early in NEON Operations. TOS plots that are distributed throughout the site according to the spatial design are hereafter referred to as 'distributed plots'. TOS plots that are randomly allocated within the airshed of the NEON Terrestrial Instrument System (TIS) tower to collect complementary data are not stratified by NLCD class; these plots are hereafter referred to as 'tower plots'. The maps below depict the plot locations for the first year of NEON sampling. Some plot locations may change over time due to logistics, safety, and science requirements. Please visit the NEON website (http://www.neonscience.org) for updated plot locations at each site.

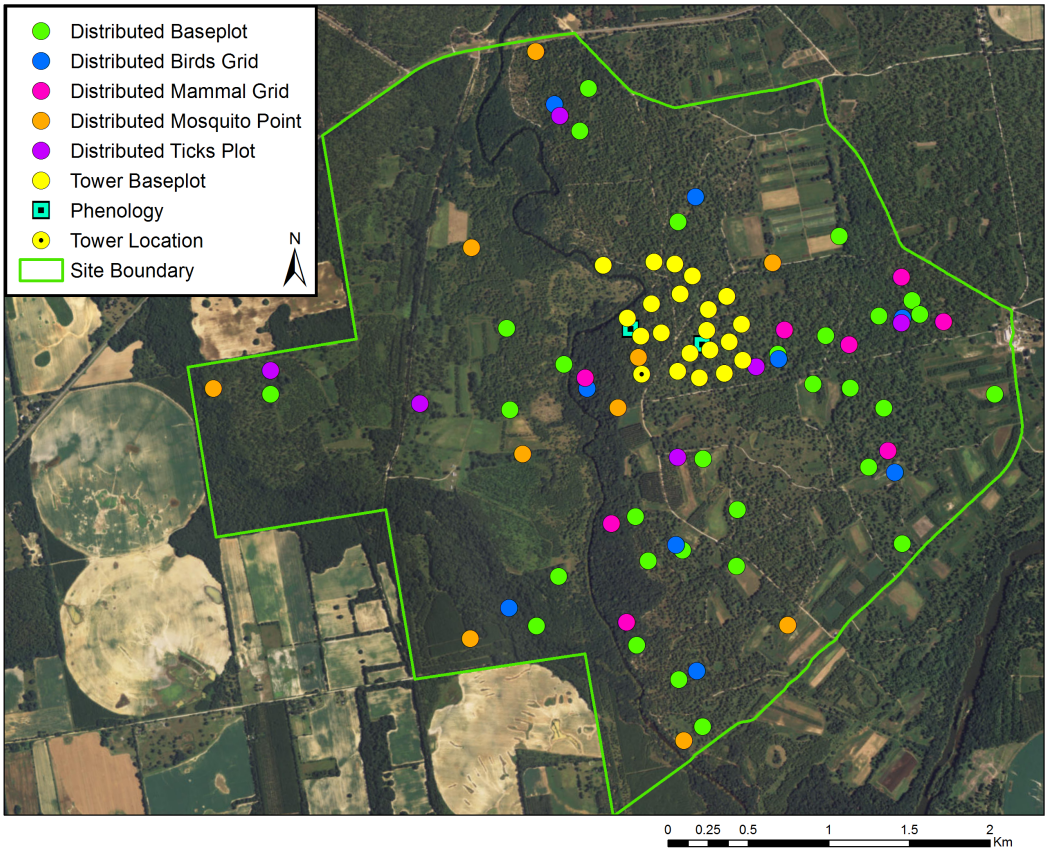

Figure 9: Map of TOS plot locations within the NEON TOS sampling boundary at JERC

See RD[03] for additional information about the sampling that occurs at each plot type.

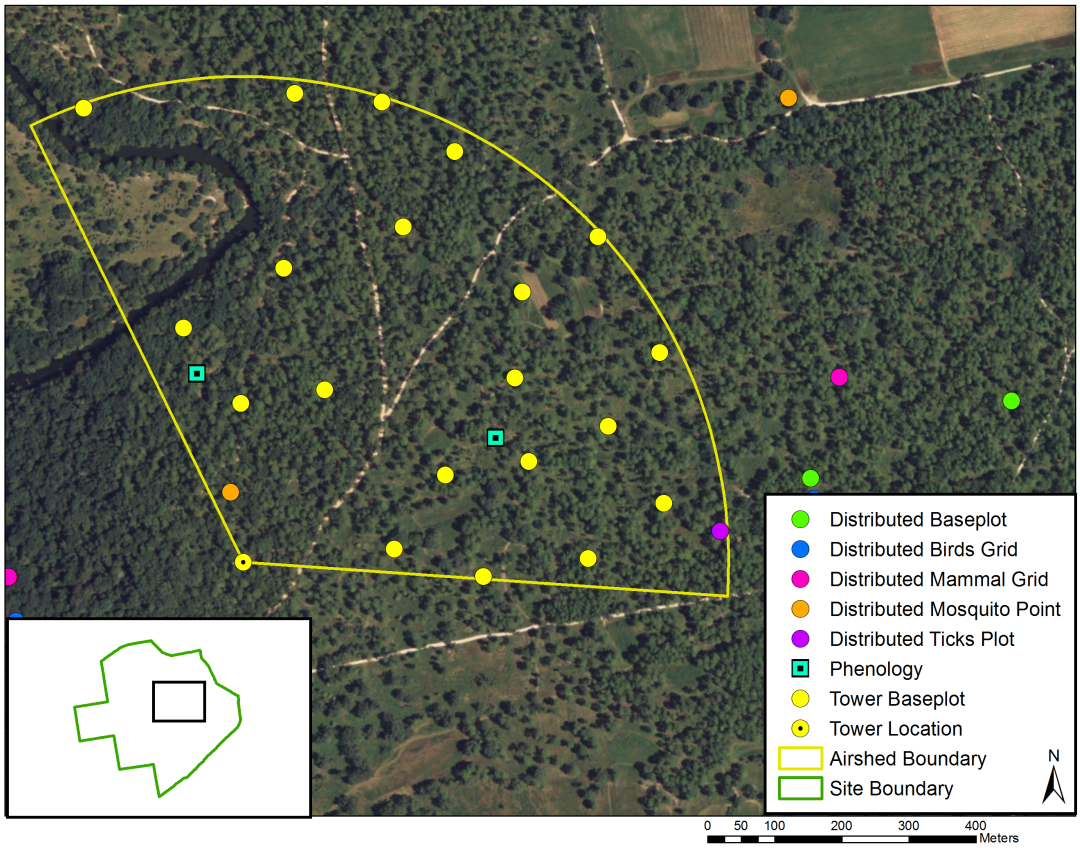

Figure 10: Map of the tower airshed at JERC

More information about the tower airshed can be found in the FIU site characterization reports (RD[04])

Table 26: NLCD Land Cover Classes and Area within the TOS site boundary at JERC

NLCD Class	**Site Area km^2**	**Percent**
Evergreen Forest	3.61	27.16
Deciduous Forest	3.06	23.04
Mixed Forest	1.57	11.77
Cultivated Crops	1.52	11.43
Pasture Hay	1.01	7.62
Grassland Herbaceous	0.97	7.32
Woody Wetlands	0.6	4.51
Developed Open Space	0.47	3.5
Shrub Scrub	0.46	3.48
Developed Low Intensity	0.01	0.1
Emergent Herbaceous Wetlands	0.01	0.07

Note: Any NLCD land cover classes less than 5% will not be sampled. Additionally, no sampling will take place in Water, Developed, or Barren NLCD classes.

Table 27: NLCD Land Cover Classes and TOS plot numbers at JERC

Plot Type	**Plot Subtype**	**NLCD Class**	**Number of Plots Established**
distributed	base	Cultivated Crops	5
distributed	base	Deciduous Forest	10
distributed	base	Evergreen Forest	10
distributed	base	Grassland Herbaceous	0
distributed	base	Mixed Forest	5
distributed	base	Pasture Hay	0
distributed	bird	Cultivated Crops	0
distributed	bird	Deciduous Forest	2
distributed	bird	Evergreen Forest	4
distributed	bird	Grassland Herbaceous	0
distributed	bird	Mixed Forest	3
distributed	bird	Pasture Hay	0
distributed	mammal	Cultivated Crops	0
distributed	mammal	Deciduous Forest	3
distributed	mammal	Evergreen Forest	3

Table 27: NLCD Land Cover Classes and TOS plot numbers at JERC

Plot Type	Plot Subtype	NLCD Class	Number of Plots Established
distributed	mammal	Grassland Herbaceous	0
distributed	mammal	Mixed Forest	2
distributed	mammal	Pasture Hay	0
distributed	mosquito	Cultivated Crops	0
distributed	mosquito	Deciduous Forest	3
distributed	mosquito	Evergreen Forest	4
distributed	mosquito	Grassland Herbaceous	0
distributed	mosquito	Mixed Forest	3
distributed	mosquito	Pasture Hay	0
distributed	tick	Cultivated Crops	1
distributed	tick	Deciduous Forest	2
distributed	tick	Evergreen Forest	2
distributed	tick	Grassland Herbaceous	0
distributed	tick	Mixed Forest	1
distributed	tick	Pasture Hay	0
tower	base	N/A	20
tower	phenology	N/A	13

Note: NLCD land cover classes as not used to stratify tower plots

Table 28: Number of distributed base plots per NLCD Land Cover Class per protocol at JERC. Distributed Base Plots typically support more than one TOS protocol; 'Number of Plots' cannot be added to get total TOS Distributed Base Plot number.

Plot Type	Plot Subtype	NLCD Class	Protocols	Number of Plots
Distributed	Base Plot	Deciduous Forest	Beetles	3
Distributed	Base Plot	Evergreen Forest	Beetles	4
Distributed	Base Plot	Mixed Forest	Beetles	3
Distributed	Base Plot	Cultivated Crops	Biogeochemistry	1
Distributed	Base Plot	Deciduous Forest	Biogeochemistry	2
Distributed	Base Plot	Evergreen Forest	Biogeochemistry	2
Distributed	Base Plot	Mixed Forest	Biogeochemistry	1
Distributed	Base Plot	Cultivated Crops	Canopy Foliage Chemistry	1
Distributed	Base Plot	Deciduous Forest	Canopy Foliage Chemistry	2

Table 28: Number of distributed base plots per NLCD Land Cover Class per protocol at JERC. Distributed Base Plots typically support more than one TOS protocol; 'Number of Plots' cannot be added to get total TOS Distributed Base Plot number.

Plot Type	Plot Subtype	NLCD Class	Protocols	Number of Plots
Distributed	Base Plot	Evergreen Forest	Canopy Foliage Chemistry	2
Distributed	Base Plot	Mixed Forest	Canopy Foliage Chemistry	1
Distributed	Base Plot	Cultivated Crops	Coarse Downed Debris	3
Distributed	Base Plot	Deciduous Forest	Coarse Downed Debris	7
Distributed	Base Plot	Evergreen Forest	Coarse Downed Debris	7
Distributed	Base Plot	Mixed Forest	Coarse Downed Debris	3
Distributed	Base Plot	Cultivated Crops	Digital Hemispherical Photos for Leaf Area Index	3
Distributed	Base Plot	Deciduous Forest	Digital Hemispherical Photos for Leaf Area Index	7
Distributed	Base Plot	Evergreen Forest	Digital Hemispherical Photos for Leaf Area Index	7
Distributed	Base Plot	Mixed Forest	Digital Hemispherical Photos for Leaf Area Index	3
Distributed	Base Plot	Cultivated Crops	Herbaceous Productivity	3
Distributed	Base Plot	Deciduous Forest	Herbaceous Productivity	7
Distributed	Base Plot	Evergreen Forest	Herbaceous Productivity	7
Distributed	Base Plot	Mixed Forest	Herbaceous Productivity	3
Distributed	Base Plot	Cultivated Crops	Plant Diversity	5
Distributed	Base Plot	Deciduous Forest	Plant Diversity	10
Distributed	Base Plot	Evergreen Forest	Plant Diversity	10
Distributed	Base Plot	Mixed Forest	Plant Diversity	5
Distributed	Base Plot	Cultivated Crops	Soil Microbes	1
Distributed	Base Plot	Deciduous Forest	Soil Microbes	2
Distributed	Base Plot	Evergreen Forest	Soil Microbes	2
Distributed	Base Plot	Mixed Forest	Soil Microbes	1
Distributed	Base Plot	Cultivated Crops	Vegetation Structure	3
Distributed	Base Plot	Deciduous Forest	Vegetation Structure	7
Distributed	Base Plot	Evergreen Forest	Vegetation Structure	7
Distributed	Base Plot	Mixed Forest	Vegetation Structure	3

Table 29: Number of tower plots per protocol at JERC.Tower Base Plots typically support more than one TOS protocol; 'Number of Plots' cannot be added to get total TOS Tower Base Plot number.

Plot Type	Plot Subtype	Protocols	Number of Plots
Tower	Base Plot	Below Ground Biomass Coring	20
Tower	Base Plot	Biogeochemistry	4
Tower	Base Plot	Canopy Foliage Chemistry	4
Tower	Base Plot	Coarse Downed Debris	20
Tower	Base Plot	Digital Hemispherical Photos for Leaf Area Index	20
Tower	Base Plot	Herbaceous Productivity	20
Tower	Base Plot	Litterfall and Fine Woody Debris	20
Tower	Base Plot	Mat-Forming Bryophyte Production	20
Tower	Base Plot	Plant Diversity	3
Tower	Base Plot	Soil Microbes	4
Tower	Base Plot	Vegetation Structure	20
Tower	Phenology	Plant Phenology	2

6.2 Belowground Biomass

6.2.1 Site-Specific Methods

Ex. Belowground biomass characterization data was collected down to 180 cm by NEON staff in December 2012. Since the NEON protocol for long-term, operational sampling of belowground biomass only collects data to a depth of 30cm, the belowground biomass site characterization data are critical for scaling belowground biomass measurements to greater depths; see the TOS Science Design for Plant Biomass, Productivity, and Leaf Area Index (RD[8]) for more information. The tables below summarize the belowground biomass site characterization work and more data and information can be found by searching the data product numbers in Appendix A. Samples were collected following the standard methods outlined in TOS Site Characterization Methods (RD[6]), except a 5.08cm diameter bulk density soil corer, soil knife, and drill bit was used to extract soil to test out protocols methods at this site. The tables below summarize the belowground biomass site characterization work; more data and information can be found by searching the NEON data portal for the data product numbers in Appendix A.

6.2.2 Results

Table 30: Domain 03 JERC fine root mass per depth increment

Upper Depth	Lower Depth	Mean mg per cm^3	Std Dev
0	10	1.22	0.42
10	20	0.67	0.46

Table 30: Domain 03 JERC fine root mass per depth increment

Upper Depth	Lower Depth	Mean mg per cm^3	Std Dev
20	30	0.51	0.37
30	40	0.38	0.2
40	50	0.25	0.08
50	60	0.39	0.27
60	70	1.14	0.56
70	80	0.06	0.02
80	90	0.32	0.42
90	100	0.19	0.17
100	120	0.28	0.08
120	140	0.22	0.18
140	160	0.5	0.18
160	180	0.18	0.1

Table 31: Domain 03 JERC cumulative fine root mass as a function of depth

Upper Depth	Lower Depth	Mean Cumulative g per m^2	Cumulative Std Dev
0	10	122.37	41.73
10	20	189.87	62.55
20	30	240.55	98.62
30	40	278.65	113.88
40	50	303.37	116.53
50	60	342.32	113.94
60	70	456.33	73.82
70	80	462.58	71.53
80	90	494.24	113.9
90	100	513.66	130.94
100	120	568.97	114.58
120	140	612.79	150.5
140	160	712.17	186.01
160	180	747.33	189.38

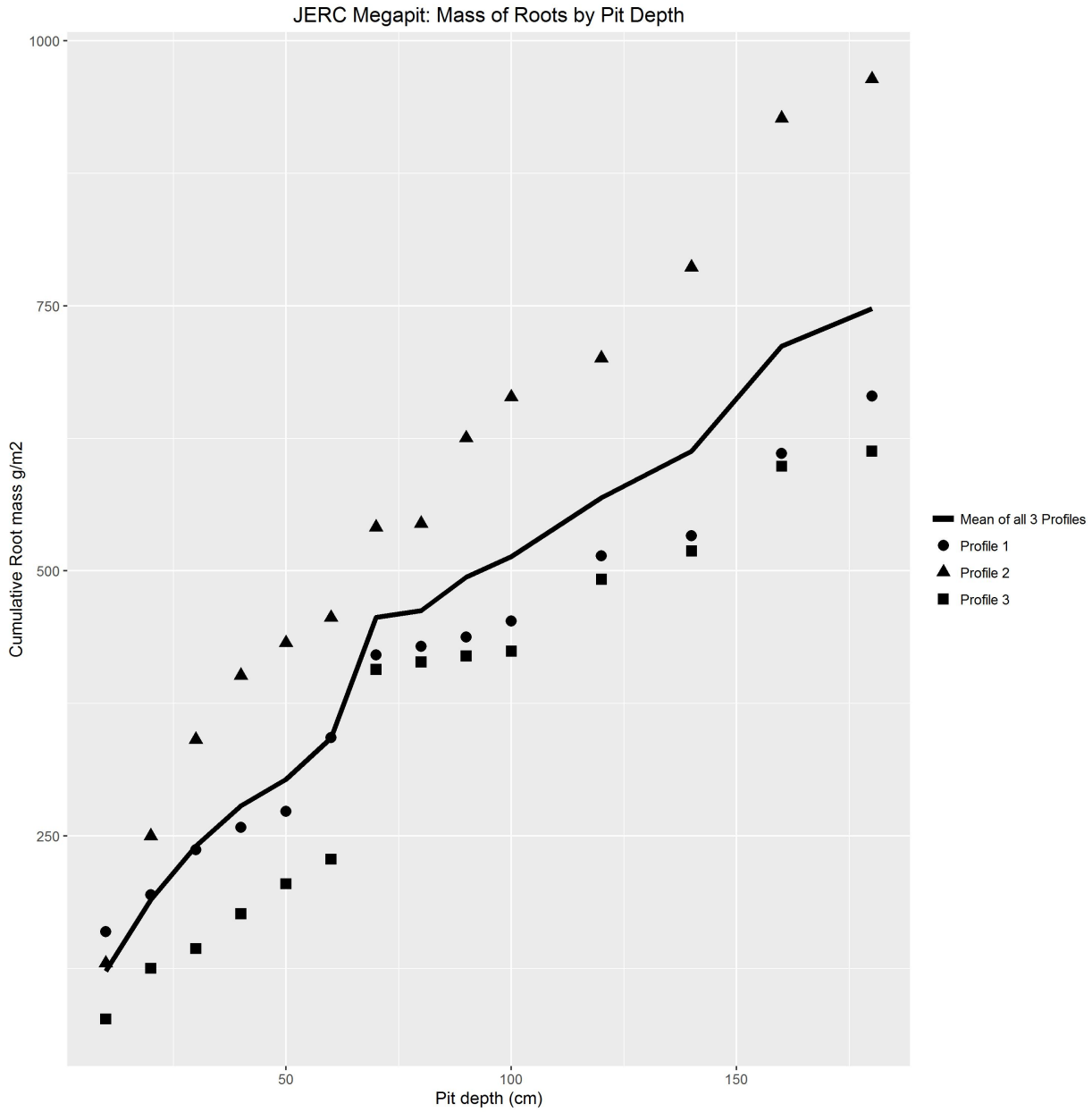

Figure 11: Domain 03 JERC cumulative root mass by pit depth

Table 32: Domain 03 JERC fine root biomass sampling summary data

Total Pit Depth cm	180
Total Cumulative Mass at 30cm g per m^2	240.55
Total Cumulative Mass at 100cm g per m^2	513.66

Total Cumulative Mass g per m^2	747.33

6.3 Plant Characterization and Phenology Species Selection

6.3.1 Site-Specific Methods

Plant characterization data were collected by an external contractor during the summer of July 2013 following the standard methods outlined in TOS Site Characterization Methods (RD[6]).For more information on this protocol and data product numbers see Appendix A.

6.3.2 Results

Table 33: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at JERC

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
ARBE7	*Aristida beyrichiana* Trin. & Rupr.	1	16	NA	NA
PIPA2	*Pinus palustris* Mill.	2	<1	NA	9.6
QUFA	*Quercus falcata* Michx.	3	4	NA	NA
QUHE2	*Quercus hemisphaerica* W. Bartram ex Willd.	4	2	NA	0.79
QUIN	*Quercus incana* W. Bartram	5	3	NA	NA
CHNI2	*Chamaecrista nictitans* (L.) Moench	6	3	NA	NA
QUMA6	*Quercus margarettae* (Ashe) Small	7	2	NA	0.72
PTAQ	*Pteridium aquilinum* (L.) Kuhn	8	3	NA	NA
DYOB	*Dyschoriste oblongifolia* (Michx.) Kuntze	9	2	NA	NA
RHCO	*Rhus copallinum* L.	10	2	NA	NA
TOPU2	*Toxicodendron pubescens* Mill.	11	2	NA	NA
RUCU	*Rubus cuneifolius* Pursh	12	1	NA	NA
SAAL5	*Sassafras albidum* (Nutt.) Nees	13	1	NA	0.02

Table 33: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at JERC

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
CEVI2	*Centrosema virginianum* (L.) Benth.	14	1	NA	NA
SONU2	*Sorghastrum nutans* (L.) Nash	15	<1	NA	NA
VAAR	*Vaccinium arboreum* Marshall	16	<1	NA	NA
CHLA5	*Chasmanthium latifolium* (Michx.) Yates	17	<1	NA	NA
VAMY3	*Vaccinium myrsinites* Lam.	18	<1	NA	NA
LIMI5	*Licania michauxii* Prance	19	<1	NA	NA
SCSC	*Schizachyrium scoparium* (Michx.) Nash	20	<1	NA	NA
TIAM	*Tilia americana* L.	21	<1	NA	0.03
QUST	*Quercus stellata* Wangenh.	22	<1	NA	NA
ANGE	*Andropogon gerardii* Vitman	23	<1	NA	NA
DITE2	*Diodia teres* Walter	24	<1	NA	NA
SILA20	*Sideroxylon lanuginosum* Michx.	25	<1	NA	0.02
MIMI22	*Mimosa microphylla* Dryand.	26	<1	NA	NA
PIGR4	*Pityopsis graminifolia* (Michx.) Nutt.	27	<1	NA	NA
RHRE	*Rhynchosia reniformis* DC.	28	<1	NA	NA
TADI2	*Taxodium distichum* (L.) Rich.	29	NA	NA	0.37
PIAS2	*Pityopsis aspera* (Shuttlw. ex Small) Small	30	<1	NA	NA
AMPS	*Ambrosia psilostachya* DC.	31	<1	NA	NA
COAS2	*Cornus asperifolia* Michx.	32	<1	NA	NA
CRRO5	*Crotalaria rotundifolia* Walter ex J.F. Gmel.	33	<1	NA	NA

Table 33: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at JERC

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
SCTE5	*Schizachyrium tenerum* Nees	34	<1	NA	NA
ULAL	*Ulmus alata* Michx.	35	<1	NA	0.27
QUVE	*Quercus velutina* Lam.	36	<1	NA	NA
CETE	*Celtis tenuifolia* Nutt.	37	<1	NA	NA
QUNI	*Quercus nigra* L.	38	<1	NA	NA
DIVI5	*Diospyros virginiana* L.	39	<1	NA	NA
IPHE	*Ipomoea hederacea* Jacq.	40	<1	NA	NA
IOLI2	*Ionactis linariifolius* (L.) Greene	41	<1	NA	NA
SOOD	*Solidago odora* Aiton	41	<1	NA	NA
DELI2	*Desmodium lineatum* DC.	43	<1	NA	NA
DIOV	*Dichanthelium ovale* (Elliott) Gould & C.A. Clark	43	<1	NA	NA
VEAN	*Vernonia angustifolia* Michx.	43	<1	NA	NA
DEMA2	*Desmodium marilandicum* (L.) DC.	46	<1	NA	NA
EUPU7	*Euphorbia pubentissima* Michx.	47	<1	NA	NA
SYDU2	*Symphyotrichum dumosum* (L.) G.L. Nesom	47	<1	NA	NA
ASAN6	*Asimina angustifolia* Raf.	49	<1	NA	NA
CLMA4	*Clitoria mariana* L.	50	<1	NA	NA
SYCO3	*Symphyotrichum concolor* (L.) G.L. Nesom	50	<1	NA	NA
ELEL3	*Elephantopus elatus* Bertol.	52	<1	NA	NA
LERE2	*Lespedeza repens* (L.) W.P.C. Barton	53	<1	NA	NA
ANDRO2	*Andropogon* sp.	54	<1	NA	NA
STUM2	*Strophostyles umbellata* (Muhl. ex Willd.) Britton	54	<1	NA	NA

Table 33: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at JERC

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
VAST	*Vaccinium stamineum* L.	54	<1	NA	NA
RUFL	*Rubus flagellaris* Willd.	57	<1	NA	NA
SMAU	*Smilax auriculata* Walter	58	<1	NA	NA
DEPA6	*Desmodium paniculatum* (L.) DC.	59	<1	NA	NA
GESE	*Gelsemium sempervirens* (L.) W.T. Aiton	59	<1	NA	NA
IPHE2	*Ipomoea hederifolia* L.	59	<1	NA	NA
AEPA	*Aesculus pavia* L.	62	<1	NA	NA
SETO7	*Sericocarpus tortifolius* (Michx.) Nees	63	<1	NA	NA
GALAC	*Galactia* sp.	64	<1	NA	NA
CRATA	*Crataegus* sp.	65	<1	NA	NA
PASE5	*Paspalum setaceum* Michx.	66	<1	NA	NA
STBI2	*Stylosanthes biflora* (L.) Britton, Sterns & Poggenb.	66	<1	NA	NA
CRAR2	*Croton argyranthemus* Michx.	68	<1	NA	NA
ACGR2	*Acalypha gracilens* A. Gray	69	<1	NA	NA
DEFL3	*Desmodium floridanum* Chapm.	70	<1	NA	NA
GAFI2	*Gaura filipes* Spach	70	<1	NA	NA
CAAL27	*Carya tomentosa* (Lam.) Nutt.	72	<1	NA	0.07
QULA2	*Quercus laevis* Walter	73	<1	NA	NA
VIRO3	*Vitis rotundifolia* Michx.	74	<1	NA	NA
GAPI2	*Galium pilosum* Aiton	75	<1	NA	NA
IPPA	*Ipomoea pandurata* (L.) G. Mey.	75	<1	NA	NA
ACBA3	*Acer barbatum* Michx.	77	<1	NA	0.04
EUAL2	*Eupatorium album* L.	78	<1	NA	NA
ILVO	*Ilex vomitoria* Aiton	79	<1	NA	NA

Table 33: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at JERC

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
ULRU	*Ulmus rubra* Muhl.	80	NA	NA	0.06
DEST2	*Desmodium strictum* (Pursh) DC.	81	<1	NA	NA
SOTO2	*Solidago tortifolia* Elliott	81	<1	NA	NA
CAGL8	*Carya glabra* (Mill.) Sweet	83	<1	NA	NA
DIAC	*Dichanthelium aciculare* (Desv. ex Poir.) Gould & C.A. Clark	84	<1	NA	NA
DIVI7	*Dichanthelium villosissimum* (Nash) Freckmann	84	<1	NA	NA
CHGO	*Chrysopsis gossypina* (Michx.) Elliott	86	<1	NA	NA
DACA8	*Dalea carnea* (Michx.) Poir.	86	<1	NA	NA
DECI	*Desmodium ciliare* (Muhl. ex Willd.) DC.	86	<1	NA	NA
SAAL21	*Saccharum alopecuroides* (L.) Nutt.	86	<1	NA	NA
SEPA10	*Setaria parviflora* (Poir.) KerguÃ©len	86	<1	NA	NA
SMSM	*Smilax smallii* Morong	86	<1	NA	NA
TRUR2	*Tragia urticifolia* Michx.	86	<1	NA	NA
CECA4	*Cercis canadensis* L.	93	<1	NA	NA
DIFR6	*Ditrysinia fruticosa* (W. Bartram) Govaerts & Frodin	94	<1	NA	NA
CARA2	*Campsis radicans* (L.) Seem. ex Bureau	95	<1	NA	NA
HYHY	*Hypericum hypericoides* (L.) Crantz	95	<1	NA	NA
MAGO	*Matelea gonocarpos* (Walter) Shinners	95	<1	NA	NA

Table 33: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at JERC

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
TORA2	*Toxicodendron radicans* (L.) Kuntze	95	<1	NA	NA
ASPA18	*Asimina parviflora* (Michx.) Dunal	99	<1	NA	NA
STSY	*Stillingia sylvatica* L.	100	<1	NA	NA
AGAR4	*Ageratina aromatica* (L.) Spach	101	<1	NA	NA
DICO2	*Dichanthelium commutatum* (Schult.) Gould	101	<1	NA	NA
STHU2	*Stylisma humistrata* (Walter) Chapm.	101	<1	NA	NA
TIUS	*Tillandsia usneoides* (L.) L.	101	<1	NA	NA
VIAE	*Vitis aestivalis* Michx.	101	<1	NA	NA
ZOBR	*Zornia bracteata* Walter ex J.F. Gmel.	101	<1	NA	NA
LIST2	*Liquidambar styraciflua* L.	107	<1	NA	NA
SERE2	*Serenoa repens* (W. Bartram) Small	108	<1	NA	NA
BICA	*Bignonia capreolata* L.	109	<1	NA	NA
LESE7	*Lechea sessiliflora* Raf.	109	<1	NA	NA
MUCA2	*Muhlenbergia capillaris* (Lam.) Trin.	109	<1	NA	NA
PAQU2	*Parthenocissus quinquefolia* (L.) Planch.	109	<1	NA	NA
COFL2	*Cornus florida* L.	113	<1	NA	NA
PRSE2	*Prunus serotina* Ehrh.	114	<1	NA	NA
AMAR2	*Ambrosia artemisiifolia* L.	115	<1	NA	NA
DEOB5	*Desmodium obtusum* (Muhl. ex Willd.) DC.	115	<1	NA	NA
ERSP	*Eragrostis spectabilis* (Pursh) Steud.	115	<1	NA	NA
LIGR9	*Liatris gracilis* Pursh	115	<1	NA	NA

Table 33: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at JERC

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
RHTO3	*Rhynchosia tomentosa* (L.) Hook. & Arn.	115	<1	NA	NA
TRDI2	*Trichostema dichotomum* L.	115	<1	NA	NA
BIBI7	*Bidens bipinnata* L.	121	<1	NA	NA
CRFL2	*Crataegus flava* Aiton	121	<1	NA	NA
LEVI7	*Lespedeza virginica* (L.) Britton	121	<1	NA	NA
MAVI5	*Manfreda virginica* (L.) Salisb. ex Rose	121	<1	NA	NA
PHHE5	*Physalis heterophylla* Nees	121	<1	NA	NA
QUPH	*Quercus phellos* L.	121	<1	NA	NA
RUCA4	*Ruellia caroliniensis* (J.F. Gmel.) Steud.	121	<1	NA	NA
RUHI2	*Rudbeckia hirta* L.	121	<1	NA	NA
SMRO	*Smilax rotundifolia* L.	121	<1	NA	NA
STPA8	*Stylisma patens* (Desr.) Myint	121	<1	NA	NA
CELA	*Celtis laevigata* Willd.	131	<1	NA	NA
CAAM2	*Callicarpa americana* L.	132	<1	NA	NA
JUVI	*Juniperus virginiana* L.	133	<1	NA	NA
ARPU8	*Aristida purpurascens* Poir.	134	<1	NA	NA
CLEMA	*Clematis* sp.	134	<1	NA	NA
CNURS	*Cnidoscolus urens* (L.) Arthur var. *stimulosus* (Michx.) Govaerts	134	<1	NA	NA
COCA	*Cocculus carolinus* (L.) DC.	134	<1	NA	NA
EUFL3	*Eustachys floridana* Chapm.	134	<1	NA	NA
PABI3	*Paspalum bifidum* (Bertol.) Nash	134	<1	NA	NA
RHDI2	*Rhynchosia difformis* (Elliott) DC.	134	<1	NA	NA

Table 33: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at JERC

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
SACA15	*Sanicula canadensis* L.	134	<1	NA	NA
SECO4	*Setaria corrugata* (Elliott) Schult.	134	<1	NA	NA
SOAL6	*Solidago altissima* L.	134	<1	NA	NA
SOAR	*Solidago arguta* Aiton	134	<1	NA	NA
TEVI	*Tephrosia virginiana* (L.) Pers.	134	<1	NA	NA
TRUR	*Tragia urens* L.	134	<1	NA	NA
HYCR3	*Hypericum crux-andreae* (L.) Crantz	147	<1	NA	NA
ACRH	*Acalypha rhomboidea* Raf.	148	<1	NA	NA
BROV4	*Brunnichia ovata* (Walter) Shinners	148	<1	NA	NA
CACO15	*Carya cordiformis* (Wangenh.) K. Koch	148	<1	NA	NA
CANI3	*Carex nigromarginata* Schwein.	148	<1	NA	NA
CRGL2	*Croton glandulosus* L.	148	<1	NA	NA
CYEC2	*Cyperus echinatus* (L.) Alph. Wood	148	<1	NA	NA
CYPL3	*Cyperus plukenetii* Fernald	148	<1	NA	NA
DAPI2	*Dalea pinnata* (J.F. Gmel.) Barneby	148	<1	NA	NA
DILA9	*Dichanthelium laxiflorum* (Lam.) Gould	148	<1	NA	NA
DIOL	*Dichanthelium oligosanthes* (Schult.) Gould	148	<1	NA	NA
DISP2	*Dichanthelium sphaerocarpon* (Elliott) Gould	148	<1	NA	NA
ELTO2	*Elephantopus tomentosus* L.	148	<1	NA	NA

Table 33: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at JERC

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
EUGL7	*Eupatorium glaucescens* Elliott	148	<1	NA	NA
EUHY	*Eupatorium hyssopifolium* L.	148	<1	NA	NA
GYBR	*Gymnopogon brevifolius* Trin.	148	<1	NA	NA
HEAN2	*Helianthus angustifolius* L.	148	<1	NA	NA
LEAN	*Lespedeza angustifolia* (Pursh) Elliott	148	<1	NA	NA
LESPE	*Lespedeza* sp.	148	<1	NA	NA
LEVI2	*Leersia virginica* Willd.	148	<1	NA	NA
MATEL	*Matelea* sp.	148	<1	NA	NA
PENST	*Penstemon* sp.	148	<1	NA	NA
PSOB3	*Pseudognaphalium obtusifolium* (L.) Hilliard & B.L. Burtt	148	<1	NA	NA
QUVI	*Quercus virginiana* Mill.	148	<1	NA	NA
RHMI10	*Rhynchosia michauxii* Vail	148	<1	NA	NA
RUTR	*Rubus trivialis* Michx.	148	<1	NA	NA
SCLER2	*Scleria* sp.	148	<1	NA	NA
SIAS2	*Silphium asteriscus* L.	148	<1	NA	NA
SILPH	*Silphium* sp.	148	<1	NA	NA
SMBO2	*Smilax bona-nox* L.	148	<1	NA	NA
SPGL2	*Spermacoce glabra* Michx.	148	<1	NA	NA
TEHI2	*Tephrosia hispidula* (Michx.) Pers.	148	<1	NA	NA
TRCA4	*Tridens carolinianus* (Steud.) Henr.	148	<1	NA	NA
TROH	*Tradescantia ohiensis* Raf.	148	<1	NA	NA
TRSE4	*Triumfetta semitriloba* Jacq.	148	<1	NA	NA
TRSE5	*Trichostema setaceum* Houtt.	148	<1	NA	NA

Table 33: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at JERC

Taxon ID	Scientic Name	Rank	Mean Percent Cover	Mean Canopy Area per m^2	Mean ABH cm^2 per m^2
VIOLA	*Viola* sp.	148	<1	NA	NA
ILOP	*Ilex opaca* Aiton	184	<1	NA	NA

Table 34: Per Plot Breakdown of Species Richness, Diversity, and Herbaceous Cover at JERC

Plot ID	Species Richness	Shannon Diversity Index	Percent Total Herbaceous Cover
JERC_047	33	3.07	96
JERC_048	28	2.75	126
JERC_049	45	2.61	181
JERC_050	41	3.28	91
JERC_051	34	3.22	80
JERC_052	33	2.72	96
JERC_053	35	3.05	122
JERC_054	32	3.25	51
JERC_055	45	3.29	163
JERC_056	38	3.02	128
JERC_057	24	2.38	76
JERC_058	42	3.35	164
JERC_059	31	2.54	151
JERC_060	25	2.33	188
JERC_061	37	3.25	117
JERC_062	38	3.14	135
JERC_063	32	2.68	138
JERC_064	29	2.7	129
JERC_065	32	2.61	137
JERC_066	34	3.01	110

6.4 Beetles

6.4.1 Site-Specific Methods

Beetle site characterization was conducted in June and July 2012 by NEON staff following the standard methods outlined in TOS Site Characterization Methods (RD[6]). Beetle site characterization data was collected to start site

level teaching collections. For sequencing information visit http://www.boldsystems.org. For more information on this protocol and data product numbers see Appendix A.

6.4.2 Results

Table 35: JERC Beetle Trap Locations

Trap ID	Lat	Long
1	31.183	-84.478
2	31.198	-84.477
3	31.198	-84.474
4	31.201	-84.473
5	31.187	-84.471
6	31.207	-84.457

Table 36: JERC Beetle Identification Results

BOLD Sample ID	Scientific Name	Collection Date	Trap Location
NEONTcarabid6008	*Dicaelus dilatatus dilatatus*	7/20/2012	1
NEONTcarabid6009	*Dicaelus dilatatus dilatatus*	7/20/2012	1
NEONTcarabid6034	*Selenophorus opalinus*	8/24/2012	1
NEONTcarabid6016	*Selenophorus ellipticus*	7/27/2012	2
NEONTcarabid6013	*Selenophorus ellipticus*	7/20/2012	2
NEONTcarabid6015	*Selenophorus ellipticus*	7/27/2012	2
NEONTcarabid6018	*Selenophorus ellipticus*	7/20/2012	2
NEONTcarabid6014	*Selenophorus ellipticus*	8/3/2012	2
NEONTcarabid6038	*Tetragonoderus intersectus*	8/3/2012	2
NEONTcarabid6032	*Tetracha carolina*	8/10/2012	2
NEONTcarabid6019	*Selenophorus ellipticus*	7/20/2012	2
NEONTcarabid6022	*Selenophorus ellipticus*	7/27/2012	2
NEONTcarabid6037	*Tetragonoderus intersectus*	8/24/2012	2
NEONTcarabid6020	*Selenophorus ellipticus*	7/20/2012	2
NEONTcarabid6017	*Selenophorus ellipticus*	8/3/2012	2
NEONTcarabid6006	*Pasimachus sublaevis*	7/20/2012	2
NEONTcarabid6021	*Selenophorus ellipticus*	7/27/2012	2
NEONTcarabid6011	*Anisodactylus haplomus*	8/10/2012	2

Table 36: JERC Beetle Identification Results

BOLD Sample ID	Scientific Name	Collection Date	Trap Location
NEONTcarabid6036	*Tetragonoderus intersectus*	8/10/2012	2
NEONTcarabid6028	*Anisodactylus haplomus*	8/17/2012	2
NEONTcarabid6007	*Pasimachus sublaevis*	7/27/2012	3
NEONTcarabid6001	*Pasimachus sublaevis*	8/17/2012	3
NEONTcarabid6003	*Pasimachus sublaevis*	8/10/2012	3
NEONTcarabid6004	*Pasimachus sublaevis*	8/10/2012	3
NEONTcarabid6005	*Pasimachus sublaevis*	8/24/2012	4
NEONTcarabid6002	*Pasimachus sublaevis*	7/27/2012	4
NEONTcarabid6000	*Pasimachus sublaevis*	8/10/2012	4
NEONTcarabid6035	*Apenes sinuatus*	7/20/2012	5
NEONTcarabid6033	*Tetracha carolina*	8/24/2012	6
NEONTcarabid6039	*Tetragonoderus intersectus*	8/3/2012	6

6.5 Mosquitoes

6.5.1 Site-Specific Methods

Mosquito site characterization was conducted in June and July 2012 by NEON staff following the standard methods outlined in TOS Site Characterization Methods (RD[6]) to test protocol methods and start site level species lists. No pathogen testing was performed. For sequencing information visit http://www.boldsystems.org. For more information on this protocol and data product numbers see Appendix A.

6.5.2 Results

Table 37: JERC Mosquito Trap Locations

Trap ID	Lat	Long
1	29.697	-82.026
2	29.7	-82.019
3	29.678	-82.004
4	29.697	-81.994
5	29.687	-81.983
6	29.691	-81.976
7	29.73	-81.974
8	29.728	-81.968

Table 37: JERC Mosquito Trap Locations

Trap ID	Lat	Long
9	29.692	-81.959

Table 38: JERC Mosquito Identification Results

BOLD Sample ID	Scientific Name	Collection Date	Trap Location
NEONTculicid6239	*Aedes triseriatus*	7/26/2012	1
NEONTculicid6258	*Aedes fulvus pallens*	7/25/2012	1
NEONTculicid6416	*Psorophora ferox*	7/25/2012	1
NEONTculicid6257	*Aedes fulvus pallens*	7/25/2012	1
NEONTculicid6385	*Psorophora ferox*	9/5/2012	1
NEONTculicid6256	*Aedes fulvus pallens*	7/25/2012	1
NEONTculicid6275	*Psorophora ferox*	7/25/2012	1
NEONTculicid6253	*Psorophora howardii*	9/5/2012	1
NEONTculicid6250	*Psorophora howardii*	9/5/2012	1
NEONTculicid6251	*Psorophora howardii*	9/5/2012	1
NEONTculicid6249	*Psorophora howardii*	9/5/2012	1
NEONTculicid6246	*Psorophora howardii*	9/5/2012	1
NEONTculicid6247	*Psorophora howardii*	9/5/2012	1
NEONTculicid6262	*Aedes atlanticus*	7/25/2012	1
NEONTculicid6245	*Psorophora howardii*	9/5/2012	1
NEONTculicid6255	*Aedes fulvus pallens*	7/25/2012	1
NEONTculicid6263	*Aedes atlanticus*	7/25/2012	1
NEONTculicid6259	*Aedes fulvus pallens*	7/25/2012	1
NEONTculicid6254	*Psorophora howardii*	9/5/2012	1
NEONTculicid6248	*Psorophora howardii*	9/5/2012	1
NEONTculicid6252	*Psorophora howardii*	9/5/2012	1
NEONTculicid6242	*Aedes triseriatus*	7/25/2012	2
NEONTculicid6241	*Aedes triseriatus*	7/25/2012	2
NEONTculicid6236	*Aedes triseriatus*	7/26/2012	2
NEONTculicid6238	*Aedes triseriatus*	7/26/2012	2
NEONTculicid6237	*Aedes hendersoni*	7/26/2012	2
NEONTculicid6243	*Aedes triseriatus*	7/25/2012	3
NEONTculicid6314	*Aedes atlanticus*	9/6/2012	4

Table 38: JERC Mosquito Identification Results

BOLD Sample ID	Scientific Name	Collection Date	Trap Location
NEONTculicid6240	*Aedes triseriatus*	7/26/2012	4
NEONTculicid6351	*Aedes mitchellae*	9/5/2012	5
NEONTculicid6274	*Culex coronator*	9/5/2012	5
NEONTculicid6273	*Culex coronator*	9/5/2012	6
NEONTculicid6218	*Uranotaenia sapphirina*	9/25/2012	7
NEONTculicid6215	*Uranotaenia sapphirina*	9/25/2012	7
NEONTculicid6217	*Uranotaenia sapphirina*	9/25/2012	7
NEONTculicid6235	*Aedes triseriatus*	9/26/2012	7
NEONTculicid6216	*Uranotaenia sapphirina*	9/25/2012	7
NEONTculicid6276	*Culex tarsalis*	7/25/2012	8
NEONTculicid6281	*Culex salinarius*	9/25/2012	8
NEONTculicid6214	*Culex salinarius*	9/25/2012	8
NEONTculicid6279	*Culex salinarius*	9/25/2012	8
NEONTculicid6280	*Culex salinarius*	9/25/2012	8
NEONTculicid6261	*Culex erraticus*	7/25/2012	9
NEONTculicid6267	*Aedes infirmatus*	7/25/2012	9
NEONTculicid6260	*Culex erraticus*	7/25/2012	9
NEONTculicid6268	*Aedes infirmatus*	7/25/2012	9
NEONTculicid6265	*Psorophora columbiae*	7/25/2012	9
NEONTculicid6271	*Aedes mitchellae*	7/25/2012	9
NEONTculicid6414	*Psorophora columbiae*	7/25/2012	9
NEONTculicid6264	*Psorophora columbiae*	7/25/2012	9
NEONTculicid6272	*Aedes mitchellae*	7/25/2012	9
NEONTculicid6270	*Aedes mitchellae*	7/25/2012	9
NEONTculicid6266	*Psorophora columbiae*	7/25/2012	9
NEONTculicid6244	*Aedes triseriatus*	7/25/2012	9
NEONTculicid6411	*Uranotaenia sapphirina*	9/6/2012	9
NEONTculicid6269	*Aedes infirmatus*	7/25/2012	9
NEONTculicid6586	*Culex erraticus*	7/25/2012	9
NEONTculicid6590	*Aedes infirmatus*	7/25/2012	9

6.6 Ticks

6.6.1 Site-Specific Methods

There was no tick site characterization work done at JERC. For more information on this protocol and data product numbers see Appendix A

6.7 Species Reference Lists