Technical Memorandum

MFLs for Sally Ward, Wakulla, and St. Marks River Rise Springs Systems for the Northwest Florida Water Management District

Date	Services Performed By:	Services Performed For:
February 23, 2015	Research Planning, Inc. 247 E. 7th Ave. Suite 200 Tallahassee FL 32303	Northwest Florida Water Management District 81 Water Management Dr., Havana, FL 32333, under a subcontract with Atkins North America

To: Graham Lewis, Ph.D. and Kevin Dorsey, P.G.

From: Pam Latham, Ph.D.

Re: TO7: Floodplain and instream biological sampling – FINAL memo for floodplain and instream sampling

RPI

Contents

RPI

1. Purpose

The purpose of this work order was to accomplish biological data collection outlined in Task 4 (specifically tasks 4.3, 4.4, and 4.5) of the Work Plan. Data collected for each of these tasks will be used to support modeling and/or analysis to be used in development of MFLs for the Sally Ward, Wakulla, and St. Marks River Rise springs system. These data will help refine WRVs to be developed under a subsequent work order and will be used to define MFL targets (i.e., cypress wetlands, fish habitat) for the WRVs. Three tasks were accomplished under this work order (listed below) and are documented in this memorandum.

Task 1. Collect, compile data for PHABSIM analysis (Task 4.3 in Work Plan)

Task 2. Collect, compile data for floodplain and aquatic habitat analyses (Task 4.4 in Work Plan)

Task 3. Collect and compile data for instream habitat analyses (Task 4.5 in Work Plan)

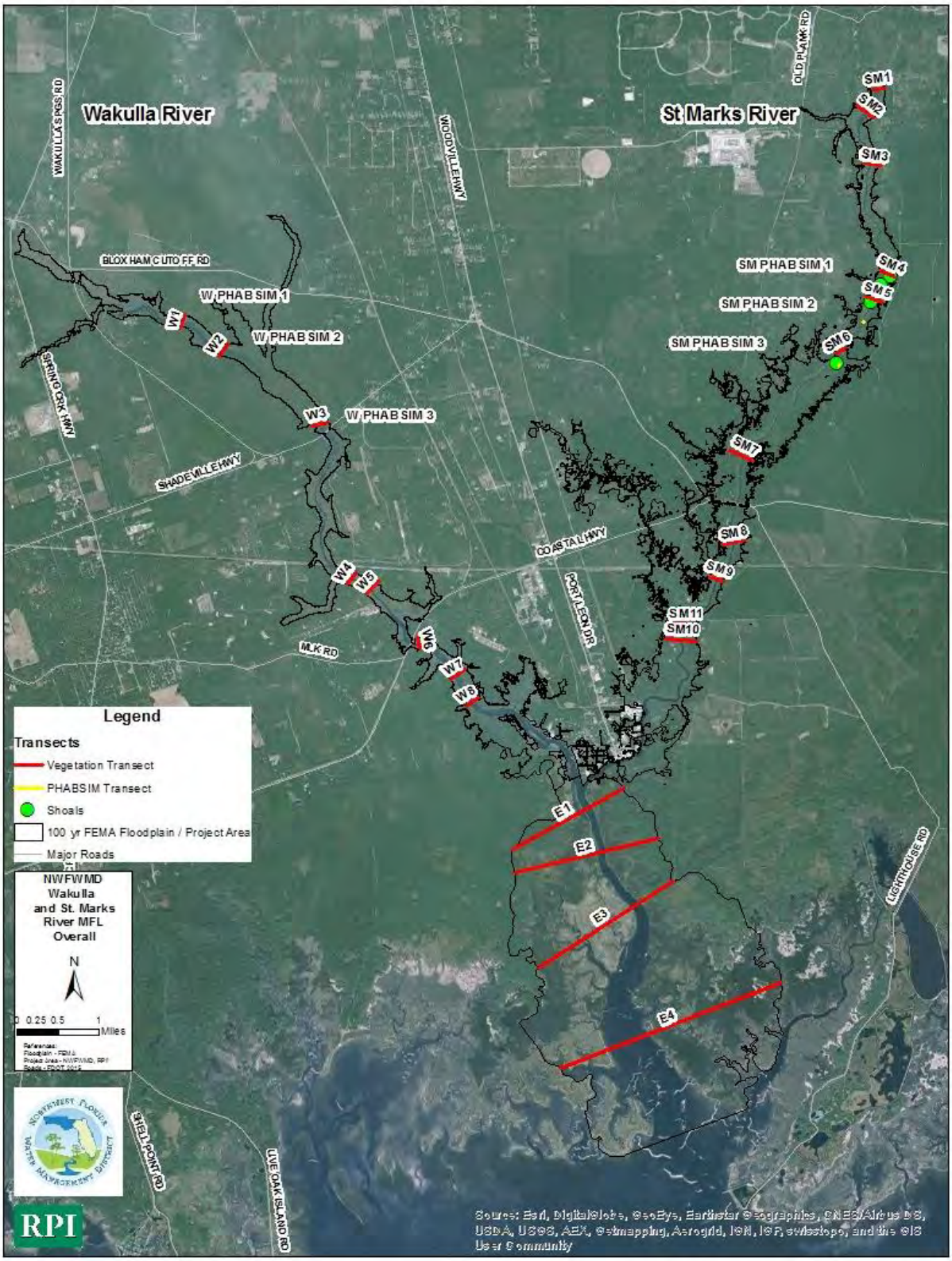
RPI is a part of the Atkins team selected by the Northwest Florida Water Management District (NWFWMD or District) to assist in establishing MFLs for water bodies throughout the District. RPI was tasked with implementing the efforts to *measure, collect, and compile data necessary to develop MFLs for the St. Marks, Wakulla, and Sally Ward springs system, including surface and groundwater monitoring data, river channel cross section elevation data, floodplain elevation data, and soils and biological data needed for modeling the relationships among WRVs* (water resource values) *and river flows.* This work order addresses biological data collection such as instream habitat and PHABSIM modeling, floodplain and aquatic habitat analysis, and instream habitat analysis. Elevation surveys, except as noted, were completed by local subcontractors. This technical memorandum (TM) documents data collection completed along the St. Marks and Wakulla rivers in support of the District's development of minimum flows and levels (MFLs) for the St. Marks River Rise, Wakulla, and Sally Ward springs system. This TM includes:

- Documentation of sampling methods and field protocols, data sheets and checklists, species lists, as appropriate, for vegetation, soils, and instream habitat.
- Maps of transect locations and National Wetlands Inventory (NWI) vegetation communities
- Brief description of vegetation communities delineated on GIS map data
- QA/QC procedures

2. Methods

Sampling methods for this study were designed to provide data needed to characterize the floodplain wetlands and instream habitat along the upper Wakulla and St. Marks rivers. The methods used in transect selection and vegetation and soil data collection are described here. Twenty three final transects were selected for floodplain vegetation and soils sampling, instream habitat sampling, and flow sampling along the St. Marks and Wakulla rivers (Figure 1).

Figure 1. Sampling transect locations along the St. Marks and Wakulla rivers.



RPI

2.1 Floodplain Vegetation and Soils

An underlying assumption of vegetation classification is that vegetation is the best and most easily measured "integrator of environmental and landscape conditions" (Light et al. 1993, Bedford 1996). Vegetation classes, plant species metrics, soil characteristics, and elevations were sampled along floodplain transects: eight transects along the Wakulla River (Figure 2), 11 transect along the St. Marks River upstream of its confluence with the Wakulla River (Figure 3), and four transects along the lower river, below the confluence of the Wakulla and St. Marks rivers (Figure 4).

Transect Selection

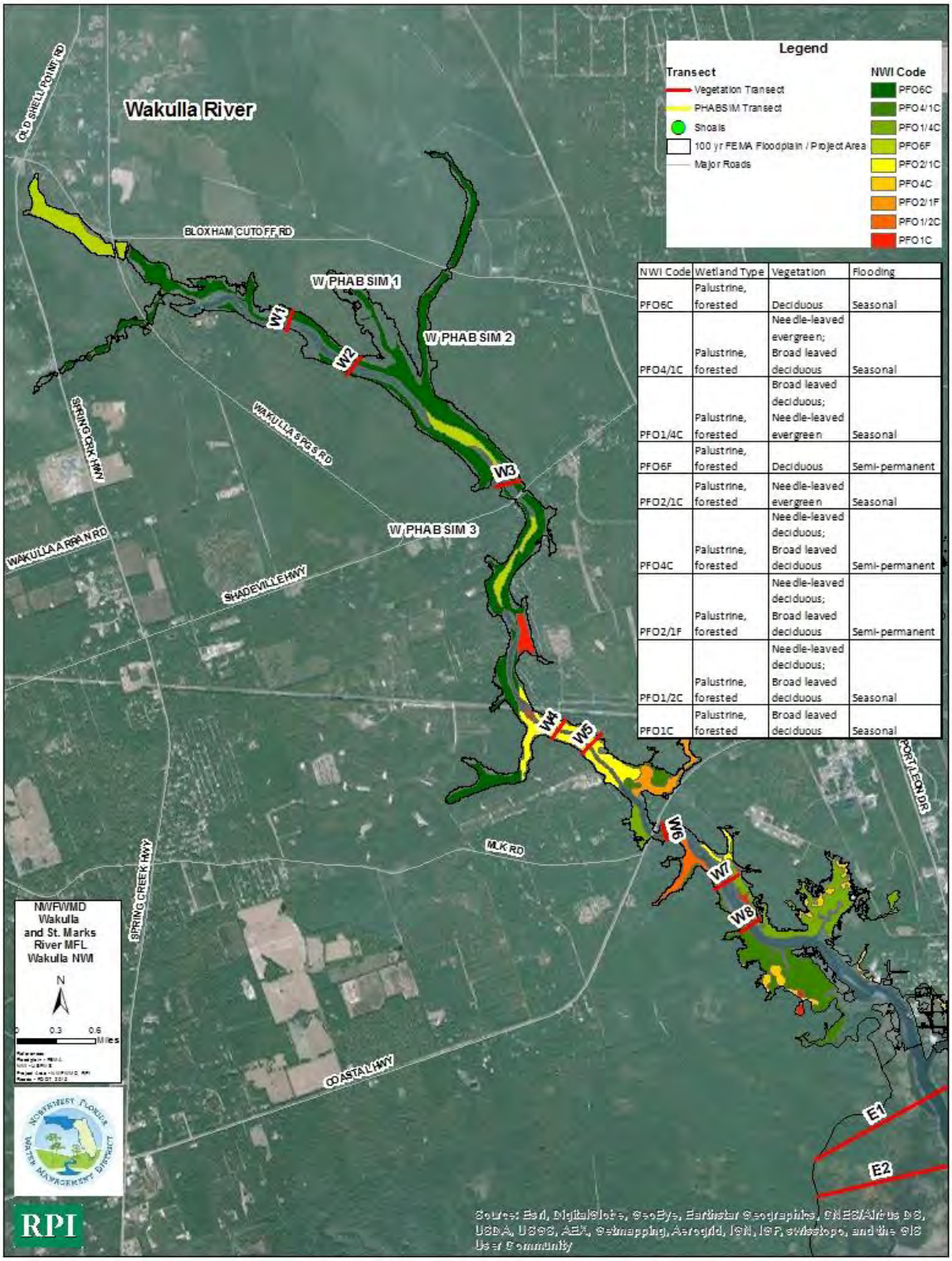
Transect selection was based on mapping and evaluation of relevant data and selection of representative vegetation communities/classes for floodplain sampling. Several data layers were acquired from the NWFWMD (Karen Kebart), the Florida Geographic Data Library (FGDL), Natural Resource Conservation Service (NRCS), FEMA, and ESRI. Data layers included vegetation classifications and cover (NWI 2014, FDEP 2009), roads (Tiger Roads 2011), hydric soils (NRCS 2004), LiDAR elevations data from the District's website (http://www.nwfwmdlidar.com/), 100-year floodplain boundaries (FEMA 2014), and aerial photography (ESRI 2015). Data were mapped and reviewed for consistency with floodplain extent, e.g. FEMA 100-year floodplain boundaries layered with NWI wetlands and NRCS (2004) hydric soils, to develop a study corridor for establishing floodplain transects for the biological monitoring sampling. Shoal locations and FEMA map data were provided by the District.

Vegetation classes were first mapped and designated using NWI classification codes that provide descriptions of national wetland classification system map units (Cowardin et al. 1979). The codes correspond to habitat types, e.g. PFO6C indicates a palustrine forested system that is deciduous (6) and seasonally flooded (C). The codes are presented with descriptors for each of the vegetation classes mapped for this study and summarized in Table 1.

Multiple, regularly spaced transects were initially designated along the river corridors and the estuarine/salt marsh as a means of characterizing the overall vegetation cover.

- Wakulla River corridor. Nine NWI vegetation classes comprised 95 percent of the wetlands vegetation cover in the Wakulla River study corridor, while the remaining five percent wetland vegetation cover included 14 vegetation classes.
- Upper St. Marks River corridor. Nine vegetation classes comprised 95 percent the wetlands vegetation cover in the St. Marks River study corridor and the remaining five percent included 15 other vegetation classes. A single emergent vegetation cover occurred among the top ten classes and this class was omitted from further consideration due to total area (less than 16 acres in the floodplain), and scattered distribution of polygons.
- Lower St. Marks River corridor. Nearly exclusively a single vegetation (estuarine intertidal emergent marsh) class (77 percent).

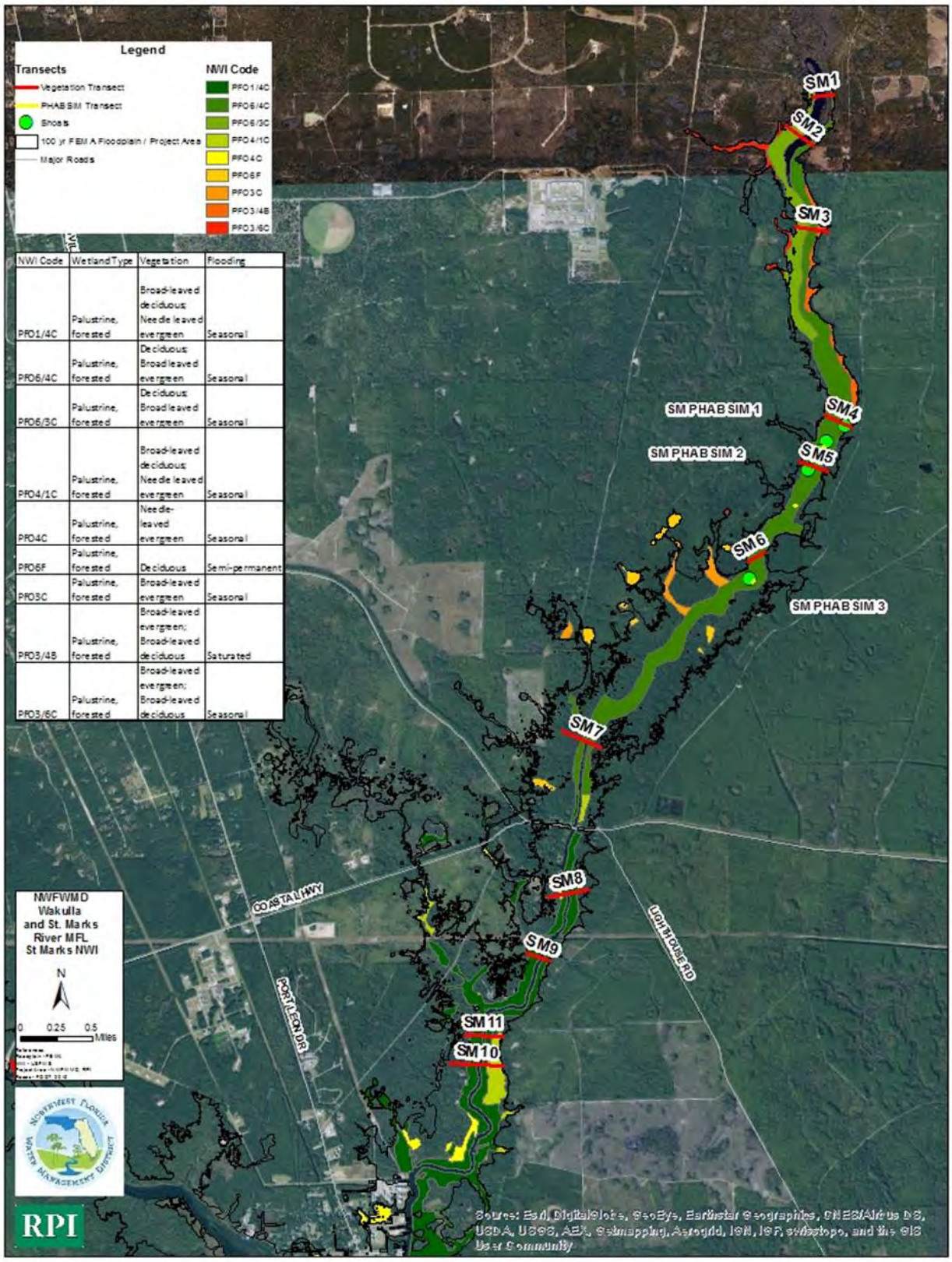
Figure 2. Sampling transect locations along the Wakulla River.



NWI Code	Wetland Type	Vegetation	Flooding
PFO6C	Palustrine, forested	Deciduous	Seasonal
PFO4/1C	Palustrine, forested	Needle-leaved evergreen; Broad leaved deciduous	Seasonal
PFO1/4C	Palustrine, forested	Broad leaved deciduous; Needle-leaved evergreen	Seasonal
PFO6F	Palustrine, forested	Deciduous	Semi-permanent
PFO2/1C	Palustrine, forested	Needle-leaved evergreen	Seasonal
PFO4C	Palustrine, forested	Needle-leaved deciduous; Broad leaved deciduous	Semi-permanent
PFO2/1F	Palustrine, forested	Needle-leaved deciduous; Broad leaved deciduous	Semi-permanent
PFO1/2C	Palustrine, forested	Needle-leaved deciduous; Broad leaved deciduous	Seasonal
PFO1C	Palustrine, forested	Broad leaved deciduous	Seasonal

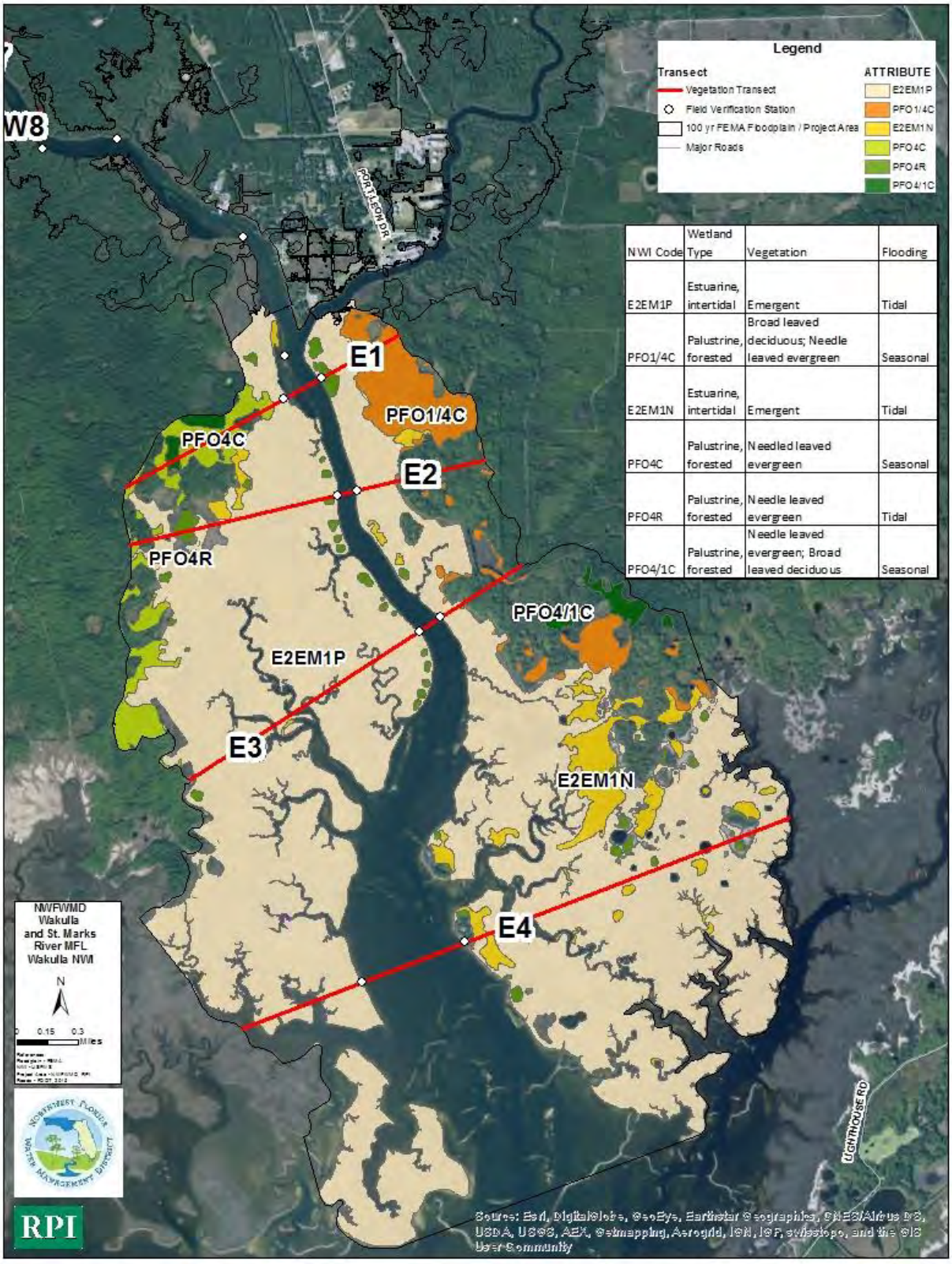
RPI

Figure 3. Sampling transect locations along the upper St. Marks River.



RPI

Figure 4. Sampling transect locations along the estuarine portion/lower St. Marks River.



RPI

Table 1. NWI Classifications along the Wakulla and St. Marks River corridors.

NWI Class	Description	
P_ Palustrine	Nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and same wetlands in tidal areas with ocean-derived salinity < 0.5 ‰. Includes wetlands without vegetation, but with (1) area < 20 acres; (2) no active wave-formed or bedrock shoreline features; (3) deepest water < 2 m at low water; and (4) salinity < 0.5 ‰.	
P_FO Palustrine Forested	Woody vegetation 20 feet or taller, both broad and needle -leaved deciduous and evergreen.	
	_1 Broad-leaved Deciduous	Typical trees include red maple, American elm, and black gum.
	_2 Needle-leaved Deciduous	Typical species in Florida is bald cypress.
	_3 Broad-leaved Evergreen	Typical species include bay, holly, wax myrtle
	_4 Needle-leaved Evergreen	Typical species include cedars and pond pine.
	_6 Deciduous	May include a mix of broad-leaved and needle-leaved deciduous trees such as oaks, popash, and maples, cypress.
	_7 Evergreen	May include a mix of broad-leaved or needle-leaved evergreen trees. Broad-leaved evergreens include red, loblolly, and sweet bays.
P_EM Palustrine Emergent	Usually dominated by perennial plants that are present for most of the growing season in most years. Characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens.	
	_1 Persistent	Dominated by species that normally remain standing at least until the beginning of the next growing season. Includes: grasses, bulrushes, sedges, cattails, and smartweeds.
P_SS	Palustrine scrub shrub. Wetland dominated by woody vegetation less than 20 feet tall.	
	1-3	Broad and needle leaved, deciduous and evergreen.
R_2 Riverine Lower Perennial	A Riverine system includes wetlands and deepwater habitats within a channel except wetlands dominated by trees, shrubs, persistent emergents and habitats with water containing ocean-derived salts in excess of 0.5 ppt. In a Lower Perennial subsystem the gradient is low and velocity is slow. There is no tidal influence and some water flows throughout the year.	
	_UB Unconsolidated Bottom	Includes deepwater habitats with at least 25% cover of particles smaller than stones; less than 30% vegetation cover.
	_AB Aquatic Bed	This includes wetlands and deepwater habitats dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years
Hydrologic Modifiers for Classes and Subclasses		
A	Temporarily Flooded	
C	Seasonally Flooded	
F	Semipermanently Flooded	
H	Permanently Flooded	

*After Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U. S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Jamestown, ND: Northern Prairie Wildlife Research Center Online. http://www.npwrc.usgs.gov/ resource/ 1998/ classwet/classwet.htm (Version 04DEC98).

RPI

Transects were allocated among the nine representative vegetation classes for both river corridors above their confluence. Below the confluence, transects were assigned to the single marsh vegetation class called out as estuarine, intertidal, emergent (vegetation), persistent, irregularly flooded (i.e. marsh) in NWI (E2EM1P).

Names for vegetation classes were also designated in the field for this study, based on woody species characterizing the sample points and generally corresponded with NWI vegetation classes (Table 1). No statistical analyses were completed to quantify the vegetation classes and vegetation class names. The extent of NWI wetlands corresponded well with the FEMA 100-year floodplain along the Wakulla River. The same was true for the St. Marks River except for a portion of the river just above the confluence of the St. Marks and Wakulla rivers where the FEMA floodplain was conspicuously wider than the NWI wetlands cover.

Potential transect locations were designated in areas characterized by native vegetation, little or no disturbance, and riverine wetlands. Potential transect locations were mapped and meetings were held in person with District staff to confirm selections. During field reconnaissance, potential transects were evaluated with respect to vegetation, hydrology, and access. The District attempted to gain access to transects and in some cases alternate transects were selected due to available access. Alternate transects were selected that included the same vegetation classes as the transects being replaced. Some transect locations were changed to avoid stream crossings, disturbed areas or access issues. Of the original proposed 24 transects (10 on the Wakulla River, 10 on the upstream portion of the St. Marks River, and 4 below the confluence of the two rivers), 23 transects were selected for sampling. Final designations for transects SM1 – SM11, W1-W8, and four estuarine transects (E1-E4) were forwarded to the District, including .pdf and GIS files. Vegetation sampling was completed during September, October, and November of 2015.

Vegetation classes along both rivers are classified as palustrine forested (NWI code PFO) upstream of the confluence of the two rivers, while estuarine marshes (E2EM1P) characterized the lower St. Marks River downstream of the confluence. NWI vegetation classes along both rivers were characterized by palustrine forested mixes of deciduous and evergreen, broad and needled leaved, species. However, NWI data include a separate class for needle leaved deciduous (PFO2) tree species (bald cypress) along the Wakulla River not mapped for the St. Marks River. The St. Marks River NWI data include a separate class for broad leaved evergreen (PFO3) tree species (e.g. bays, holly, sabal palm) that was not included in the NWI mapping for the Wakulla River.

Observations made during subsequent field sampling indicate seasonally (rather than semi-permanently or permanently as mapped by NWI) flooded wetlands and a wider floodplain (i.e. longer transects) along portions of the Wakulla River when compared with the St. Marks River. Transects through the floodplain along the St. Marks River were generally shorter when compared with the Wakulla River transects and included some semi-permanently flooded wetlands. Bald cypress, bay, and holly occur along both rivers and may have not been mapped by NWI for both rivers because the species do not occur in large enough homogeneous stands to be identified in NWI mapping analyses. Analysis of data in future task orders will evaluate differences and similarities among and between vegetation classes further.

The NWI vegetation classes comprising approximately 95% of the acreage along the upper river corridors (mapped in Figures 2 and 3) are listed in Table 2. Descriptions of the NWI classes (after Cowardin et al. 1979) are provided in Table 1. Acres for each NWI class are listed, along with the corresponding percentage that each class comprises. This information was used to place transects in such a way as to have two or more transects through a vegetation class and ensure that the vegetation classes most representative of the river corridors were sampled. Not all NWI wetland subclasses were sampled due to the scattered nature of the polygons and the inability to access all areas.

Table 2. NWI vegetation classes and corresponding numbers of acres selected for reconnaissance along the Wakulla and St. Marks river corridors (mapped in Figures 2 and 3). The last column gives the number of transects that intersect each vegetation class.

NWI Code	Description	Acres	% of total acres	Cumulative %	Number of transects
Wakulla River - palustrine only					
PFO6C	Deciduous (e.g. maple, ash, oak, cypress), seasonally flooded	517.4	41%	41%	5
PFO4/1C	Needle leaved evergreen (NLE) (e.g. cedar and pine) and broad leaved deciduous (BLD), (e.g. tupelo, maple, elm), seasonally flooded	183.6	15%	56%	3
PFO1/4C	BLD and NLE, seasonally flooded	136.0	11%	67%	-
PFO6F	Deciduous, semi-permanently flooded	117.3	9%	76%	-
PFO2/1C	NLD (e.g. bald cypress) and BLD, seasonally flooded	107.9	9%	85%	2
PFO4C	Needle leaved evergreen (NLE), seasonally flooded	43.8	4%	88%	-
PFO2/1F	NLD (e.g. bald cypress) and BLD, semi-permanently flooded	34.6	3%	91%	-
PFO1/2C	BLD and NLD, seasonally flooded	26.7	2%	93%	-
PFO1C	BLD, seasonally flooded	25.1	2%	95%	-
St. Marks River - palustrine only					
PFO1/4C	BLD and NLE, seasonally flooded	420.4	36%	36%	4
PFO6/4C	Deciduous (e.g. maple, ash, oak, cypress), and NLE, seasonally flooded	367.9	31%	67%	5
PFO6/3C	Deciduous and broad leaved evergreen (BLE) (e.g. holly, bay, sabal palm), seasonally flooded	101.2	9%	76%	-
PFO4/1C	BLD and NLE, seasonally flooded	49.8	4%	80%	-
PFO4C	Needle leaved evergreen (NLE), seasonally flooded	37.1	3%	83%	-
PFO6F	Deciduous, semi-permanently flooded	31.2	3%	86%	-
PFO3C	BLE, seasonally flooded	29.6	3%	89%	1
PFO3/4B	BLE and BLD, saturated	28.8	2%	91%	-
PFO3/6C	BLE and deciduous, seasonally flooded	25.4	2%	93%	-

Vegetation Sampling above Confluence of Wakulla and St. Marks Rivers

Vegetation and soils were sampled along the Wakulla (eight) and St. Marks (11) rivers floodplain transects. Floodplain sampling followed protocols to ensure data were accurate to support the establishment of MFLs and included data collection protocols (Quality Assurance) and verification (Quality Control). Quality assurance was implemented by using procedures to ensure the correct sampling and reporting process was carried out. Quality control was implemented to ensure that the product was also accurate and adequate to meet the purpose of the project. Quality control occurred at two levels: the first as field verification and the second as review of the compiled data. Methods for vegetation sampling are outlined below. These methods are the same as those used in floodplain sampling for MFL development by the Southwest Florida Water Management District and the Suwannee River Water Management District.

- Data sheets were prepared prior to sampling and used as a checklist to ensure all data were collected. Data sheets included only field data, although tree species observed in the field will eventually be compared to NWI vegetation classes. Data recorded included transect and sampling point locations, plant species, characteristic species at the sample point, distance and diameter breast height (DBH) measurements for sampled trees at each sample point, soil conditions (as described under Soil Sampling), and any additional notes.
- Plant community names, designated based on characteristic species, inundation characteristics based on soil and water on the site, and dominant plant species present were recorded.
- Vegetation sampling plots were located at random distances within each vegetation class along transects. The point-centered-quarter (PCQ) sampling method (Mueller-Dombois and Ellenberg 1974), a standard tree sampling method, was used to characterize the vegetation. A minimum of three plots from each vegetation class were sampled between each change in dominant species. Density, frequency, and basal area may be used to calculate importance value (IV) for each tree species, by transect and vegetation class.
- At each sampling point in each community type (minimum = 3 sample points / community), trees were identified, measured, and recorded for each of four quarters/sampling points, per the PCQ method.
- A list of tree species was compiled from sampling points along the St. Marks and Wakulla rivers to provide context for the transect samples and for comparison with NWI vegetation classes.

Vegetation classes were assigned in the field and species were consistent with communities previously described for the Wakulla and St. Marks rivers, as referenced or described in FNAI 2010, Lewis et al. 2009, Messina and Conner 1998, Light et al. 1983, Clewell 1985, others. Data are provided in Appendix A.

Vegetation Sampling: below Confluence of Wakulla and St. Marks Rivers

Vegetation classes on the lower St. Marks River are predominately classified (NWI classes) as emergent vegetation, persistent, irregularly flooded marsh (E2EM1P). Higher elevations located to the east and west (landward) of the river include palustrine forested mixes of deciduous and evergreen, broad and needled leaved, species. Four transects (E1 – E4) were identified on the lower St. Marks floodplain based on a desktop analysis that included GIS files of aerial photography, NWI, FLUCFCS, NRCS soils survey, and FEMA

100-year floodplain layers (sources listed below and included in literature citations). The FEMA 100-year floodplain and LiDAR (elevation) map data were provided by the District.

- ESRI. 2015. Aerial Imagery: 2015. ESRI Basemaps, ArcGIS.
- Florida Land Use Cover and Forms Classification System (FLUCFCS). 2009. LU_NWFWMD_2004. Florida Department of Environmental Protection (FDEP). http://www.fgdl.org/metadataexplorer/explorer.jsp.
- NRCS (Natural Resource Conservation Service). 2004. http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm
- NWI (National Wetlands Inventory). 2014. "NWIP_OCT14." United States Fish and Wildlife Service. http://www.fws.gov/wetlands/Data/State-Downloads.html.

The four transects were located perpendicular to the St. Marks River and extend from 50 feet landward of the marsh edge on the west side of the river to 50 feet landward of the marsh edge on the east side. Transect endpoints on each side of the river were used as field verification locations from which observations of dominant vegetation were made and recorded. Observations made during the field sampling, November 10, 2015, corroborated NWI vegetation classes along the lower St. Marks. Notes on dominant vegetation were made on aerial photographs and GPS coordinates were recorded.

Vegetation (NWI) classes making up more than one percent of the total cover in the estuarine portion of the river are shown in Figure 4 and listed in Table 3. As indicated in Table 3, 77 percent of the estuarine vegetation (below the confluence of the two rivers) is emergent marsh. None of the remaining vegetation classes below the confluence of the two rivers make up more than 4.6 percent of the vegetation classes. Forested palustrine classes noted in Table 3 occur landward of the marshes. Maps and notes are provided in Appendix A.

The marsh vegetation in the estuarine portion of the St. Marks River can be summarized as follows, by transect.

- Transect E1. East side of transect was characterized by hardwood forest including oaks, cedar, cabbage palms, and swamp bay. On the west side, sawgrass (*Cladium jamaicense*) marsh was the dominant cover, with black needle rush (*Juncus roemerianus*) interspersed, ending at mixed hardwood forest.
- Transect E2. Sawgrass marsh with black needle rush at water's edge on both east and west side, extending landward to upland ridges on the west side.
- Transect E3. East side is dominated by black needle rush marsh, extending to upland hardwood mix of cabbage palm, pine, and red cedar. Black needle rush marsh on the west side extends approximately 50 feet and then transitions to sawgrass. Periwinkles present.
- Transect E4. Saltmarsh cordgrass (*Spartina alterniflora*) occurs along the river edge at the most downstream transect, then transitions to black needle rush marsh to the east, which then shifts to a

cedar-dominated ridge at the upland ridge. The west side includes a narrow band of cordgrass, black needle rush marsh extending west along entire transect, with no sawgrass present. Periwinkles present.

Table 3. NWI vegetation classes and corresponding numbers of acres along the river corridor in the estuarine portion of the Wakulla and St. Marks rivers (mapped in Figure 4). The last column gives the number of transects (out of four) that intersect each vegetation class.

NWI Code	Description	Acres	% of total acres	Cumulative %	Number of transects
E2EM1P	Estuarine, intertidal, emergent (vegetation), persistent, irregularly flooded (i.e. marsh)	3,396.3	77.2	77.2	4
PFO1/4C	BLD and NLE, seasonally flooded	204.3	4.6	81.8	2
E2EM1N	Estuarine, intertidal, emergent (vegetation), persistent, regularly flooded (i.e. marsh)	191.5	4.4	86.2	1
PFO4C	NLE, seasonally flooded	130.3	3	92.3	2
PFO4R	Needle leaved evergreen (NLE), seasonal - tidal	58.7	1.3	95.7	3
PF04/1C	BLD and NLE, seasonally flooded	41.8	1.0	97.5	1

Soils sampling

Soil cores were examined at each vegetation sampling point along each transect. Soil cores were sampled by first removing a sample with a soil probe. The soil profile was examined to a minimum depth of 50 cm (20 inches). In addition, indicators described in the *Hydric Soil Delineation Indicators* (NRCS 2010) were recorded as appropriate: a numeric code of "0" was recorded if a characteristic was absent, and a "1" was recorded if the characteristic was present. The presence of hydric or flooding indicators, saturation and/or inundation conditions, and depth to seasonal high water or saturation (SHS) were evaluated and recorded. SHS is the shallowest depth below the surface where water is expected to remain for approximately 30 or more days during the wettest part of years, under normal annual and wet season precipitation, with possible flooding (Hurt, G.W. and F.C. Watts 2007). For example, soils with no evidence of wetland indicators (uplands) were given a soils index value of zero while soils with hydric indicators were assigned a value of 1. Depth to SHS was assigned from the measured value and ranged from 0 to 15 inches.

- hydric (1)/non-hydric (0)
- sandy (1) / not sandy (0)
- mucky soil (1) or not (0)
- depth to SHS

2.2 Instream Habitat and PHABSIM Data Sampling and Collection

Reconnaissance surveys were completed along the Wakulla and St. Marks rivers in July and August 2015 to identify potential locations for instream transects that could be used for instream habitat and potential PHABSIM modeling. Instream sampling to characterize elevations and types of instream habitat (snag, root, and substrate) were completed for several transects and did not include flow measurements. PHABSIM sampling was carried out under low flow conditions and included data collection for velocity and substrates that may be used to characterize the instream habitat. Tidal influence extends to the spring on the Wakulla River and upstream to at least the lower shoals on the St. Marks River. In addition to low flow sampling carried out under this task, subsequent sampling for PHABSIM requires sampling events at medium and high flow conditions and at approximately the same relative tidal stage on the ebb tide to assure water is flowing out of the system.

PHABSIM links open channel hydraulics with measured elements of fish or macroinvertebrate behavior to simulate physical habitat in relation to streamflow, water quality, and physical structure of streams (Milhous et al. 1984). The hydraulic model simulates depth and velocity distributions with discharge, and the habitat model represents suitability of those hydraulic and habitat parameters for individual species and lifestages (Milhous et al. 1984). Habitat availability is reported as Weighted Usable Area (WUA). These data may be used to identify flows associated with changes in habitat availability specific to fish species and macroinvertebrate diversity, after Gore et al. (2002). PHABSIM cross-sections were established at shoal areas where flows, and potentially fish (or canoe) passage, can be restricted. Field reconnaissance of shoals in the entire study reach was conducted and two PHABSIM data collection cross-sections were selected.

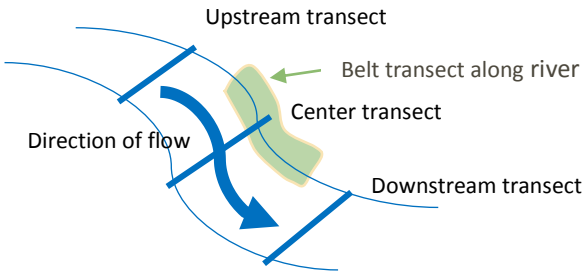
Data for the PHABSIM model were collected across instream transects located perpendicular to and from bank to bank across the river channel. Two sets of PHABSIM cross sections, each set including a pool, riffle, and run corresponding to a shallow portion of the river, were completed for the St. Marks River. Elevations were measured along each transect and referenced to an arbitrary benchmark (e.g. nail in tree) which was then surveyed for reference to NAVD88. Flow and habitat data were measured and recorded for the two sets of transects downstream of the St. Marks River Rise. Calibration of the hydraulic component of the PHABSIM model requires measurements of mean water-column velocity, depth, and substrate/cover criteria for sets of transects located at hydrologically “typical” stream reaches. These values are measured and recorded at low flows (when substrates can be best characterized), medium flows (only velocities and water surface elevations), and high flows (only water surface elevations) for the model. Instream habitat characteristics such as exposed roots and snags along banks and channel substrate (sand, limestone, SAV) were also characterized and elevations were surveyed.

The PHABSIM model is not intended for use in a tidally-influenced river and does not appear applicable to the Wakulla River. In addition to tidal influence up to the spring, velocity measurements unaffected by vegetation are precluded by emergent vegetation (up to 5 feet high) present over 100 percent of the

transect locations at the surface and submersed vegetation and filamentous algae (to a height of 2 feet or more) on the river bottom. This presents problems for Acoustic Doppler Current Profilers (or other instrumentation such as a Marsh-McBirney) due to false readings off the vegetation and the effects of the vegetation on velocity. Removing the vegetation is not an option since clearing the channel would alter the natural velocities. Consequently, PHABSIM sampling and modeling for the Wakulla River is not considered appropriate and is being re-evaluated for the St. Marks River (personal communication James Gore, 2 September 2015, included in Appendix B).

Instream Habitat

Figure 5. Schematic diagram of one set of three replicate transects along a river reach.



Instream habitats were characterized along a total of six transects during September, October, and November 2015. Three instream transect sets (each set consisting of three parallel transects at intervals of approximately 50 feet; shown schematically in Figure 5) on the St. Marks River and three on the Wakulla River were sampled. Transects were established across the river channel, perpendicular to the flow, and continuous with floodplain vegetation transects. Transects were located at shallow (on the St. Marks River) or "pinched" areas (on the Wakulla River) along the rivers where flows may be constricted ("pinches" in the channel) and instream habitat features, i.e. snag habitat, would be expected to be more sensitive to changes in flows and subsequent changes in inundation of instream structures.

- St. Marks River transects were located across shoals. Two were co-located with the vegetation/PHABSIM transects and the third co-located with a vegetation transect across a shoal.
- Wakulla River transects were co-located with vegetation transects with similar channel cross sections.

Elevations (NAVD88) and habitats were surveyed along all transects to characterize the local variation among instream habitats in a particular stream segment. Replicate transects were referred to as center, upstream, and downstream transects and were bounded by the top of bank on either side of the river channel. For each cross section, the upper and lower extent of each habitat intercepting the transect line was determined, for example:

- bottom substrates (such as sand, mud, clay or bedrock)
- exposed roots
- woody debris or snags
- submersed or emergent aquatic vegetation

Elevations of additional woody habitats along the river bank, from the upstream to the downstream transect were also recorded to document the elevation range of woody habitats such as snags or exposed roots

(Figure 5). A belt transect approximately 10 feet wide (top of bank to 10 feet below top of bank) and 25 feet long (along the river channel) was designated and elevations of up to 15 exposed root and snag habitat features were measured from within the transect. Elevations were referenced to a temporary benchmark on the shore, which will later be referenced to a permanent benchmark by surveying companies who were contracted by the District.

2.3 Elevation Surveys

Elevation data for floodplain and instream transects were measured and recorded by survey contractors under a separate contract. Wantman Group performed work on the Wakulla River and Southeastern Survey performed work on the St. Marks River. These data will be combined with the biological data for analysis under a future task order. The data are included as part of this technical memorandum for reporting purposes.

3. Summary

Floodplain and instream biological sampling were completed for the Wakulla and St. Marks Rivers during the Fall of 2015. Vegetation and soils data from floodplain transects were collected and compiled and aerial photography associated with four estuarine locations was field verified. These data are presented in this technical memorandum and provided to the District in electronic format. These data will be analyzed under a future task order and used to support MFL development for Wakulla Spring and the St. Marks River Rise. A cursory review of the vegetation data indicates the vegetation data are consistent with previous vegetation descriptions of the area in terms of species composition and point to differences in vegetation between the two rivers. Data collected for this study provide more quantitative information and can be used to develop density, frequency, and dominance measures of plant species in the river corridors. Data collected can also be used to quantify instream habitat characteristics of the river channels, although PHABSIM modelling is not considered appropriate for the Wakulla River and will not be included in future work efforts. Elevation data can provide measures of average elevations of particular plant communities and instream habitats for each river.

Appendices A through F present data for floodplain vegetation and soils (including estuarine vegetation), instream habitat and PHABSIM data, a summary list of woody species found along transects, survey data from survey contractors, photographs from field visits, and field notes.

4. Literature Cited

Bedford, B.L. 1996. The need to define hydrologic equivalence at the landscape scale for freshwater wetland mitigation. Ecological Applications 6:57–68.

Clewell, A. F. 1985. Guide to the Vascular Plants of the Florida Panhandle. University Presses of Florida, Gainesville.

Clewell, A.F. 1986. Natural Setting and Vegetation of the Florida Panhandle. An Account of the Environments and Plant Communities of Northern Florida, West of the Suwannee River. Prepared under contract DACW01-77-C-0104 for the USAC, Mobile District. 786 pages. Pdf link: ADA167948

Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service. FWS/OBS-79/31. Washington, DC. http://www.fws.gov/wetlands/Documents/Classification-of-Wetlands-and-Deepwater-Habitats-of-the-United-States.pdf

ESRI. 2015. Aerial Imagery: 2015. ESRI Basemaps, ArcGIS.

FDEP. 2009. Florida Land Use Cover and Forms Classification System (FLUCFCS): 2009. "LU_NWFWMD_2004." Florida Department of Environmental Protection. http://www.fgdl.org/metadataexplorer/explorer.jsp.

Federal Emergency Management Agency (FEMA). 2014. Digital Flood Insurance Rate Map Database, Wakulla County, Florida, USA.

Florida Natural Areas Inventory (FNAI). 2010. Guide to the natural communities of Florida: 2010 edition. Florida Natural Areas Inventory, Tallahassee, FL.

Gore, J. A., C. Dahm, and C. Klimas. 2002. A review of "Upper Peace River: an analysis of minimum flows and levels". Prepared for the Southwest Florida Water Management District. Brooksville, FL.

Lewis, F. G., N.D. Wooten, and R.L. Bartel. 2009. Lower St.Marks River/Wakulla River/Apalachee Bay Resource Characterization. Water Resources Special Report 2009-01.

Light, H.M., M.R. Darst, M.T. MacLaughlin, and S.W. Sprecher. 1993. Hydrology, Vegetation, and Soils of Four North Florida: River Flood Plains with an Evaluation of State and Federal Wetland Determinations. USGS Water-Resources Investigation Report 93-4033.

Messina, M.G. and W.H. Conner (Ed.). 1998. Southern forested wetlands: ecology and ma nagement. CRC Press, Lewis publihers. New York. 616 pages.

Milhous RT, Wegner DL and Waddle T. 1984. User's Guide to the Physical Habitat Simulation System (PHABSIM). Instream Flow Information Paper 11. Washington, D.C.: U.S. Fish and Wildlife Service, Division of Biological Services. FWS/OBS-81/43 Revised.

NRCS (Natural Resource Conservation Service). 2004. http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

NRCS. 2010. Field Indicators of Hydric Soils in the United States. A guide for identifying and delineating hydric soils. Version 7.0. USDA and the National Technical Committee for Hydric Soils. Edited by L.M. Vasilas, Soil Scientist, NRCS, Washington, DC; G.W. Hurt, Soil Scientist, University of Florida, Gainesville, FL; and C.V. Noble, Soil Scientist, USACE, Vicksburg, MS. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_050723.pdf

NWI (National Wetlands Inventory). 2014. "NWIP_OCT14." United States Fish and Wildlife Service. http://www.fws.gov/wetlands/Data/State-Downloads.html.

Tiger Roads. 2001. "TIGER_ROADS_2001." United States Census Bureau. http://www.fgdl.org/metadataexplorer/explorer.jsp.

5. Appendices

Appendix A. Floodplain vegetation and soils data and estuarine maps with notes

Appendix B Instream habitat sampling and PHABSIM data

Appendix C Summary list of woody species

Appendix D Survey data

Appendix E Field photographs

Appendix F Field notes

Appendix A. Floodplain data: vegetation and soils.

A1. Wakulla River

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W1-E	0		Upland		27' to next community						none	>6"	0	0	0		95	90
W1-E	1	137.0	Mixed Forested Hardwood	1	Ilex cassine	13.0	1.00	13.08	6.3	2.5	A7	0	1	0	0	mucky mineral, clay with depleted matrix	90	90
W1-E	1	137.0	Mixed Forested Hardwood	2	Taxodium distichum	17.0	5.0	17.42	61.4	24.2	A7	0	1	0	0	mucky mineral, clay with depleted matrix		
W1-E	1	137.0	Mixed Forested Hardwood	3	Nyssa sylvatica var. biflora	13.0	0.0	13.00	22.4	8.8	A7	4	1	0	0	mucky mineral, clay with depleted matrix		
W1-E	1	137.0	Mixed Forested Hardwood	4	Acer rubrum	6.0	0.0	6.00	4.1	1.6	A7	4	1	0	0	mucky mineral, clay with depleted matrix		
W1-E	2	115.0	Mixed Forested Hardwood	1	Nyssa sylvatica var. biflora	15.0	6.0	15.50	45.6	18.0	A7	0	1	0	0	mucky mineral	90	90
W1-E	2	115.0	Mixed Forested Hardwood	2	Persea palustris	9.0	0.0	9.00	11.7	4.6	A7	0	1	0	0	mucky mineral		
W1-E	2	115.0	Mixed Forested Hardwood	3	Acer saccharum	13.0	11.0	13.92	38.6	15.2	A7	0	1	0	0	mucky mineral		
W1-E	2	115.0	Mixed Forested Hardwood	4	Ilex cassine	5.0	8.0	5.67	6.4	2.5	A7	0	1	0	0	mucky mineral		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W1-E	3	97.0	Mixed Forested Hardwood	1	Nyssa sylvatica var. biflora	5.0	5.0	5.42	37.7	14.8	A7	0	1	0	0	mucky mineral	90	95
W1-E	3	97.0	Mixed Forested Hardwood	2	Nyssa sylvatica var. biflora	16.0	0.0	16.0	11.8	4.6	A7	0	1	0	0	mucky mineral		
W1-E	3	97.0	Mixed Forested Hardwood	3	Acer rubrum	10.0	0.0	10.0	16.5	6.5	A7	0	1	0	0	mucky mineral		
W1-E	3	97.0	Mixed Forested Hardwood	4	Nyssa aquatica	15.0	9.0	15.8	6.3	2.5	A7	0	1	0	0	mucky mineral		
W1-E	4	83.0	Tupelo hardwood swamp	1	Taxodium distichum	5.0	4.0	5.3	69.5	27.4	A11	0	1	0	1	muck >0.5"	10	95
W1-E	4	83.0	Tupelo hardwood swamp	2	Nyssa sylvatica var. biflora	7.0	5.0	7.4	79.0	31.1	A11	0	1	0	1	muck >0.5"		
W1-E	4	83.0	Tupelo hardwood swamp	3	Carpinus caroliniana	6.0	0.0	6.0	11.3	4.4	A11	0	1	0	1	muck >0.5"		
W1-E	4	83.0	Tupelo hardwood swamp	4	Morella cerifera	3.0	0.0	3.0	7.7	3.0	A11	0	1	0	1	muck >0.5"		
W1-E	5	60.0	Tupelo hardwood swamp	1	Fraxinus profunda	14.0	6.0	14.5	34.2	13.5	A11	0	1	1	1	muck >0.5"	10	95
W1-E	5	60.0	Tupelo hardwood swamp	2	Nyssa sylvatica var. biflora	13.0	8.0	13.7	36.0	14.2	A11	0	1	1	1	muck >0.5"		
W1-E	5	60.0	Tupelo hardwood swamp	3	Cephalanthus occidentalis	21.0	6.0	21.5	4.0	1.6	A11	0	1	1	1	muck >0.5"		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W1-E	5	60.0	Tupelo hardwood swamp	4	Nyssa sylvatica var. biflora	9.0	11.0	9.9	8.5	3.3	A11	0	1	1	1	muck >0.5"		
W1-E	6	36.0	Tupelo hardwood swamp	1	Cornus foemina	6.0	3.0	6.3	2.6	1.0	A11	0	1	1	1	muck >0.5"	5	90
W1-E	6	36.0	Tupelo hardwood swamp	2	Fraxinus profunda	7.0	1.0	7.1	12.0	4.7	A11	0	1	1	1	muck >0.5"		
W1-E	6	36.0	Tupelo hardwood swamp	3	Fraxinus profunda	12.0	0.0	12.0	13.7	5.4	A11	0	1	1	1	muck >0.5"		
W1-E	6	36.0	Tupelo hardwood swamp	4	Nyssa sylvatica var. biflora	17.0	5.0	17.4	13.2	5.2	A11	0	1	1	1	muck >0.5"		
W1-E																		
W1-W	0		Upland							0.0	none	>6	0	0			30	80
W1-W	1	78.0	Cypress Tupelo swamp	1	Nyssa sylvatica var. biflora	13.0	6.0	13.5	6.8	2.7	A7	0	1	0	1	mucky mineral	60	80
W1-W	1	78.0	Cypress Tupelo swamp	2	Fraxinus profunda	16.0	5.0	16.4	18.5	7.3	A7	0	1	0	1	mucky mineral		
W1-W	1	78.0	Cypress Tupelo swamp	3	Carpinus caroliniana	12.0	7.0	12.6	16.1	6.3	A7	0	1	0	1	mucky mineral		
W1-W	1	78.0	Cypress Tupelo swamp	4	Fraxinus profunda	8.0	8.0	8.7	18.3	7.2	A7	0	1	0	1	mucky mineral		
W1-W	2	67.0	Cypress Tupelo swamp	1	Fraxinus profunda	5.0	0.0	5.0	12.1	4.8	A11	0	1	0	1	muck >0.5"	80	90

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W1-W	2	67.0	Cypress Tupelo swamp	2	Nyssa sylvatica var. biflora	7.0	2.0	7.2	6.8	2.7	A11	0	1	0	1	muck >0.5"		
W1-W	2	67.0	Cypress Tupelo swamp	3	Fraxinus profunda	9.0	0.0	9.0	19.1	7.5	A11	0	1	0	1	muck >0.5"		
W1-W	2	67.0	Cypress Tupelo swamp	4	Taxodium distichum	6	8	6.7	10	3.9	A11	0	1	0	1	muck >0.5"		
W1-W	3	42.0	Cypress Tupelo swamp	1	Morella cerifera	6.0	0.0	6.0	7.8	3.1	A11	0	1	0	1	muck >0.5"	90	80
W1-W	3	42.0	Cypress Tupelo swamp	2	Nyssa sylvatica var. biflora	12.0	8.0	12.7	6.8	2.7	A11	0	1	0	1	muck >0.5"		
W1-W	3	42.0	Cypress Tupelo swamp	3	Taxodium distichum	11.0	1.0	11.1	10.0	3.9	A11	0	1	0	1	muck >0.5"		
W1-W	3	42.0	Cypress Tupelo swamp	4	Nyssa sylvatica var. biflora	6.0	4.0	6.3	25.6	10.1	A11	0	1	0	1	muck >0.5"		
W1-W																		
W1-W																		
W2-E	0																80	90
W2-E	1	117.0	Hardwood swamp	1	Prunus caroliniana	7.0	8.0	7.7	23.0	9.1	none	>6.0"	0	0	0	none	60	80
W2-E	1	117.0	Hardwood swamp	2	Crataegus sp.	12.0	4.0	12.3	3.0	1.2	none	>6.0"	0	0	0	none		
W2-E	1	117.0	Hardwood swamp	3	Ostrya virginiana	8.0	3.0	8.3	6.7	2.6	none	>6.0"	0	0	0	none		
W2-E	1	117.0	Hardwood swamp	4	Carpinus caroliniana	8.0	7.0	8.6	7.1	2.8	none	>6.0"	0	0	0	none		
W2-E	2	81.0	Hardwood swamp	1	Persea palustris	2.0	9.0	2.8	4.3	1.7	S6	4	1	0	0	stripped sandy redox	80	90
W2-E	2	81.0	Hardwood swamp	2	Carpinus caroliniana	2.0	4.0	2.3	4.0	1.6	S6	4	1	0	0	stripped sandy redox		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W2-E	2	81.0	Hardwood swamp	3	Fraxinus profunda	5.0	11.0	5.9	22.2	8.7	S6	4	1	0	0	stripped sandy redox		
W2-E	2	81.0	Hardwood swamp	4	Ostrya virginiana	7.0	3.0	7.3	15.3	6.0	S6	4	1	0	0	stripped sandy redox		
W2-E	3	54.0	Hardwood swamp	1	Ostrya virginiana	4.0	11.0	4.9	47.0	18.5	A7	2	1	0	0	mucky mineral	70	90
W2-E	3	54.0	Hardwood swamp	2	Fraxinus profunda	17.0	9.0	17.8	7.1	2.8	A7	2	1	0	0	mucky mineral		
W2-E	3	54.0	Hardwood swamp	3	Fraxinus profunda	7.0	4.0	7.3	28.7	11.3	A7	2	1	0	0	mucky mineral		
W2-E	3	54.0	Hardwood swamp	4	Nyssa sylvatica var. biflora	8.0	7.0	8.6	20.4	8.0	A7	2	1	0	0	mucky mineral		
W2-W	1												0				50	80
W2-W	1	173.0	Hardwood hammock	1	Persea palustris	4.0	0.0	4.0	5.4	2.1	A7		1	0	0	mucky mineral at 0"/ stripping at 2"	70	80
W2-W	1	173.0	Hardwood hammock	2	Persea palustris	10.0	2.0	10.2	3.8	1.5	A7		1	0	0	mucky mineral at 0"/ stripping at 2"		
W2-W	1	173.0	Hardwood hammock	3	Quercus nigra	5.0	0.0	5.0	43.2	17.0	A7		1	0	0	mucky mineral at 0"/ stripping at 2"		
W2-W	1	173.0	Hardwood hammock	4	Morella cerifera	16.0	6.0	16.5	4.9	1.9	A7		1	0	0	mucky mineral at 0"/ stripping at 2"		
W2-W	2	149.0	Hardwood hammock	1	Morella cerifera	1.0	11.0	1.9	5.7	2.2	A8	0	1	0	1	muck	90	70

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W2-W	2	149.0	Hardwood hammock	2	Persea palustris	15.0	3.0	15.3	5.9	2.3	A8	0	1	0	1	muck		
W2-W	2	149.0	Hardwood hammock	3	Morella cerifera	6.0	8.0	6.7	9.5	3.7	A8	0	1	0	1	muck		
W2-W	2	149.0	Hardwood hammock	4	Morella cerifera	3.0	5.0	3.4	8.3	3.3	A8	0	1	0	1	muck		
W2-W	3	74.0	Hardwood hammock	1	Fraxinus profunda	6	3	6.3	14	5.5	A8	0	1	0	0	muck	80	70
W2-W	3	74.0	Hardwood hammock	2	Morella cerifera	8	4	8.3	6.2	2.4	A8	0	1	0	0	muck		
W2-W	3	74.0	Hardwood hammock	3	Ilex cassine	7	3	7.3	8.3	3.3	A8	0	1	0	0	muck		
W2-W	3	74.0	Hardwood hammock	4	Persea palustris	9	9	9.8	20	7.9	A8	0	1	0	0	muck		
W2-W	4	57.0	Cypress Hardwood swamp	1	Taxodium distichum	4	8	4.7	5	2.0	A8	0	1	0	1	muck at surface	50	80
W2-W	4	57.0	Cypress Hardwood swamp	2	Cornus foemina	4.0	6.0	4.5	3.2	1.3	A8	0	1	0	1	muck at surface		
W2-W	4	57.0	Cypress Hardwood swamp	3	Morella cerifera	12.0	6.0	12.5	4.7	1.9	A8	0	1	0	1	muck at surface		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W2-W	4	57.0	Cypress Hardwood swamp	4	Morella cerifera	5.0	8.0	5.7	13.5	5.3	A8	0	1	0	1	muck at surface		
W2-W	5	36.0	Cypress Hardwood swamp	1	Fraxinus profunda	5.0	3.0	5.3	6.1	2.4	A8	0	1	0	1	muck at surface	30	60
W2-W	5	36.0	Cypress Hardwood swamp	2	Fraxinus profunda	6	10	6.8	9	3.5	A8	0	1	0	1	muck at surface		
W2-W	5	36.0	Cypress Hardwood swamp	3	Fraxinus profunda	11	8	11.7	6.8	2.7	A8	0	1	0	1	muck at surface		
W2-W	5	36.0	Cypress Hardwood swamp	4	Taxodium distichum	9	0	9.0	3.7	1.5	A8	0	1	0	1	muck at surface		
W2-W	6	22.0	Cypress Hardwood swamp	1	Fraxinus profunda	6	0	6.0	16.8	6.6	A8	0	1	1	1	muck at surface	20	90
W2-W	6	22.0	Cypress Hardwood swamp	2	Taxodium distichum	3	1	3.1	11.3	4.4	A8	0	1	1	1	muck at surface		
W2-W	6	22.0	Cypress Hardwood swamp	3	Fraxinus profunda	11	4	11.3	4.4	1.7	A8	0	1	1	1	muck at surface		
W2-W	6	22.0	Cypress Hardwood swamp	4	Nyssa sylvatica var biflora	5	6	5.5	20	7.9	A8	0	1	1	1	muck at surface		
W2-W																		
W3-E	0																50	90

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W3-E	1	138.0	Tupelo hardwood swamp	1	Ilex opaca	13	4	13.3	3.1	1.2	A7	3	1	0	0	Mucky mineral	70	95
W3-E	1	138.0	Tupelo hardwood swamp	2	Ilex opaca	20	5	20.4	10.1	4.0	A7	3	1	0	0	Mucky mineral		
W3-E	1	138.0	Tupelo hardwood swamp	3	Carpinus caroliniana	16	2	16.2	7.5	3.0	A7	3	1	0	0	Mucky mineral		
W3-E	1	138.0	Tupelo hardwood swamp	4	Carpinus caroliniana	3	2	3.2	9.8	3.9	A7	3	1	0	0	Mucky mineral		
W3-E	2	116.0	Tupelo hardwood swamp	1	Ilex decidua	11	1	11.1	3.7	1.5	A8	0	1	0	1	Muck at surface	70	90
W3-E	2	116.0	Tupelo hardwood swamp	2	Ilex decidua	7	7	7.6	4.1	1.6	A8	0	1	0	1	Muck at surface		
W3-E	2	116.0	Tupelo hardwood swamp	3	Persea palustris	15	2	15.2	6.1	2.4	A8	0	1	0	1	Muck at surface		
W3-E	2	116.0	Tupelo hardwood swamp	4	Nyssa sylvatica var biflora	11	1	11.1	16.6	6.5	A8	0	1	0	1	Muck at surface		
W3-E	3	93.0	Tupelo hardwood swamp	1	Nyssa sylvatica var biflora	6	4	6.3	19	7.5	A8	0	1	0	1	Muck at surface	60	90
W3-E	3	93.0	Tupelo hardwood swamp	2	Ilex decidua	2	0	2.0	4.7	1.9	A8	0	1	0	1	Muck at surface		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W3-E	3	93.0	Tupelo hardwood swamp	3	Nyssa sylvatica var biflora	11	10	11.8	7.2	2.8	A8	0	1	0	1	Muck at surface		
W3-E	3	93.0	Tupelo hardwood swamp	4	Nyssa sylvatica var biflora	7	8	7.7	14	5.5	A8	0	1	0	1	Muck at surface		
W3-E	4	83.0	Tupelo hardwood swamp	1	Liquidambar stryraciflua	2	10	2.8	16.8	6.6	A8	0	1	0	1	Muck at surface	50	95
W3-E	4	83.0	Tupelo hardwood swamp	2	Nyssa sylvatica var biflora	2	2	2.2	9.8	3.9	A8	0	1	0	1	Muck at surface		
W3-E	4	83.0	Tupelo hardwood swamp	3	Fraxinus profunda	3	3	3.3	9.5	3.7	A8	0	1	0	1	Muck at surface		
W3-E	4	83.0	Tupelo hardwood swamp	4	Prunus caroliniana	3	9	3.8	21.2	8.3	A8	0	1	0	1	Muck at surface		
W3-E	5	56.0	Tupelo hardwood swamp	1	Nyssa sylvatica var biflora	7	1	7.1	20.2	8.0	A8	0	1	0	1	Muck at surface	50	90
W3-E	5	56.0	Tupelo hardwood swamp	2	Nyssa sylvatica var biflora	8	1	8.1	4.7	1.9	A8	0	1	0	1	Muck at surface		
W3-E	5	56.0	Tupelo hardwood swamp	3	Nyssa sylvatica var biflora	1	8	1.7	6.9	2.7	A8	0	1	0	1	Muck at surface		
W3-E	5	56.0	Tupelo hardwood swamp	4	Nyssa sylvatica var biflora	11	3	11.3	40.8	16.1	A8	0	1	0	1	Muck at surface		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W3-E	6	43.0	Tupelo hardwood swamp	1	Fraxinus profunda	5	8	5.7	10.5	4.1	A8	0	1	1	0	Muck at surface	20	80
W3-E	6	43.0	Tupelo hardwood swamp	2	Fraxinus profunda	7	7	7.6	7.2	2.8	A8	0	1	1	0	Muck at surface		
W3-E	6	43.0	Tupelo hardwood swamp	3	Taxodium distichum	5	10	5.8	4	1.6	A8	0	1	1	0	Muck at surface		
W3-E	6	43.0	Tupelo hardwood swamp	4	Fraxinus profunda	15	4	15.3	6.2	2.4	A8	0	1	1	0	Muck at surface		
W3-E	7	20.0	Tupelo hardwood swamp	1	Fraxinus profunda	6	8	6.7	11.5	4.5	A8	0	1	1	0	Muck at surface	40	80
W3-E	7	20.0	Tupelo hardwood swamp	2	Fraxinus profunda	6	2	6.2	26.5	10.4	A8	0	1	1	0	Muck at surface		
W3-E	7	20.0	Tupelo hardwood swamp	3	Fraxinus profunda	5	4	5.3	4.2	1.7	A8	0	1	1	0	Muck at surface		
W3-E	7	20.0	Tupelo hardwood swamp	4	Acer rubrum	7	3	7.3	18.7	7.4	A8	0	1	1	0	Muck at surface		
W3-E																		
W3-W	0																	

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W3-W	1	159.0	Tupelo Hardwood swamp	1	Nyssa sylvatica var biflora	10	3	10.3	7.2	2.8	S5	16	0	0	0	Sandy redox	20	90
W3-W	1	159.0	Tupelo Hardwood swamp	2	Quercus nigra	8	6	8.5	5.9	2.3	S5	16	0	0	0	Sandy redox		
W3-W	1	159.0	Tupelo Hardwood swamp	3	Carpinus caroliniana	12	1	12.1	6.5	2.6	S5	16	0	0	0	Sandy redox		
W3-W	1	159.0	Tupelo Hardwood swamp	4	Carpinus caroliniana	7	4	7.3	4.3	1.7	S5	16	0	0	0	Sandy redox		
W3-W	2	151.0	Tupelo Hardwood swamp	1	Nyssa sylvatica var biflora	10	4	10.3	12.5	4.9	S6	6	1	0	0	Stripped matrix	20	90
W3-W	2	151.0	Tupelo Hardwood swamp	2	Carpinus caroliniana	8	1	8.1	3.4	1.3	S6	6	1	0	0	Stripped matrix		
W3-W	2	151.0	Tupelo Hardwood swamp	3	Nyssa sylvatica var biflora	12	1	12.1	7.5	3.0	S6	6	1	0	0	Stripped matrix		
W3-W	2	151.0	Tupelo Hardwood swamp	4	Nyssa sylvatica var biflora	6	10	6.8	11.8	4.6	S6	6	1	0	0	Stripped matrix		
W3-W	3	141.0	Tupelo Hardwood swamp	1	Nyssa sylvatica var biflora	2	8	2.7	9.9	3.9	S6	4	1	0	0	Stripped matrix and sandy redox	20	90
W3-W	3	141.0	Tupelo Hardwood swamp	2	Nyssa sylvatica var biflora	8	2	8.2	12.6	5.0	S6	4	1	0	0	Stripped matrix and sandy redox		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W3-W	3	141.0	Tupelo Hardwood swamp	3	Nyssa sylvatica var biflora	4	9	4.8	12.3	4.8	S6	4	1	0	0	Stripped matrix and sandy redox		
W3-W	3	141.0	Tupelo Hardwood swamp	4	Nyssa sylvatica var biflora	10	10	10.8	13.7	5.4	S6	4	1	0	0	Stripped matrix and sandy redox		
W3-W	4	125.0	Tupelo Hardwood swamp	1	Liquidambar styraciflua	5	10	5.8	42.2	16.6	A11	0	1	0	1	Muck >0.5 in	30	90
W3-W	4	125.0	Tupelo Hardwood swamp	2	Nyssa sylvatica var biflora	3	7	3.6	13	5.1	A11	0	1	0	1	Muck >0.5 in		
W3-W	4	125.0	Tupelo Hardwood swamp	3	Nyssa sylvatica var biflora	5	11	5.9	9.7	3.8	A11	0	1	0	1	Muck >0.5 in		
W3-W	4	125.0	Tupelo Hardwood swamp	4	Acer rubrum	12	5	12.4	10.8	4.3	A11	0	1	0	1	Muck >0.5 in		
W3-W	5	100.0	Tupelo Hardwood swamp	1	Fraxinus profunda	9	3	9.3	6.5	2.6	A11	0	1	0	1	Muck >0.5 in	50	90
W3-W	5	100.0	Tupelo Hardwood swamp	2	Nyssa sylvatica var biflora	4	11	4.9	22.8	9.0	A11	0	1	0	1	Muck >0.5 in		
W3-W	5	100.0	Tupelo Hardwood swamp	3	Fraxinus profunda	3	6	3.5	14.5	5.7	A11	0	1	0	1	Muck >0.5 in		
W3-W	5	100.0	Tupelo Hardwood swamp	4	Fraxinus profunda	6	5	6.4	8.6	3.4	A11	0	1	0	1	Muck >0.5 in		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W3-W	6	75.0	Hardwood swamp	1	Nyssa sylvatica var biflora	4	10	4.8	13.8	5.4	A11	0	1	1	0	Muck >0.5 in	50	60
W3-W	6	75.0	Hardwood swamp	2	Fraxinus profunda	10	10	10.8	7.6	3.0	A11	0	1	1	0	Muck >0.5 in		
W3-W	6	75.0	Hardwood swamp	3	Fraxinus profunda	7	9	7.8	8.1	3.2	A11	0	1	1	0	Muck >0.5 in		
W3-W	6	75.0	Hardwood swamp	4	Nyssa sylvatica var biflora	5	7	5.6	8.3	3.3	A11	0	1	1	0	Muck >0.5 in		
W3-W	7	54.0	Hardwood swamp	1	Fraxinus profunda	4	5	4.4	3.1	1.2	A11	0	1	1	0	Muck >0.5 in	20	80
W3-W	7	54.0	Hardwood swamp	2	Fraxinus profunda	5	3	5.3	6	2.4	A11	0	1	1	0	Muck >0.5 in		
W3-W	7	54.0	Hardwood swamp	3	Fraxinus profunda	9	0	9.0	3.2	1.3	A11	0	1	1	0	Muck >0.5 in		
W3-W	7	54.0	Hardwood swamp	4	Cephalanthes occidentalis	13	10	13.8	10.6	4.2	A11	0	1	1	0	Muck >0.5 in		
W3-W	8	24.0	Hardwood swamp	1	Fraxinus profunda	2	6	2.5	10	3.9	A11	0	1	0	1	Muck >0.5 in	30	80
W3-W	8	24.0	Hardwood swamp	2	Ilex cassine	13	2	13.2	6.6	2.6	A11	0	1	0	1	Muck >0.5 in		
W3-W	8	24.0	Hardwood swamp	3	Carya aquatica	13	3	13.3	16.5	6.5	A11	0	1	0	1	Muck >0.5 in		
W3-W	8	24.0	Hardwood swamp	4	Taxodium ascendens	3	4	3.3	44.5	17.5	A11	0	1	0	1	Muck >0.5 in		
W3-W																		
W4-E	0																40	80
W4-E	1	189.0	Cypress tupelo swamp	1	Ulmus americana	6	10	6.8	22	8.7	A11	0	1	0	1	muck >0.5"	90	90

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W4-E	1	189.0	Cypress tupelo swamp	2	Ilex decidua	9.0	3.0	9.3	4.4	1.7	A11	0	1	0	1	muck >0.5"		
W4-E	1	189.0	Cypress tupelo swamp	3	Nyssa sylvatica var biflora	6.0	4.0	6.3	52.8	20.8	A11	0	1	0	1	muck >0.5"		
W4-E	1	189.0	Cypress tupelo swamp	4	Nyssa sylvatica var biflora	12.0	4.0	12.3	22.1	8.7	A11	0	1	0	1	muck >0.5"		
W4-E	2	144.0	Cypress tupelo swamp	1	Nyssa sylvatica var biflora	12.0	7.0	12.6	19.8	7.8	A11	0	1	0	1	muck >0.5"	90	100
W4-E	2	144.0	Cypress tupelo swamp	2	Ostrya virginiana	3.0	8.0	3.7	18.5	7.3	A11	0	1	0	1	muck >0.5"		
W4-E	2	144.0	Cypress tupelo swamp	3	Nyssa sylvatica var biflora	5.0	11.0	5.9	30.7	12.1	A11	0	1	0	1	muck >0.5"		
W4-E	2	144.0	Cypress tupelo swamp	4	Ulmus americana	9.0	3.0	9.3	6.2	2.4	A11	0	1	0	1	muck >0.5"		
W4-E	3	107.0	Cypress tupelo swamp	1	Cornus foemina	16.0	2.0	16.2	2.6	1.0	A11	0	1	0	1	muck >0.5"	90	100
W4-E	3	107.0	Cypress tupelo swamp	2	Nyssa sylvatica var biflora	4.0	10.0	4.8	22.5	8.9	A11	0	1	0	1	muck >0.5"		
W4-E	3	107.0	Cypress tupelo swamp	3	Taxodium distichum	19.0	3.0	19.3	76.0	29.9	A11	0	1	0	1	muck >0.5"		
W4-E	3	107.0	Cypress tupelo swamp	4	Nyssa sylvatica var biflora	9.0	1.0	9.1	26.7	10.5	A11	0	1	0	1	muck >0.5"		
W4-E	4	79.0	Cypress tupelo swamp	1	Nyssa sylvatica var biflora	2.0	11.0	2.9	16.8	6.6	A11	0	1	0	1	muck >0.5"	Not taken	Not taken
W4-E	4	79.0	Cypress tupelo swamp	2	Liquidambar styraciflua	7.0	2.0	7.2	32.9	13.0	A11	0	1	0	1	muck >0.5"		
W4-E	4	79.0	Cypress tupelo swamp	3	Sabal palmetto	8.0	10.0	8.8	23.3	9.2	A11	0	1	0	1	muck >0.5"		
W4-E	4	79.0	Cypress tupelo swamp	4	Fraxinus caroliniana	2.0	3.0	2.3	8.5	3.3	A11	0	1	0	1	muck >0.5"		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W4-E	5	29.0	Cypress tupelo swamp	1	Cornus foemina	5	6	5.5	5.4	2.1	A11	0	1	1	0	muck >0.5"	90	90
W4-E	5	29.0	Cypress tupelo swamp	2	Fraxinus profunda	5.0	5.0	5.4	16.5	6.5	A11	0	1	1	0	muck >0.5"		
W4-E	5	29.0	Cypress tupelo swamp	3	Fraxinus profunda	11.0	7.0	11.6	11.2	4.4	A11	0	1	1	0	muck >0.5"		
W4-E	5	29.0	Cypress tupelo swamp	4	Acer saccharum	2.0	6.0	2.5	6.9	2.7	A11	0	1	1	0	muck >0.5"		
W4-E	6		Cypress tupelo swamp															
W4-W	0																100	75
W4-W	1	273.0	Hardwood mix	1	Carpinus caroliniana	8.0	3.0	8.3	9.8	3.9	A8	0	1	0	0	muck at surface	40	90
W4-W	1	273.0	Hardwood mix	2	Carpinus caroliniana	6.0	11.0	6.9	6.2	2.4	A8	0	1	0	0	muck at surface		
W4-W	1	273.0	Hardwood mix	3	Ostrya virginiana	9.0	3.0	9.3	17.8	7.0	A8	0	1	0	0	muck at surface		
W4-W	1	273.0	Hardwood mix	4	Carpinus caroliniana	11.0	9.0	11.8	4.9	1.9	A8	0	1	0	0	muck at surface		
W4-W	2	246.0	Hardwood mix	1	Carya glabra	3	10	3.8	10.9	4.3	A8	0	1	0	0	muck at surface	30	70
W4-W	2	246.0	Hardwood mix	2	Liquidambar styraciflua	13	11	13.9	15.5	6.1	A8	0	1	0	0	muck at surface		
W4-W	2	246.0	Hardwood mix	3	Carpinus caroliniana	4	6	4.5	5.6	2.2	A8	0	1	0	0	muck at surface		
W4-W	2	246.0	Hardwood mix	4	Persea palustris	11	2	11.2	11.3	4.4	A8	0	1	0	0	muck at surface		
W4-W	3	220.0	Hardwood mix	1	Carpinus caroliniana	4.0	0.0	4.0	9.5	3.7	A8	0	1	0	1	muck at surface	70	90

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W4-W	3	220.0	Hardwood mix	2	Liquidambar styraciflua	4.0	7.0	4.6	15.2	6.0	A8	0	1	0	1	muck at surface		
W4-W	3	220.0	Hardwood mix	3	Nyssa sylvatica var biflora	8.0	2.0	8.2	20.3	8.0	A8	0	1	0	1	muck at surface		
W4-W	3	220.0	Hardwood mix	4	Liquidambar styraciflua	8.0	8.0	8.7	18.8	7.4	A8	0	1	0	1	muck at surface		
W4-W	4	203.0	Tupelo hardwood swamp	1	Nyssa sylvatica var biflora	7.0	0.0	7.0	14.2	5.6	A8	0	1	0	1	muck at surface	80	80
W4-W	4	203.0	Tupelo hardwood swamp	2	Ilex decidua	3.0	9.0	3.8	4.8	1.9	A8	0	1	0	1	muck at surface		
W4-W	4	203.0	Tupelo hardwood swamp	3	Nyssa sylvatica var biflora	7.0	1.0	7.1	19.1	7.5	A8	0	1	0	1	muck at surface		
W4-W	4	203.0	Tupelo hardwood swamp	4	Nyssa sylvatica var biflora	5.0	2.0	5.2	11.5	4.5	A8	0	1	0	1	muck at surface		
W4-W	5	157.0	Tupelo hardwood swamp	1	Nyssa sylvatica var biflora	4.0	6.0	4.5	26.2	10.3	A8	0	1	0	1	muck at surface	90	70
W4-W	5	157.0	Tupelo hardwood swamp	2	Nyssa sylvatica var biflora	4.0	0.0	4.0	12.6	5.0	A8	0	1	0	1	muck at surface		
W4-W	5	157.0	Tupelo hardwood swamp	3	Nyssa sylvatica var biflora	9.0	6.0	9.5	31.0	12.2	A8	0	1	0	1	muck at surface		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W4-W	5	157.0	Tupelo hardwood swamp	4	Nyssa sylvatica var biflora	10.0	9.0	10.8	44.8	17.6	A8	0	1	0	1	muck at surface		
W4-W	6	110.0	Tupelo hardwood swamp	1	Fraxinus profunda	4	9	4.8	6.4	2.5	A8	0	1	0	1	muck at surface	100	Not taken
W4-W	6	110.0	Tupelo hardwood swamp	2	Nyssa sylvatica var biflora	0	10	0.8	10.1	4.0	A8	0	1	0	1	muck at surface		
W4-W	6	110.0	Tupelo hardwood swamp	3	Nyssa sylvatica var biflora	10	5	10.4	4.2	1.7	A8	0	1	0	1	muck at surface		
W4-W	6	110.0	Tupelo hardwood swamp	4	Nyssa sylvatica var biflora	5	2	5.2	26.4	10.4	A8	0	1	0	1	muck at surface		
W4-W	7	74.0	Tupelo hardwood swamp	1	Fraxinus profunda	3	10	3.8	3.3	1.3	A8	0	1	0	1	muck at surface	90	Not taken
W4-W	7	74.0	Tupelo hardwood swamp	2	Nyssa sylvatica var biflora	4	11	4.9	11.6	4.6	A8	0	1	0	1	muck at surface		
W4-W	7	74.0	Tupelo hardwood swamp	3	Fraxinus caroliniana	7.0	10.0	7.8	8.1	3.2	A8	0	1	0	1	muck at surface		
W4-W	7	74.0	Tupelo hardwood swamp	4	Nyssa sylvatica var biflora	6.0	7.0	6.6	8.9	3.5	A8	0	1	0	1	muck at surface		
W4-W	8	24.0	Tupelo hardwood swamp	1	Ostrya virginiana	7.0	4.0	7.3	10.5	4.1	A8	0	1	0	1	muck at surface	90	80

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W4-W	8	24.0	Tupelo hardwood swamp	2	Nyssa sylvatica var biflora	8.0	10.0	8.8	17.5	6.9	A8	0	1	0	1	muck at surface		
W4-W	8	24.0	Tupelo hardwood swamp	3	Nyssa sylvatica var biflora	7	0	7	17.5	6.9	A8	0	1	0	1	muck at surface		
W4-W	8	24.0	Tupelo hardwood swamp	4	Ilex decidua	9.0	11.0	9.9	3.2	1.3	A8	0	1	0	1	muck at surface		
W4-W	9		Upland															
W5-E	0																Not taken	Not taken
W5-E	1	212.0	Bottomland hardwood mix	1	Magnolia virginiana	5.0	7.0	5.6	32.2	12.7	A7	0	1	0	0	mucky minteral at surface	80	100
W5-E	1	212.0	Bottomland hardwood mix	2	Carpinus caroliniana	11.0	6.0	11.5	7.3	2.9	A7	0	1	0	0	mucky minteral at surface		
W5-E	1	212.0	Bottomland hardwood mix	3	Liquidambar styraciflua	7.0	4.0	7.3	35.5	14.0	A7	0	1	0	0	mucky minteral at surface		
W5-E	1	212.0	Bottomland hardwood mix	4	Celtis laevigata	12.0	7.0	12.6	11.6	4.6	A7	0	1	0	0	mucky minteral at surface		
W5-E	2	194.0	Bottomland hardwood mix	1	Carpinus caroliniana	10.0	10.0	10.8	7.0	2.8	A11	0	1	0	0	muck >0.5"	90	95
W5-E	2	194.0	Bottomland hardwood mix	2	Carpinus caroliniana	3	3	3.3	8.8	3.5	A11	0	1	0	0	muck >0.5"		
W5-E	2	194.0	Bottomland hardwood mix	3	Ulmus americana	13	4	13.3	20.9	8.2	A11	0	1	0	0	muck >0.5"		
W5-E	2	194.0	Bottomland hardwood mix	4	Liquidambar styraciflua	15	0	15.0	13.8	5.4	A11	0	1	0	0	muck >0.5"		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W5-E	3	148.0	Bottomland hardwood mix	1	Carya glabra	6.0	6.0	6.5	10.5	4.1	A11	0	1	0	0	muck >0.5"	90	90
W5-E	3	148.0	Bottomland hardwood mix	2	Ulmus americana	4.0	8.0	4.7	16.0	6.3	A11	0	1	0	0	muck >0.5"		
W5-E	3	148.0	Bottomland hardwood mix	3	Carpinus caroliniana	4.0	2.0	4.2	6.4	2.5	A11	0	1	0	0	muck >0.5"		
W5-E	3	148.0	Bottomland hardwood mix	4	Persea palustris	10.0	3.0	10.3	36.8	14.5	A11	0	1	0	0	muck >0.5"		
W5-E	4	124.0	Tupelo hardwood mix	1	Acer saccharum	7.0	8.0	7.7	5.5	2.2	A11	0	1	0	1	muck >0.5"	80	95
W5-E	4	124.0	Tupelo hardwood mix	2	Nyssa sylvatica var biflora	4.0	0.0	4.0	31.3	12.3	A11	0	1	0	1	muck >0.5"		
W5-E	4	124.0	Tupelo hardwood mix	3	Nyssa sylvatica var biflora	2.0	11.0	2.9	15.8	6.2	A11	0	1	0	1	muck >0.5"		
W5-E	4	124.0	Tupelo hardwood mix	4	Acer saccharum	11.0	4.0	11.3	8.6	3.4	A11	0	1	0	1	muck >0.5"		
W5-E	5	88.0	Tupelo hardwood mix	1	Fraxinus profunda	10.0	6.0	10.5	14.4	5.7	A11	0	1	0	1	muck >0.5"	90	90
W5-E	5	88.0	Tupelo hardwood mix	2	Nyssa sylvatica var biflora	3.0	6.0	3.5	47.2	18.6	A11	0	1	0	1	muck >0.5"		
W5-E	5	88.0	Tupelo hardwood mix	3	Fraxinus caroliniana	3.0	7.0	3.6	15.1	5.9	A11	0	1	0	1	muck >0.5"		
W5-E	5	88.0	Tupelo hardwood mix	4	Nyssa sylvatica var biflora	9.0	0.0	9.0	22.8	9.0	A11	0	1	0	1	muck >0.5"		
W5-E	6	61.0	Tupelo hardwood mix	1	Fraxinus profunda	7.0	11.0	7.9	15.1	5.9	A11	0	1	0	1	muck >0.5"	95	90
W5-E	6	61.0	Tupelo hardwood mix	2	Persea palustris	11.0	7.0	11.6	3.5	1.4	A11	0	1	0	1	muck >0.5"		
W5-E	6	61.0	Tupelo hardwood mix	3	Fraxinus profunda	4.0	10.0	4.8	10.4	4.1	A11	0	1	0	1	muck >0.5"		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W5-E	6	61.0	Tupelo hardwood mix	4	Fraxinus profunda	9.0	4.0	9.3	4.3	1.7	A11	0	1	0	1	muck >0.5"		
W5-E	7	35.0	Tupelo hardwood mix	1	Nyssa sylvatica var biflora	7.0	10.0	7.8	34.6	13.6	A11	0	1	0	1	muck >0.5"	95	95
W5-E	7	35.0	Tupelo hardwood mix	2	Fraxinus profunda	3.0	9.0	3.8	8.4	3.3	A11	0	1	0	1	muck >0.5"		
W5-E	7	35.0	Tupelo hardwood mix	3	Taxodium distichum	9.0	4.0	9.3	14.1	5.6	A11	0	1	0	1	muck >0.5"		
W5-E	7	35.0	Tupelo hardwood mix	4	Taxodium distichum	4.0	3.0	4.3	16.8	6.6	A11	0	1	0	1	muck >0.5"		
W5-E	8	0.0																
W5-W	0	231.0										none	0	0	0	muck >0.5"	70	70
W5-W	1	231.0	Cypress Tupelo hardwood mix	1	Ostrya virginiana	12.0	9.0	12.8	13.0	5.1	A11	0	1	0	1	muck >0.5"	70	95
W5-W	1	231.0	Cypress Tupelo hardwood mix	2	Persea palustris	10.0	4.0	10.3	12.1	4.8	A11	0	1	0	1	muck >0.5"		
W5-W	1	231.0	Cypress Tupelo hardwood mix	3	Carpinus caroliniana	3.0	2.0	3.2	15.0	5.9	A11	0	1	0	1	muck >0.5"		
W5-W	1	231.0	Cypress Tupelo hardwood mix	4	Ilex cassine	8.0	3.0	8.3	4.4	1.7	A11	0	1	0	1	muck >0.5"		
W5-W	2	214.0	Cypress Tupelo hardwood mix	1	Nyssa sylvatica var biflora	4.0	8.0	4.7	43.6	17.2	A11	0	1	0	1	muck >0.5"	90	90
W5-W	2	214.0	Cypress Tupelo hardwood mix	2	Liquidambar styraciflua	15.0	8.0	15.7	12.7	5.0	A11	0	1	0	1	muck >0.5"		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W5-W	2	214.0	Cypress Tupelo hardwood mix	3	Ostrya virginiana	5.0	3	5.3	23.3	9.2	A11	0	1	0	1	muck >0.5"		
W5-W	2	214.0	Cypress Tupelo hardwood mix	4	Nyssa sylvatica var biflora	18	8.0	18.7	24.4	9.6	A11	0	1	0	1	muck >0.5"		
W5-W	3	182.0	Cypress Tupelo hardwood mix	1	Persea palustris	5.0	0.0	5.0	12.4	4.9	A11	0	1	0	1	muck >0.5"	80	95
W5-W	3	182.0	Cypress Tupelo hardwood mix	2	Quercus nigra	8.0	5.0	8.4	13.2	5.2	A11	0	1	0	1	muck >0.5"		
W5-W	3	182.0	Cypress Tupelo hardwood mix	3	Nyssa sylvatica var biflora	6.0	9.0	6.8	12.3	4.8	A11	0	1	0	1	muck >0.5"		
W5-W	3	182.0	Cypress Tupelo hardwood mix	4	Taxodium distichum	9.0	0	9.0	28.7	11.3	A11	0	1	0	1	muck >0.5"		
W5-W	4	133.0	Tupelo hardwood mix	1	Acer saccharum	2	4	2.3	15.9	6.3	A8	0	1	0	0	muck presence at surface	90	100
W5-W	4	133.0	Tupelo hardwood mix	2	Nyssa sylvatica var biflora	7.0	1.0	7.1	18.0	7.1	A8	0	1	0	0	muck presence at surface		
W5-W	4	133.0	Tupelo hardwood mix	3	Fraxinus profunda	3.0	7.0	3.6	7.3	2.9	A8	0	1	0	0	muck presence at surface		
W5-W	4	133.0	Tupelo hardwood mix	4	Persea palustris	5.0	3.0	5.3	8.2	3.2	A8	0	1	0	0	muck presence at surface		
W5-W	5	84.0	Tupelo hardwood mix	1	Nyssa sylvatica var biflora	2.0	8.0	2.7	14.0	5.5	A8	0	1	0	1	muck presence at surface	80	90
W5-W	5	84.0	Tupelo hardwood mix	2	Persea palustris	11.0	9.0	11.8	13.5	5.3	A8	0	1	0	1	muck presence at surface		
W5-W	5	84.0	Tupelo hardwood mix	3	Acer saccharum	4.0	5.0	4.4	5.8	2.3	A8	0	1	0	1	muck presence at surface		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W5-W	5	84.0	Tupelo hardwood mix	4	Nyssa sylvatica var biflora	4.0	7.0	4.6	11.8	4.6	A8	0	1	0	1	muck presence at surface		
W5-W	6	64.0	Tupelo hardwood mix	1	Taxodium distichum	3.0	6.0	3.5	53.2	20.9	A8	0	1	0	1	muck presence at surface	60	90
W5-W	6	64.0	Tupelo hardwood mix	2	Acer saccharum	5	8	5.7	63	24.8	A8	0	1	0	1	muck presence at surface		
W5-W	6	64.0	Tupelo hardwood mix	3	Nyssa sylvatica var biflora	7.0	5.0	7.4	48.9	19.3	A8	0	1	0	1	muck presence at surface		
W5-W	6	64.0	Tupelo hardwood mix	4	Persea palustris	11.0	11.0	11.9	10.1	4.0	A8	0	1	0	1	muck presence at surface		
W5-W	7	43.0	Tupelo swamp	1	Nyssa sylvatica var biflora	9.0	7.0	9.6	11.5	4.5	A8	0	1	1	1	muck presence at surface	50	90
W5-W	7	43.0	Tupelo swamp	2	Nyssa sylvatica var biflora	2.0	6.0	2.5	9.6	3.8	A8	0	1	1	1	muck presence at surface		
W5-W	7	43.0	Tupelo swamp	3	Nyssa sylvatica var biflora	3	2	3.2	15.1	5.9	A8	0	1	1	1	muck presence at surface		
W5-W	7	43.0	Tupelo swamp	4	Nyssa sylvatica var biflora	15.0	8.0	15.7	23.3	9.2	A8	0	1	1	1	muck presence at surface		
W5-W	8	0.0																
W6-E	0	0.0															Not taken	Not taken
W6-E	1	24.0	Hardwood swamp	1	Persea palustris	7.0	7.0	7.6	16.5	6.5	A8	0	1	1	1	muck presence at surface	Not taken	Not taken

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W6-E	1	24.0	Hardwood swamp	2	Pinus taeda	6.0	5.0	6.4	38.5	15.2	A8	0	1	1	1	muck presence at surface		
W6-E	1	24.0	Hardwood swamp	3	Persea palustris	11.0	4.0	11.3	10.5	4.1	A8	0	1	1	1	muck presence at surface		
W6-E	1	24.0	Hardwood swamp	4	Fraxinus profunda	3.0	0.0	3.0	11.3	4.4	A8	0	1	1	1	muck presence at surface		
W6-E	2	59.0	Hardwood swamp	1	Cephalanthus occidentalis	5.0	0.0	5.0	3.1	1.2	A8	0	1	1	1	muck presence at surface	100	20
W6-E	2	59.0	Hardwood swamp	2	Cephalanthus occidentalis	16.0	4.0	16.3	7.9	3.1	A8	0	1	1	1	muck presence at surface		
W6-E	2	59.0	Hardwood swamp	3	Cephalanthus occidentalis	15.0	9.0	15.8	5.2	2.0	A8	0	1	1	1	muck presence at surface		
W6-E	2	59.0	Hardwood swamp	4	Persea palustris	13.0	10.0	13.8	1.5	0.6	A8	0	1	1	1	muck presence at surface		
W6-E	3	67.0	Hardwood swamp	1	Cephalanthus occidentalis	10.0	8.0	10.7	4.9	1.9	A8	0	1	1	1	muck presence at surface	Not taken	40
W6-E	3	67.0	Hardwood swamp	2	Cephalanthus occidentalis	12.0	9.0	12.8	7.9	3.1	A8	0	1	1	1	muck presence at surface		
W6-E	3	67.0	Hardwood swamp	3	Persea palustris	10.0	5.0	10.4	4.6	1.8	A8	0	1	1	1	muck presence at surface		
W6-E	3	67.0	Hardwood swamp	4	Cephalanthus occidentalis	16.0	3.0	16.3	9.0	3.5	A8	0	1	1	1	muck presence at surface		
W6-E	4	72.0	Hardwood swamp	1	Persea palustris	7.0	7.0	7.6	20.0	7.9	A7	0	1	1	1	mucky mineral	50	Not taken
W6-E	4	72.0	Hardwood swamp	2	Cephalanthus occidentalis	6.0	5.0	6.4	5.9	2.3	A7	0	1	1	1	mucky mineral		
W6-E	4	72.0	Hardwood swamp	3	Cephalanthus occidentalis	11.0	4.0	11.3	8.0	3.1	A7	0	1	1	1	mucky mineral		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W6-E	4	72.0	Hardwood swamp	4	Persea palustris	3.0	0.0	3.0	11.8	4.6	A7	0	1	1	1	mucky mineral		
W6-E	5	90.0	Hardwood swamp	1	Cephalanthus occidentalis	5.0	0.0	5.0	3.0	1.2	A7	0	1	1	1	peat/mucky mineral	50	60
W6-E	5	90.0	Hardwood swamp	2	Morella cerifera	16.0	4.0	16.3	3.5	1.4	A7	0	1	1	1	peat/mucky mineral		
W6-E	5	90.0	Hardwood swamp	3	Morella cerifera	15.0	9.0	15.8	4.7	1.9	A7	0	1	1	1	peat/mucky mineral		
W6-E	5	90.0	Hardwood swamp	4	Morella cerifera	13.0	10.0	13.8	3.7	1.5	A7	0	1	1	1	peat/mucky mineral		
W6-E	6	96.0	Hardwood swamp	1	Fraxinus profunda	10	8.0	10.7	3.8	1.5		0	1	1	1		90	80
W6-E	6	96.0	Hardwood swamp	2	Fraxinus profunda	12	9.0	12.8	9.3	3.7		0	1	1	1			
W6-E	6	96.0	Hardwood swamp	3	Fraxinus profunda	10	5.0	10.4	9.7	3.8		0	1	1	1			
W6-E	6	96.0	Hardwood swamp	4	Persea palustris	16	3.0	16.3	11.8	4.6		0	1	1	1			
W6-E	7	114.0	Tupelo ash hardwood swamp	1	Carya glabra	2.0	11.0	2.9	9.7	3.8	A7	0	1	1	1	mucky mineral	Not taken	80
W6-E	7	114.0	Tupelo ash hardwood swamp	2	Carya glabra	3.0	7.0	3.6	5.0	2.0	A7	0	1	1	1	mucky mineral		
W6-E	7	114.0	Tupelo ash hardwood swamp	3	Nyssa sylvatica var biflora	7.0	8.0	7.7	19.5	7.7	A7	0	1	1	1	mucky mineral		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W6-E	7	114.0	Tupelo ash hardwood swamp	4	Carya glabra	4.0	8.0	4.7	7.8	3.1	A7	0	1	1	1	mucky mineral		
W6-E	8	126.0	Tupelo ash hardwood swamp	1	Nyssa sylvatica var biflora	3.0	0.0	3.0	11.8	4.6	A8	0	1	1	1	muck	90	90
W6-E	8	126.0	Tupelo ash hardwood swamp	2	Nyssa sylvatica var biflora	6.0	3.0	6.3	15.6	6.1	A8	0	1	1	1	muck		
W6-E	8	126.0	Tupelo ash hardwood swamp	3	Nyssa sylvatica var biflora	5.0	9.0	5.8	10.2	4.0	A8	0	1	1	1	muck		
W6-E	8	126.0	Tupelo ash hardwood swamp	4	Carya glabra	3.0	9.0	3.8	15.0	5.9	A8	0	1	1	1	muck		
W6-E	9	146.0	Tupelo ash hardwood swamp	1	Nyssa sylvatica var biflora	5.0	3.0	5.3	26.2	10.3	A8	0	1			muck	100	90
W6-E	9	146.0	Tupelo ash hardwood swamp	2	Carya glabra	2.0	0	2	8.2	3.2	A8	0	1			muck		
W6-E	9	146.0	Tupelo ash hardwood swamp	3	Nyssa sylvatica var biflora	4.0	4.0	4.3	23.4	9.2	A8	0	1			muck		
W6-E	9	146.0	Tupelo ash hardwood swamp	4	Carya glabra	1.0	11.0	1.9	7.4	2.9	A8	0	1			muck		
W6-E	10	165.0	Tupelo ash hardwood swamp	1	Carya glabra	6.0	5.0	6.4	6.4	2.5	A8	0	1	1	1	muck	60	95

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W6-E	10	165.0	Tupelo ash hardwood swamp	2	Nyssa sylvatica var biflora	2	7.0	2.6	13.2	5.2	A8	0	1	1	1	muck		
W6-E	10	165.0	Tupelo ash hardwood swamp	3	Nyssa sylvatica var biflora	4.0	3.0	4.3	14.8	5.8	A8	0	1	1	1	muck		
W6-E	10	165.0	Tupelo ash hardwood swamp	4	Carya glabra	4.0	4.0	4.3	5.2	2.0	A8	0	1	1	1	muck		
W6-E	11	185.0	Tupelo hardwood hammock	1	Nyssa sylvatica var biflora	12.0	8.0	12.7	20.9	8.2	S6	4	1	0	0	redox at 4"/ 5" stripped matrix	Not taken	Not taken
W6-E	11	185.0	Tupelo hardwood hammock	2	Nyssa sylvatica var biflora	8.0	3.0	8.3	13.0	5.1	S6	4	1	0	0	redox at 4"/ 5" stripped matrix		
W6-E	11	185.0	Tupelo hardwood hammock	3	Quercus nigra	5	5	5.4	23	9.1	S6	4	1	0	0	redox at 4"/ 5" stripped matrix		
W6-E	11	185.0									Tupelo hardwood hammock	4	Acer rubrum	3.0	8.0	3.7	5.2	2.0
W6-E																		
W6-W	0																Not taken	90

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W6-W	1	60.0	Bay ash Hardwood hammock		Persea palustris	28.0	3.0	28.3	3.0	1.2	A7	3	1	0	1	mucky mineral	95	90
W6-W	1	60.0	Bay ash Hardwood hammock		Persea palustris	1.0	11.0	1.9	3.5	1.4	A7	3	1	0	1	mucky mineral		
W6-W	1	60.0	Bay ash Hardwood hammock		Persea palustris	9.0	10.0	9.8	6.5	2.6	A7	3	1	0	1	mucky mineral		
W6-W	1	60.0	Bay ash Hardwood hammock		Ilex vomitoria	13.0	5.0	13.4	4.3	1.7	A7	3	1	0	1	mucky mineral		
W6-W	2	42.0	Bay ash Hardwood hammock		Persea palustris	2.0	11.0	2.9	14.9	5.9	A7	1	1	0	1	depleted matrix at 1"/ mucky mineral at 4"	80	95
W6-W	2	42.0	Bay ash Hardwood hammock		Persea palustris	3.0	6.0	3.5	12.2	4.8	A7	1	1	0	1	depleted matrix at 1"/ mucky mineral at 4"		
W6-W	2	42.0	Bay ash Hardwood hammock		Persea palustris	5.0	3.0	5.3	20.1	7.9	A7	1	1	0	1	depleted matrix at 1"/ mucky mineral at 4"		
W6-W	2	42.0	Bay ash Hardwood hammock		Acer rubrum	1.0	8.0	1.7	9.8	3.9	A7	1	1	0	1	depleted matrix at 1"/ mucky mineral at 4"		
W6-W	3	38.0	Bay ash Hardwood hammock		Fraxinus profunda	2.0	8.0	2.7	4.4	1.7	S6	1	1	1	1	sandy redox	60	80
W6-W	3	38.0	Bay ash Hardwood hammock		Taxodium distichum	8.0	8.0	8.7	16.0	6.3	S6	1	1	1	1	sandy redox		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W6-W	3	38.0	Bay ash Hardwood hammock		Fraxinus caroliniana	3	11	3.9	3.5	1.4	S6	1	1	1	1	sandy redox		
W6-W	3	38.0	Bay ash Hardwood hammock		Persea palustris	7.0	1.0	7.1	20.6	8.1	S6	1	1	1	1	sandy redox		
W6-W	4	33.0	Bay ash Hardwood hammock		Fraxinus profunda	9.0	8.0	9.7	7.5	3.0	S6	1	1	1	1	sandy redox	75	60
W6-W	4	33.0	Bay ash Hardwood hammock		Cephalanthus occidentalis	9.0	6.0	9.5	3.8	1.5	S6	1	1	1	1	sandy redox		
W6-W	4	33.0	Bay ash Hardwood hammock		Cephalanthus occidentalis	1.0	9.0	1.8	3.2	1.3	S6	1	1	1	1	sandy redox		
W6-W	4	33.0	Bay ash Hardwood hammock		Fraxinus profunda	6.0	1.0	6.1	7.1	2.8	S6	1	1	1	1	sandy redox		
W6-W	5	15.0	Hardwood swamp		Persea palustris	6.0	7.0	6.6	11.4	4.5	A7	0	0	1	1	mucky mineral surface	80	50
W6-W	5	15.0	Hardwood swamp		Cephalanthus occidentalis	9.0	2.0	9.2	8.6	3.4	A7	0	0	1	1	mucky mineral surface		
W6-W	5		Hardwood swamp		Taxodium distichum	11.0	6.0	11.5	4.4	1.7	A7	0	0	1	1	mucky mineral surface		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
		15.0																
W6-W	5	15.0	Hardwood swamp		Fraxinus profunda	10.0	8.0	10.7	7.3	2.9	A7	0	0	1	1	mucky mineral surface		
W6-W	6	12.0	Hardwood swamp		Fraxinus profunda	6.0	5.0	6.4	19.5	7.7	A7	0	0	1	1	mucky mineral and peat	70	70
W6-W	6	12.0	Hardwood swamp		Nyssa sylvatica var biflora	14.0	1.0	14.1	20.5	8.1	A7	0	0	1	1	mucky mineral and peat		
W6-W	6	12.0	Hardwood swamp		Taxodium distichum	3.0	7.0	3.6	16.6	6.5	A7	0	0	1	1	mucky mineral and peat		
W6-W	6	12.0	Hardwood swamp		Fraxinus profunda	11	5	11.4	9.2	3.6	A7	0	0	1	1	mucky mineral and peat		
W6-W	7																	
W7-E	0																85	95
W7-E	1	338.0	Tupelo Bay swamp	1	Cornus foemina	1.0	6.0	1.5	5.0	2.0	A8	0	1	0	1	muck surface	60	80
W7-E	1	338.0	Tupelo Bay swamp	2	Nyssa sylvatica var biflora	2.0	6.0	2.5	15.8	6.2	A8	0	1	0	1	muck surface		
W7-E	1	338.0	Tupelo Bay swamp	3	Nyssa sylvatica var biflora	5	8	5.7	7.4	2.9	A8	0	1	0	1	muck surface		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W7-E	1	338.0	Tupelo Bay swamp	4	Persea palustris	1	9	1.8	14.1	5.6	A8	0	1	0	1	muck surface		
W7-E	2	321.0	Tupelo Bay swamp	1	Persea palustris	1	4	1.3	8.8	3.5	S6	0	1	0	0	stripping at 0"/ sandy redox at 2"	20	100
W7-E	2	321.0	Tupelo Bay swamp	2	Persea palustris	5	1	5.1	3	1.2	S6	0	1	0	0	stripping at 0"/ sandy redox at 2"		
W7-E	2	321.0	Tupelo Bay swamp	3	Morella cerifera	2	8	2.7	2.7	1.1	S6	0	1	0	0	stripping at 0"/ sandy redox at 2"		
W7-E	2	321.0	Tupelo Bay swamp	4	Persea palustris	8.0	2.0	8.2	6.2	2.4	S6	0	1	0	0	stripping at 0"/ sandy redox at 2"		
W7-E	3	289.0	Tupelo Bay swamp	1	Morella cerifera	3.0	2.0	3.2	5.6	2.2	S6	0	1	0	0	stripping at surface	50	100
W7-E	3	289.0	Tupelo Bay swamp	2	Nyssa sylvatica var biflora	2.0	6.0	2.5	3.5	1.4	S6	0	1	0	0	stripping at surface		
W7-E	3	289.0	Tupelo Bay swamp	3	Morella cerifera	2.0	7.0	2.6	5.9	2.3	S6	0	1	0	0	stripping at surface		
W7-E	3	289.0	Tupelo Bay swamp	4	Morella cerifera	9.0	7.0	9.6	3.6	1.4	S6	0	1	0	0	stripping at surface		
W7-E	4	240.0	Hardwood mix	1	Quercus nigra	7.0	9.0	7.8	6.1	2.4	A7	0	1	0	0	mucky mineral	45	100
W7-E	4	240.0	Hardwood mix	2	Persea palustris	3.0	7.0	3.6	31.7	12.5	A7	0	1	0	0	mucky mineral		
W7-E	4	240.0	Hardwood mix	3	Morella cerifera	3.0	4.0	3.3	5.9	2.3	A7	0	1	0	0	mucky mineral		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W7-E	4	240.0	Hardwood mix	4	Cornus foemina	6	3	6.3	3.6	1.4	A7	0	1	0	0	mucky mineral		
W7-E	5	199.0	Hardwood mix	1	Persea palustris	1.0	9.0	1.8	10.9	4.3	A8	0	1	0	0	muck at surface	40	80
W7-E	5	199.0	Hardwood mix	2	Persea palustris	7.0	5.0	7.4	12.1	4.8	A8	0	1	0	0	muck at surface		
W7-E	5	199.0	Hardwood mix	3	Sabal palmetto	6.0	2.0	6.2	16.1	6.3	A8	0	1	0	0	muck at surface		
W7-E	5	199.0	Hardwood mix	4	Persea palustris	4.0	1.0	4.1	6.4	2.5	A8	0	1	0	0	muck at surface		
W7-E	6	178.0	Hardwood mix	1	Magnolia virginiana	1	0	1.0	8.1	3.2	A8	0	1	0	0	muck at surface	30	90
W7-E	6	178.0	Hardwood mix	2	Morella cerifera	11	11	11.9	4.7	1.9	A8	0	1	0	0	muck at surface		
W7-E	6	178.0	Hardwood mix	3	Morella cerifera	11	0	11.0	4.7	1.9	A8	0	1	0	0	muck at surface		
W7-E	6	178.0	Hardwood mix	4	Persea palustris	2	10	2.8	7.8	3.1	A8	0	1	0	0	muck at surface		
W7-E	7	166.0	Ash Hardwood mix	1	Nyssa sylvatica var biflora	2.0	8.0	2.7	9.3	3.7	A8	1	1	1	1	muck at surface	40	60
W7-E	7	166.0	Ash Hardwood mix	2	Nyssa sylvatica var biflora	4.0	2.0	4.2	14.8	5.8	A8	1	1	1	1	muck at surface		
W7-E	7	166.0	Ash Hardwood mix	3	Fraxinus profunda	5.0	1.0	5.1	11.0	4.3	A8	1	1	1	1	muck at surface		
W7-E	7	166.0	Ash Hardwood mix	4	Fraxinus profunda	6.0	8.0	6.7	4.0	1.6	A8	1	1	1	1	muck at surface		
W7-E	8	123.0	Ash Hardwood mix	1	Fraxinus profunda	8.0	2.0	8.2	9.6	3.8	A8	1	1	1	1	muck at surface	90	50
W7-E	8	123.0	Ash Hardwood mix	2	Morella cerifera	4.0	9.0	4.8	3.4	1.3	A8	1	1	1	1	muck at surface		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W7-E	8	123.0	Ash Hardwood mix	3	Fraxinus profunda	8.0	9.0	8.8	7.0	2.8	A8	1	1	1	1	muck at surface		
W7-E	8	123.0	Ash Hardwood mix	4	Nyssa sylvatica var biflora	7.0	8.0	7.7	31.5	12.4	A8	1	1	1	1	muck at surface		
W7-E	9	108.0	Ash Hardwood mix	1	Fraxinus profunda	5.0	2.0	5.2	11.5	4.5	A8	1	1	1	1	muck at surface	50	50
W7-E	9	108.0	Ash Hardwood mix	2	Fraxinus profunda	3.0	6.0	3.5	4.0	1.6	A8	1	1	1	1	muck at surface		
W7-E	9	108.0	Ash Hardwood mix	3	Fraxinus profunda	11.0	4.0	11.3	7.6	3.0	A8	1	1	1	1	muck at surface		
W7-E	9	108.0	Ash Hardwood mix	4	Fraxinus profunda	11.0	2.0	11.2	9.2	3.6	A8	1	1	1	1	muck at surface		
W7-E	10	98.0	Ash Hardwood mix	1	Persea palustris	14.0	4.0	14.3	6.2	2.4	A8	1	1	1	1	muck at surface	10	80
W7-E	10	98.0	Ash Hardwood mix	2	Cephalanthus occidentalis	6.0	2.0	6.2	7.9	3.1	A8	1	1	1	1	muck at surface		
W7-E	10	98.0	Ash Hardwood mix	3	Persea palustris	7.0	3.0	7.3	12.6	5.0	A8	1	1	1	1	muck at surface		
W7-E	10	98.0	Ash Hardwood mix	4	Fraxinus profunda	2.0	6.0	2.5	16.0	6.3	A8	1	1	1	1	muck at surface		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W7-E	11	74.0	Ash Hardwood mix	1	Persea palustris	2.0	9.0	2.8	9.2	3.6	A8	1	1	1	1	muck at surface	20	65
W7-E	11	74.0	Ash Hardwood mix	2	Nyssa sylvatica var biflora	3.0	8.0	3.7	78.0	30.7	A8	1	1	1	1	muck at surface		
W7-E	11	74.0	Ash Hardwood mix	3	Fraxinus profunda	9.0	2.0	9.2	7.4	2.9	A8	1	1	1	1	muck at surface		
W7-E	11	74.0	Ash Hardwood mix	4	Fraxinus profunda	4.0	6.0	4.5	22.7	8.9	A8	1	1	1	1	muck at surface		
W7-E	12	50.0	Ash Hardwood mix	1	Fraxinus profunda	3.0	5.0	3.4	12.8	5.0	A8	1	1	1	1	muck at surface	40	80
W7-E	12	50.0	Ash Hardwood mix	2	Magnolia virginiana	3.0	10.0	3.8	11.6	4.6	A8	1	1	1	1	muck at surface		
W7-E	12	50.0	Ash Hardwood mix	3	Magnolia virginiana	11.0	6.0	11.5	8.7	3.4	A8	1	1	1	1	muck at surface		
W7-E	12	50.0	Ash Hardwood mix	4	Cephalanthus occidentalis	2.0	2.0	2.2	7.4	2.9	A8	1	1	1	1	muck at surface		
W7-E	13							0.0		0.0								
W7-W	0							0.0		0.0							95	90

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W7-W	1	242.5	Tupelo hardwood swamp	1	Morella cerifera	2.0	6.0	2.5	4.0	1.6	S6	1	1	0	0	stripping at 1"/ Sandy redox at 4"	80	90
W7-W	1	242.5	Tupelo hardwood swamp	2	Nyssa sylvatica var biflora	3.0	8.0	3.7	7.8	3.1	S6	1	1	0	0	stripping at 1"/ Sandy redox at 4"		
W7-W	1	242.5	Tupelo hardwood swamp	3	Nyssa sylvatica var biflora	15.0	8.0	15.7	20.6	8.1	S6	1	1	0	0	stripping at 1"/ Sandy redox at 4"		
W7-W	1	242.5	Tupelo hardwood swamp	4	Morella cerifera	7	5	7.4	4.7	1.9	S6	1	1	0	0	stripping at 1"/ Sandy redox at 4"		
W7-W	2	237.5	Tupelo hardwood swamp	1	Morella cerifera	9	6	9.5	4.7	1.9	A7	0	1	0	0	mucky mineral	70	80
W7-W	2	237.5	Tupelo hardwood swamp	2	Nyssa sylvatica var biflora	8.0	7.0	8.6	7.8	3.1	A7	0	1	0	0	mucky mineral		
W7-W	2	237.5	Tupelo hardwood swamp	3	Morella cerifera	8.0	9.0	8.8	3.8	1.5	A7	0	1	0	0	mucky mineral		
W7-W	2		Tupelo hardwood swamp	4	Morella cerifera	6.0	11.0	6.9	4.0	1.6	A7	0	1	0	0	mucky mineral		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
		237.5																
W7-W	3	227.5	Tupelo hardwood swamp	1	Sabal palmetto	14.0	3.0	14.3	28.5	11.2	S6	2	1	0	1	stripping	80	80
W7-W	3	227.5	Tupelo hardwood swamp	2	Nyssa sylvatica var biflora	7.0	5.0	7.4	26.2	10.3	S6	2	1	0	1	stripping		
W7-W	3	227.5	Tupelo hardwood swamp	3	Cephalanthus occidentallis	7.0	7.0	7.6	6.1	2.4	S6	2	1	0	1	stripping		
W7-W	3	227.5	Tupelo hardwood swamp	4	None	None	None	None	None	None	S6	2	1	0	1	stripping		
W7-W	4	208.5	Hardwood swamp	1	Persea palustris	5.0	10.0	5.8	8.8	3.5	A7	0	1	0	1	mucky mineral	50	80
W7-W	4	208.5	Hardwood swamp	2	Sabal palmetto	12.0	0.0	12.0	27.5	10.8	A7	0	1	0	1	mucky mineral		
W7-W	4	208.5	Hardwood swamp	3	Cephalanthus occidentallis	8.0	1.0	8.1	8.0	3.1	A7	0	1	0	1	mucky mineral		
W7-W	4	208.5	Hardwood swamp	4	Ulmus americana	12.0	2.0	12.2	5.9	2.3	A7	0	1	0	1	mucky mineral		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W7-W	5	183.5	Hardwood swamp	1	Fraxinus profunda	2.0	8.0	2.7	18.1	7.1	A7	0	1	0	0	mucky mineral	50	60
W7-W	5	183.5	Hardwood swamp	2	Morella cerifera	8.0	1.0	8.1	2.6	1.0	A7	0	1	0	0	mucky mineral		
W7-W	5	183.5	Hardwood swamp	3	Ulmus americana	10.0	2.0	10.2	5.9	2.3	A7	0	1	0	0	mucky mineral		
W7-W	5	183.5	Hardwood swamp	4	Persea palustris	10.0	4.0	10.3	133.0	52.4	A7	0	1	0	0	mucky mineral		
W7-W	6	157.0	Hardwood swamp	1	Cephalanthus occidentallis	4.0	6.0	4.5	7.0	2.8	A8	0	1	0	0	muck at surface	70	50
W7-W	6	157.0	Hardwood swamp	2	Fraxinus profunda	13	0	13.0	12.1	4.8	A8	0	1	0	0	muck at surface		
W7-W	6	157.0	Hardwood swamp	3	Nyssa sylvatica var biflora	9.0	2.0	9.2	20.5	8.1	A8	0	1	0	0	muck at surface		
W7-W	6	157.0	Hardwood swamp	4	Fraxinus profunda	5.0	3.0	5.3	15.2	6.0	A8	0	1	0	0	muck at surface		
W7-W	7	136.0	Tupelo hardwood swamp	1	Fraxinus profunda	10.0	3.0	10.3	17.2	6.8	A8	0	1	1	1	muck at surface	50	40

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W7-W	7	136.0	Tupelo hardwood swamp	2	Persea palustris	4.0	6.0	4.5	11.6	4.6	A8	0	1	1	1	muck at surface		
W7-W	7	136.0	Tupelo hardwood swamp	3	Fraxinus profunda	11.0	6.0	11.5	8.0	3.1	A8	0	1	1	1	muck at surface		
W7-W	7	136.0	Tupelo hardwood swamp	4	Persea palustris	10.0	10.0	10.8	11.3	4.4	A8	0	1	1	1	muck at surface		
W7-W	8	114.0	Tupelo hardwood swamp	1	Nyssa sylvatica var biflora	2.0	6.0	2.5	12.2	4.8	A8	0	1	1	1	muck at surface	70	50
W7-W	8	114.0	Tupelo hardwood swamp	2	Nyssa sylvatica var biflora	5.0	0.0	5.0	15.6	6.1	A8	0	1	1	1	muck at surface		
W7-W	8	114.0	Tupelo hardwood swamp	3	Nyssa sylvatica var biflora	5.0	5.0	5.4	11.1	4.4	A8	0	1	1	1	muck at surface		
W7-W	8	114.0	Tupelo hardwood swamp	4	Nyssa sylvatica var biflora	5.0	9.0	5.8	0.2	0.1	A8	0	1	1	1	muck at surface		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W7-W	9	84.0	Tupelo hardwood swamp	1	Persea palustris	4.0	10.0	4.8	26.2	10.3	A8	0	1	1	1	muck at surface	60	60
W7-W	9	84.0	Tupelo hardwood swamp	2	Fraxinus profunda	4.0	11.0	4.9	5.2	2.0	A8	0	1	1	1	muck at surface		
W7-W	9	84.0	Tupelo hardwood swamp	3	Nyssa sylvatica var biflora	10	8	10.7	20.2	8.0	A8	0	1	1	1	muck at surface		
W7-W	9	84.0	Tupelo hardwood swamp	4	Fraxinus profunda	4	3	4.25	3.9	1.5	A8	0	1	1	1	muck at surface		
W7-W	10	60.0	Tupelo cypress swamp	1	Nyssa sylvatica var biflora	3	0	3	18.3	7.2	A8	0	1	1	1	muck at surface	60	95
W7-W	10	60.0	Tupelo cypress swamp	2	Nyssa sylvatica var biflora	5.0	0.0	5.0	22.5	8.9	A8	0	1	1	1	muck at surface		
W7-W	10	60.0	Tupelo cypress swamp	3	Taxodium distichum	2.0	6.0	2.5	9.1	3.6	A8	0	1	1	1	muck at surface		
W7-W	10	60.0	Tupelo cypress swamp	4	Magnolia virginiana	3.0	3.0	3.3	2.8	1.1	A8	0	1	1	1	muck at surface		
W7-W	11																	

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W8-E	0																40	95
W8-E	1	90.0	Hardwood hammock	1	Carpinus caroliniana	5.0	10.0	5.8	6.5	2.6	S6	1	1	0	0	stripping and sandy redox	70	100
W8-E	1	90.0	Hardwood hammock	2	Sabal palmetto	10.0	11.0	10.9	57.0	22.4	S6	1	1	0	0	stripping and sandy redox		
W8-E	1	90.0	Hardwood hammock	3	Morella cerifera	3.0	2.0	3.2	5.1	2.0	S6	1	1	0	0	stripping and sandy redox		
W8-E	1	90.0	Hardwood hammock	4	Nyssa sylvatica var biflora	9.0	5.0	9.4	11.7	4.6	S6	1	1	0	0	stripping and sandy redox		
W8-E	2	90.0	Tupelo hardwood mix	1	Fraxinus profunda	5.0	8.0	5.7	4.2	1.7	A7	0	1	0	1	mucky mineral	60	90
W8-E	2	90.0	Tupelo hardwood mix	2	Ulmus americana	10.0	1.0	10.1	6.3	2.5	A7	0	1	0	1	mucky mineral		
W8-E	2	90.0	Tupelo hardwood mix	3	Nyssa sylvatica var biflora	3.0	1.0	3.1	26.1	10.3	A7	0	1	0	1	mucky mineral		
W8-E	2	90.0	Tupelo hardwood mix	4	Magnolia virginiana	4.0	2.0	4.2	13.1	5.2	A7	0	1	0	1	mucky mineral		
W8-E	3	73.0	Tupelo hardwood mix	1	Nyssa sylvatica var biflora	8.0	9.0	8.8	59.6	23.5	A7	0	1	0	1	mucky mineral	80	90
W8-E	3	73.0	Tupelo hardwood mix	2	Morella cerifera	2	2	2.2	6.8	2.7	A7	0	1	0	1	mucky mineral		
W8-E	3	73.0	Tupelo hardwood mix	3	Nyssa sylvatica var biflora	11.0	11.0	11.9	24.7	9.7	A7	0	1	0	1	mucky mineral		
W8-E	3	73.0	Tupelo hardwood mix	4	Fraxinus profunda	5.0	2.0	5.2	4.1	1.6	A7	0	1	0	1	mucky mineral		
W8-E	4	61.0	Hardwood swamp	1	Fraxinus profunda	10.0	4.0	10.3	4.8	1.9	A8	0	1	1	1	muck at surface	30	70
W8-E	4	61.0	Hardwood swamp	2	Persea palustris	6.0	5.0	6.4	16.0	6.3	A8	0	1	1	1	muck at surface		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W8-E	4	61.0	Hardwood swamp	3	Fraxinus profunda	9.0	5.0	9.4	6.4	2.5	A8	0	1	1	1	muck at surface		
W8-E	4	61.0	Hardwood swamp	4	Fraxinus profunda	14.0	1.0	14.1	8.9	3.5	A8	0	1	1	1	muck at surface		
W8-E	5	45.0	Hardwood swamp	1	Nyssa sylvatica var biflora	2.0	7.0	2.6	15.2	6.0	A8	0	1	1	1	muck at surface	30	90
W8-E	5	45.0	Hardwood swamp	2	Fraxinus profunda	3.0	11.0	3.9	11.4	4.5	A8	0	1	1	1	muck at surface		
W8-E	5	45.0	Hardwood swamp	3	Persea palustris	3.0	10.0	3.8	9.9	3.9	A8	0	1	1	1	muck at surface		
W8-E	5	45.0	Hardwood swamp	4	Fraxinus profunda	10.0	0.0	10.0	4.4	1.7	A8	0	1	1	1	muck at surface		
W8-E	6	20.0	Hardwood swamp	1	Fraxinus profunda	13.0	6.0	13.5	10.5	4.1	A8	0	1	1	1	muck at surface	30	90
W8-E	6	20.0	Hardwood swamp	2	Fraxinus profunda	15.0	7.0	15.6	5.8	2.3	A8	0	1	1	1	muck at surface		
W8-E	6	20.0	Hardwood swamp	3	Fraxinus profunda	10	3	10.3	10.4	4.1	A8	0	1	1	1	muck at surface		
W8-E	6	20.0	Hardwood swamp	4	Nyssa sylvatica var biflora	9.0	2.0	9.2	28.4	11.2	A8	0	1	1	1	muck at surface		
W8-E	7																	
W8-W	0	171.0															40	90
W8-W	1	171.0	Tupelo hardwood swamp	1	Ilex cassine	7.0	6.0	7.5	6.0	2.4	A7	0	1	1	1	mucky mineral	90	70

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W8-W	1	171.0	Tupelo hardwood swamp	2	Persea palustris	7.0	2.0	7.2	2.7	1.1	A7	0	1	1	1	mucky mineral		
W8-W	1	171.0	Tupelo hardwood swamp	3	Nyssa sylvatica var biflora	4.0	3.0	4.3	17.7	7.0	A7	0	1	1	1	mucky mineral		
W8-W	1	171.0	Tupelo hardwood swamp	4	Nyssa sylvatica var biflora	7.0	0.0	7.0	4.0	1.6	A7	0	1	1	1	mucky mineral		
W8-W	2	166.0	Tupelo hardwood swamp	1	Persea palustris	11.0	5.0	11.4	6.8	2.7	A7	0	1	1	1	mucky mineral	Not taken	Not taken
W8-W	2	166.0	Tupelo hardwood swamp	2	Nyssa sylvatica var biflora	11.0	5.0	11.4	16.5	6.5	A7	0	1	1	1	mucky mineral		
W8-W	2	166.0	Tupelo hardwood swamp	3	Taxodium distichum	8.0	1.0	8.1	21.6	8.5	A7	0	1	1	1	mucky mineral		
W8-W	2	166.0	Tupelo hardwood swamp	4	Nyssa sylvatica var biflora	1.0	8.0	1.7	17.3	6.8	A7	0	1	1	1	mucky mineral		
W8-W	3	151.0	Tupelo hardwood swamp	1	Nyssa sylvatica var biflora	1.0	7.0	1.6	14.8	5.8	A9	0	1	1	1	muck >5"	100	80
W8-W	3	151.0	Tupelo hardwood swamp	2	Nyssa sylvatica var biflora	8.0	4.0	8.3	10.5	4.1	A9	0	1	1	1	muck >5"		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W8-W	3	151.0	Tupelo hardwood swamp	3	Nyssa sylvatica var biflora	6.0	3.0	6.3	18.1	7.1	A9	0	1	1	1	muck >5"		
W8-W	3	151.0	Tupelo hardwood swamp	4	Nyssa sylvatica var biflora	3.0	2.0	3.2	18.6	7.3	A9	0	1	1	1	muck >5"		
W8-W	4	101	Tupelo hardwood swamp	1	Fraxinus profunda	2	9	2.8	2.8	1.102	A9	0	1	1	1	muck >5"	100	80
W8-W	4	101	Tupelo hardwood swamp	2	Nyssa sylvatica var biflora	6	1	6.1	19.8	7.795	A9	0	1	1	1	muck >5"		
W8-W	4	101	Tupelo hardwood swamp	3	Fraxinus profunda	18	2	18.2	20.9	8.228	A9	0	1	1	1	muck >5"		
W8-W	4	101	Tupelo hardwood swamp	4	Fraxinus profunda	8	3	8.3	2.7	1.063	A9	0	1	1	1	muck >5"		
W8-W	5	87	Tupelo hardwood swamp	1	Nyssa sylvatica var biflora	4	4	4.3	22.7	8.937	A9	0	1	1	1	muck >5"	60	90
W8-W	5	87	Tupelo hardwood swamp	2	Nyssa sylvatica var biflora	5	5	5.4	8.4	3.307	A9	0	1	1	1	muck >5"		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W8-W	5	87	Tupelo hardwood swamp	3	Nyssa sylvatica var biflora	3	2	3.2	9	3.543	A9	0	1	1	1	muck >5"		
W8-W	5	87	Tupelo hardwood swamp	4	Taxodium distichum	5	10	5.8	68	26.77	A9	0	1	1	1	muck >5"		
W8-W	6	66	Tupelo hardwood mix	1	Nyssa sylvatica var biflora	2	11		7.8		A8	0	1	0	1	muck presence	60	80
W8-W	6	66	Tupelo hardwood mix	2	Nyssa sylvatica var biflora	10	3		22.8		A8	0	1	0	1	muck presence		
W8-W	6	66	Tupelo hardwood mix	3	Nyssa sylvatica var biflora	13	6		14.5		A8	0	1	0	1	muck presence		
W8-W	6	66	Tupelo hardwood mix	4	Nyssa sylvatica var biflora	9	1		17.9		A8	0	1	0	1	muck presence		
W8-W	7	47	Tupelo hardwood mix	1	Nyssa sylvatica var biflora	3	3		14.5		A8	0	1	0	1	muck presence	50	90
W8-W	7	47	Tupelo hardwood mix	2	Persea palustris	14	11		2.6		A8	0	1	0	1	muck presence		
W8-W	7	47	Tupelo hardwood mix	3	Nyssa sylvatica var biflora	3	2		22.8		A8	0	1	0	1	muck presence		
W8-W	7	47	Tupelo hardwood mix	4	Nyssa sylvatica var biflora	6	10		28.9		A8	0	1	0	1	muck presence		
W8-W	8	36	Tupelo hardwood mix	1	Nyssa sylvatica var biflora	3	10		27.9		A8	0	1	0	1	muck presence	60	95
W8-W	8	36	Tupelo hardwood mix	2	Morella cerifera	3	11		7		A8	0	1	0	1	muck presence		

Transect	Point	Cumulative distance (feet) from river	Field Community	PCQ_Point	Plant name (GSpp)	PCQ_Dist (ft)	PCQ_Dist (in)	PCQ_Dist (ft/tenths of ft)	DBH (cm)	DBH (in)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	Indicator description	% ground cover	% canopy cover
W8-W	8	36	Tupelo hardwood mix	3	Nyssa sylvatica var biflora	9	4		28.3		A8	0	1	0	1	muck presence		
W8-W	8	36	Tupelo hardwood mix	4	Persea palustris	4	11		10.4		A8	0	1	0	1	muck presence		
W8-W	9	22	Tupelo hardwood mix	1	Cephalanthus occidentalis	4	4		7.1		A8	0	1	0	1	muck presence	60	90
W8-W	9	22	Tupelo hardwood mix	2	Fraxinus profunda	3	4		12.4		A8	0	1	0	1	muck presence		
W8-W	9	22	Tupelo hardwood mix	3	Fraxinus profunda	4	11		14.5		A8	0	1	0	1	muck presence		
W8-W	9	22	Tupelo hardwood mix	4	Persea palustris	4	1		12.5		A8	0	1	0	1	muck presence		

A2. St. Marks River

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM1-E	0	190	Upland	0				none	>6"	0	0	0		60	75
SM1-E	1	147	Mixed Hardwoods	1	Carpinus caroliniana	6.17	4.6	S5/S6	5	1	0	0	Stripping and Sandy Redox	10	95
SM1-E	1	147	Mixed Hardwoods	2	Quercus nigra	4.67	8.6	S5/S6	5	1	0	0	Stripping and Sandy Redox		
SM1-E	1	147	Mixed Hardwoods	3	Carpinus caroliniana	19.67	23.2	S5/S6	5	1	0	0	Stripping and Sandy Redox		
SM1-E	1	147	Mixed Hardwoods	4	Carpinus caroliniana	18.50	23.5	S5/S6	5	1	0	0	Stripping and Sandy Redox		
SM1-E	2	130	Mixed Hardwoods	1	Pinus elliotti	4.83	45.5	S5/S6	0/>6	1	0	0	Stripping and Sandy Redox	20	80
SM1-E	2	130	Mixed Hardwoods	2	Celtis laevigata	4.33	16	S5/S6	0/>6	1	0	0	Stripping and Sandy Redox		
SM1-E	2	130	Mixed Hardwoods	3	Carpinus caroliniana	22.92	27	S5/S6	0/>6	1	0	0	Stripping and Sandy Redox		
SM1-E	2	130	Mixed Hardwoods	4	Carpinus caroliniana	5.33	23.5	S5/S6	0/>6	1	0	0	Stripping and Sandy Redox		
SM1-E	3	120	Mixed Hardwoods	1	Carpinus caroliniana	10.33	14	S5/F3	0	1	0	0	Stripping and Depleted Matrix	50	70
SM1-E	3	120	Mixed Hardwoods	2	Morella cerifera	2.00	12.2	S5/F3	0	1	0	0	Stripping and Depleted Matrix		
SM1-E	3	120	Mixed Hardwoods	3	Liquidambar styraciflua	2.33	9.8	S5/F3	0	1	0	0	Stripping and Depleted Matrix		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM1-E	3	120	Mixed Hardwoods	4	Nyssa sylvatica var biflora	6.42	13.8	S5/F3	0	1	0	0	Stripping and Depleted Matrix		
SM1-E	4	88	Cypress Hardwood mix	1	Carpinus caroliniana	12.67	4.8	S5/F3	1	1	0	0	Stripping and Depleted Matrix	80	80
SM1-E	4	88	Cypress Hardwood mix	2	Taxodium distichum	6.50	27	S5/F3	1	1	0	0	Stripping and Depleted Matrix		
SM1-E	4	88	Cypress Hardwood mix	3	Fraxinus caroliniana	9.33	10.6	S5/F3	1	1	0	0	Stripping and Depleted Matrix		
SM1-E	4	88	Cypress Hardwood mix	4	Taxodium distichum	6.92	6.3	S5/F3	1	1	0	0	Stripping and Depleted Matrix		
SM1-E	5	63	Cypress Hardwood mix	1	Taxodium distichum	6.92	7	A7	0	1	0	0	Mucky Mineral	70	60
SM1-E	5	63	Cypress Hardwood mix	2	Nyssa sylvatica var biflora	5.83	41	A7	0	1	0	0	Mucky Mineral		
SM1-E	5	63	Cypress Hardwood mix	3	Taxodium distichum	5.83	3	A7	0	1	0	0	Mucky Mineral		
SM1-E	5	63	Cypress Hardwood mix	4	Taxodium distichum	6.08	5.8	A7	0	1	0	0	Mucky Mineral		
SM1-E	6	43	Cypress Hardwood mix	1	Taxodium distichum	8.25	12.5	A8	0	1	0	0	Muck at Surface	80	70
SM1-E	6	43	Cypress Hardwood mix	2	Taxodium distichum	4.00	9.7	A8	0	1	0	0	Muck at Surface		
SM1-E	6	43	Cypress Hardwood mix	3	Nyssa sylvatica var biflora	8.17	5.1	A8	0	1	0	0	Muck at Surface		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM1-E	6	43	Cypress Hardwood mix	4	Taxodium distichum	6.75	3.3	A8	0	1	0	0	Muck at Surface		
SM1-E	7	22	Cypress Hardwood mix	1	Persea palustris	4.25	12.3	A8	0	1	0	1	Muck at Surface	80	90
SM1-E	7	22	Cypress Hardwood mix	2	Morella cerifera	10.33	5.5	A8	0	1	0	1	Muck at Surface		
SM1-E	7	22	Cypress Hardwood mix	3	Ilex cassine	2.33	3	A8	0	1	0	1	Muck at Surface		
SM1-E	7	22	Cypress Hardwood mix	4	Taxodium ascendens	3.25	4.8	A8	0	1	0	1	Muck at Surface		
SM1-E	7					0.00									
SM1-E	0			0		0.00		none	>6"	0	0	0	Upland	20	60
SM2-W	1	427	Hardwood hammock	1	Carpinus caroliniana	4.67	16.8	F3/S5	4	1	0	0	Clayey, Depleted Matrix, Redox	20	95
SM2-W	1	427	Hardwood hammock	2	Persea palustris	10.75	4.1	F3/S5	4	1	0	0	Clayey, Depleted Matrix, Redox		
SM2-W	1	427	Hardwood hammock	3	Carpinus caroliniana	12.08	4.9	F3/S5	4	1	0	0	Clayey, Depleted Matrix, Redox		
SM2-W	1	427	Hardwood hammock	4	Fraxinus profunda	6.75	2.8	F3/S5	4	1	0	0	Clayey, Depleted Matrix, Redox		
SM2-W	2	378	Hardwood hammock	1	Liquidambar styraciflua	4.00	23.9	A7/F3	0/4	1	0	0	Mucky Mineral, Depleted Matrix, Clay	40	95
SM2-W	2	378	Hardwood hammock	2	Carpinus caroliniana	15.83	11.1	A7/F3	0/4	1	0	0	Mucky Mineral, Depleted Matrix, Clay		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM2-W	2	378	Hardwood hammock	3	Pinus elliotti	15.25	66	A7/F3	0/4	1	0	0	Mucky Mineral, Depleted Matrix, Clay		
SM2-W	2	378	Hardwood hammock	4	Carpinus caroliniana	10.67	8.9	A7/F3	0/4	1	0	0	Mucky Mineral, Depleted Matrix, Clay		
SM2-W	3	358	Hardwood hammock	1	Carpinus caroliniana	4.33	3.3	S6	0	1	0	0	Sandy Stripping	50	100
SM2-W	3	358	Hardwood hammock	2	Fraxinus profunda	3.83	11.3	S6	0	1	0	0	Sandy Stripping		
SM2-W	3	358	Hardwood hammock	3	Carpinus caroliniana	7.42	2.6	S6	0	1	0	0	Sandy Stripping		
SM2-W	3	358	Hardwood hammock	4	Carpinus caroliniana	7.00	2.9	S6	0	1	0	0	Sandy Stripping		
SM2-W	4	328	Hardwood swamp	1	Carpinus caroliniana	16.50	17.3	A7	2	1	0	1	Mucky Mineral	80	50
SM2-W	4	328	Hardwood swamp	2	Carpinus caroliniana	14.08	16.6	A7	2	1	0	1	Mucky Mineral		
SM2-W	4	328	Hardwood swamp	3	Carpinus caroliniana	4.25	7.7	A7	2	1	0	1	Mucky Mineral		
SM2-W	4	328	Hardwood swamp	4	Carpinus caroliniana	12.75	3.8	A7	2	1	0	1	Mucky Mineral		
SM2-W	5	304	Hardwood swamp	1	Carpinus caroliniana	7.83	4.1	A7	0	1	0	1	Mucky Mineral	70	90
SM2-W	5	304	Hardwood swamp	2	Carpinus caroliniana	12.08	3.8	A7	0	1	0	1	Mucky Mineral		
SM2-W	5	304	Hardwood swamp	3	Celtis laevigata	4.92	3.7	A7	0	1	0	1	Mucky Mineral		
SM2-W	5	304	Hardwood swamp	4	Persea palustris	2.58	48.6	A7	0	1	0	1	Mucky Mineral		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM2-W	6	254	Hardwood swamp	1	Prunus caroliniana	6.83	32.5	A7	0	1	0	1	Mucky Mineral	60	90
SM2-W	6	254	Hardwood swamp	2	Carpinus caroliniana	7.25	17.2	A7	0	1	0	1	Mucky Mineral		
SM2-W	6	254	Hardwood swamp	3	Ilex opaca	9.25	3.4	A7	0	1	0	1	Mucky Mineral		
SM2-W	6	254	Hardwood swamp	4	Carpinus caroliniana	7.08	7.3	A7	0	1	0	1	Mucky Mineral		
SM2-W	7	215	Hardwood mix - deciduous	1	Acer rubrum	1.42	5.6	F6	1	1	0	0	Redox, Dark Surface	30	95
SM2-W	7	215	Hardwood mix - deciduous	2	Liquidambar styraciflua	1.92	7.2	F6	1	1	0	0	Redox, Dark Surface		
SM2-W	7	215	Hardwood mix - deciduous	3	Persea palustris	2.92	15.1	F6	1	1	0	0	Redox, Dark Surface		
SM2-W	7	215	Hardwood mix - deciduous	4	Carpinus caroliniana	7.83	3	F6	1	1	0	0	Redox, Dark Surface		
SM2-W	8	194	Hardwood mix - deciduous	1	Celtis laevigata	3.83	15.1	A7/A12	0/4	1	0	0	Mucky Mineral, Dark Surface, Clay	80	90
SM2-W	8	194	Hardwood mix - deciduous	2	Fraxinus profunda	8.67	18.1	A7/A12	0/4	1	0	0	Mucky Mineral, Dark Surface, Clay		
SM2-W	8	194	Hardwood mix - deciduous	3	Fraxinus profunda	1.83	5.7	A7/A12	0/4	1	0	0	Mucky Mineral, Dark Surface, Clay		
SM2-W	8	194	Hardwood mix - deciduous	4	Celtis laevigata	9.17	12.4	A7/A12	0/4	1	0	0	Mucky Mineral, Dark Surface, Clay		
SM2-W	9	156	Hardwood mix - deciduous	1	Carpinus caroliniana	5.58	9.5	A7	3	1	0	0	Mucky Mineral	80	90

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM2-W	9	156	Hardwood mix - deciduous	2	Liquidambar styraciflua	5.58	45.2	A7	3	1	0	0	Mucky Mineral		
SM2-W	9	156	Hardwood mix - deciduous	3	Carpinus caroliniana	2.17	12.7	A7	3	1	0	0	Mucky Mineral		
SM2-W	9	156	Hardwood mix - deciduous	4	Celtis laevigata	9.17	7.2	A7	3	1	0	0	Mucky Mineral		
						0.00									
SM2-W	10	84	Hardwood swamp	1	Nyssa sylvatica var biflora	8.50	6.6	A7	3	1	0	1	Mucky Mineral	20	60
SM2-W	10	84	Hardwood swamp	2	Nyssa sylvatica var biflora	8.17	8.2	A7	3	1	0	1	Mucky Mineral		
SM2-W	10	84	Hardwood swamp	3	Liquidambar styraciflua	7.58	6	A7	3	1	0	1	Mucky Mineral		
SM2-W	10	84	Hardwood swamp	4	Carpinus caroliniana	6.42	33.2	A7	3	1	0	1	Mucky Mineral		
SM2-W	11	62	Hardwood swamp	1	Acer rubrum	7.42	10.8	A10	0	1	0	1	Muck	10	90
SM2-W	11	62	Hardwood swamp	2	Liquidambar styraciflua	6.33	26.2	A10	0	1	0	1	Muck		
SM2-W	11	62	Hardwood swamp	3	Liquidambar styraciflua	6.00	30.6	A10	0	1	0	1	Muck		
SM2-W	11	62	Hardwood swamp	4	Fraxinus profunda	4.92	4.8	A10	0	1	0	1	Muck		
SM2-W	12	44	Hardwood swamp	1	Nyssa sylvatica var biflora	12.67	4.3	A10	0	1	0	1	Muck	50	90
SM2-W	12	44	Hardwood swamp	2	Morella cerifera	6.33	3.3	A10	0	1	0	1	Muck		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM2-W	12	44	Hardwood swamp	3	Carpinus caroliniana	12.67	7.9	A10	0	1	0	1	Muck		
SM2-W	12	44	Hardwood swamp	4	Carpinus caroliniana	3.25	8.7	A10	0	1	0	1	Muck		
						0.00									
						0.00									
SM3-E	0	330		0		0.00		0	0	0	0	0		60	75
SM3-E	1	315	Cypress hardwood mix	1	Taxodium distichum	7.00	42	S6	0	1	0	0	Stripped Matrix	50	90
SM3-E	1	315	Cypress hardwood mix	2	Liquidambar styraciflua	9.17	5.5	S6	0	1	0	0	Stripped Matrix		
SM3-E	1	315	Cypress hardwood mix	3	Fraxinus profunda	17.00	4.5	S6	0	1	0	0	Stripped Matrix		
SM3-E	1	315	Cypress hardwood mix	4	Acer rubrum	12.33	27.4	S6	0	1	0	0	Stripped Matrix		
SM3-E	2	25	Cypress hardwood mix	1	Taxodium distichum	9.92	22.5	A11	6	1	0	0	Dark Surface, Stripping, Redox	60	100
SM3-E	2	25	Cypress hardwood mix	2	Liquidambar styraciflua	25.67	15.3	A11	6	1	0	0	Dark Surface, Stripping, Redox		
SM3-E	2	25	Cypress hardwood mix	3	Carpinus caroliniana	4.25	21.7	A11	6	1	0	0	Dark Surface, Stripping, Redox		
SM3-E	2	25	Cypress hardwood mix	4	Taxodium distichum	10.33	17	A11	6	1	0	0	Dark Surface, Stripping, Redox		
		0				0.00									
SM3-W	0	267		0		0.00		0	0	0	0	0		100	90

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM3-W	1	226	Cypress hardwood mix	1	Sabal palmetto	9.00	30.5	A10	0	1	0	0	Muck	10	90
SM3-W	1	226	Cypress hardwood mix	2	Taxodium distichum	7.25	70.2	A10	0	1	0	0	Muck		
SM3-W	1	226	Cypress hardwood mix	3	Ulmus americana	11.92	5.9	A10	0	1	0	0	Muck		
SM3-W	1	226	Cypress hardwood mix	4	Carpinus caroliniana	12.33	13.6	A10	0	1	0	0	Muck		
SM3-W	2	137	Cypress hardwood mix	1	Carpinus caroliniana	15.67	11.9	A12	0	1	0	1	Clay, Dark Surface	80	70
SM3-W	2	137	Cypress hardwood mix	2	Carpinus caroliniana	9.33	6.9	A12	0	1	0	1	Clay, Dark Surface		
SM3-W	2	137	Cypress hardwood mix	3	Carya spp.	5.75	32.2	A12	0	1	0	1	Clay, Dark Surface		
SM3-W	2	137	Cypress hardwood mix	4	Taxodium distichum	7.33	9.2	A12	0	1	0	1	Clay, Dark Surface		
SM3-W	3	122	Cypress hardwood mix	1	Carpinus caroliniana	2.17	10.8	A10	0	1	0	1	Muck	70	100
SM3-W	3	122	Cypress hardwood mix	2	Carpinus caroliniana	7.75	11.8	A10	0	1	0	1	Muck		
SM3-W	3	122	Cypress hardwood mix	3	Taxodium distichum	8.08	9.1	A10	0	1	0	1	Muck		
SM3-W	3	122	Cypress hardwood mix	4	Carpinus caroliniana	11.25	4.6	A10	0	1	0	1	Muck		
SM3-W	4	63	Cypress/Gum Swamp	1	Taxodium distichum	4.25	31.5	A10	0	1	0	1	Muck	50	90
SM3-W	4	63	Cypress/Gum Swamp	2	Fraxinus profunda	7.00	21.5	A10	0	1	0	1	Muck		
SM3-W	4	63	Cypress/Gum Swamp	3	Carpinus caroliniana	19.33	6.9	A10	0	1	0	1	Muck		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM3-W	4	63	Cypress/Gum Swamp	4	Taxodium ascendens	5.08	52.4	A10	0	1	0	1	Muck		
SM3-W	5	38	Cypress/Gum Swamp	1	Taxodium ascendens	6.75	101	A10	0	1	0	0	Muck	20	90
SM3-W	5	38	Cypress/Gum Swamp	2	Fraxinus profunda	10.42	3.5	A10	0	1	0	0	Muck		
SM3-W	5	38	Cypress/Gum Swamp	3	Nyssa sylvatica var biflora	9.50	4.1	A10	0	1	0	0	Muck		
SM3-W	5	38	Cypress/Gum Swamp	4	Sabal palmetto	9.17	29.5	A10	0	1	0	0	Muck		
SM3-W	6	0	Cypress/Gum Swamp	1	Nyssa sylvatica var biflora	6.92	45	A10	0	1	0	0	Muck	20	90
SM3-W	6	0	Cypress/Gum Swamp	2	Nyssa sylvatica var biflora	3.25	16.1	A10	0	1	0	0	Muck		
SM3-W	6	0	Cypress/Gum Swamp	3	Morella cerifera	7.08	4	A10	0	1	0	0	Muck		
SM3-W	6	0	Cypress/Gum Swamp	4	Acer rubrum	4.42	26.3	A10	0	1	0	0	Muck		
SM4-W	0	693	Upland	0		0.00		0	0	0	0	0		20	5
SM4-W	1	568	Ironwood Forest	1	Carpinus caroliniana	9.00	4.6	F6	0	1	0	0	Dark Surface, Redox	80	90
SM4-W	1	568	Ironwood Forest	2	Carpinus caroliniana	10.00	23.7	F6	0	1	0	0	Dark Surface, Redox		
SM4-W	1	568	Ironwood Forest	3	Carpinus caroliniana	16.75	13.6	F6	0	1	0	0	Dark Surface, Redox		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM4-W	1	568	Ironwood Forest	4	Carpinus caroliniana	10.00	6	F6	0	1	0	0	Dark Surface, Redox		
SM4-W	2	508	Hardwood hammock	1	Ulmus americana	5.58	23	F6	3	1	0	0	Dark Durface, Clay, Redox	10	100
SM4-W	2	508	Hardwood hammock	2	Acer rubrum	4.67	7.1	F6	3	1	0	0	Dark Durface, Clay, Redox		
SM4-W	2	508	Hardwood hammock	3	Carpinus caroliniana	5.25	8	F6	3	1	0	0	Dark Durface, Clay, Redox		
SM4-W	2	508	Hardwood hammock	4	Quercus virginiana	12.58	73	F6	3	1	0	0	Dark Durface, Clay, Redox		
SM4-W	3	444	Hardwood hammock	1	Carpinus caroliniana	15.08	18.5	F3	2	1	0	0	Depleted Matrix, Clay	20	90
SM4-W	3	444	Hardwood hammock	2	Sabal palmetto	15.33	28	F3	2	1	0	0	Depleted Matrix, Clay		
SM4-W	3	444	Hardwood hammock	3	Carpinus caroliniana	6.75	12.3	F3	2	1	0	0	Depleted Matrix, Clay		
SM4-W	3	444	Hardwood hammock	4	Carpinus caroliniana	7.17	15.5	F3	2	1	0	0	Depleted Matrix, Clay		
SM4-W	4	321	Hardwood hammock	1	Cephalanthus occidentalis	8.58	6.2	S5	1	1	0	0	Sandy Redox	30	70
SM4-W	4	321	Hardwood hammock	2	Carya aquatica	6.75	17.9	S5	1	1	0	0	Sandy Redox		
SM4-W	4	321	Hardwood hammock	3	Ostrya virginiana	3.83	23	S5	1	1	0	0	Sandy Redox		
SM4-W	4	321	Hardwood hammock	4	Cephalanthus occidentalis	16.75	2.9	S5	1	1	0	0	Sandy Redox		
SM4-W	5	190	Hardwood swamp	1	Carpinus caroliniana	11.42	6.7	A10	2	1	0	0	Muck > 0.5"	10	100
SM4-W	5	190	Hardwood swamp	2	Taxodium distichum	8.33	47.6	A10	2	1	0	0	Muck > 0.5"		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM4-W	5	190	Hardwood swamp	3	Acer rubrum	7.58	26.2	A10	2	1	0	0	Muck > 0.5"		
SM4-W	5	190	Hardwood swamp	4	Carpinus caroliniana	8.50	4.2	A10	2	1	0	0	Muck > 0.5"		
SM4-W	6	115	Hardwood swamp	1	Carpinus caroliniana	2.83	4	A8	0/4/4	1	0	1	Muck Presence, Sandy Redox, Stripping	90	30
SM4-W	6	115	Hardwood swamp	2	Carpinus caroliniana	12.83	6.5	A8	0/4/4	1	0	1	Muck Presence, Sandy Redox, Stripping		
SM4-W	6	115	Hardwood swamp	3	Acer rubrum	7.92	10.9	A8	0/4/4	1	0	1	Muck Presence, Sandy Redox, Stripping		
SM4-W	6	115	Hardwood swamp	4	Carpinus caroliniana	27.50	20.3	A8	0/4/4	1	0	1	Muck Presence, Sandy Redox, Stripping		
SM5-W	0			0		0.00		0	0	0	0	0		70	80
SM5-W	1	98	Ash Ironwood Hardwod swamp	1	Fraxinus caroliniana	18.58	3.8	S5/S6	1	1	0	1	Stripping and Redox	80	90
SM5-W	1	98	Ash Ironwood Hardwod swamp	2	Fraxinus caroliniana	20.67	25.3	S5/S6	1	1	0	1	Stripping and Redox		
SM5-W	1	98	Ash Ironwood Hardwod swamp	3	Fraxinus caroliniana	13.00	7.5	S5/S6	1	1	0	1	Stripping and Redox		
SM5-W	1	98	Ash Ironwood Hardwod swamp	4	Fraxinus caroliniana	7.50	4.5	S5/S6	1	1	0	1	Stripping and Redox		
SM5-W	2	76	Ash Ironwood Hardwod swamp	1	Fraxinus caroliniana	11.42	5.1	S1	2	1	0	1	Mucky Mineral	30	100

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM5-W	2	76	Ash Ironwood Hardwod swamp	2	Fraxinus caroliniana	13.75	3.5	S1	2	1	0	1	Mucky Mineral		
SM5-W	2	76	Ash Ironwood Hardwod swamp	3	Ulmus americana	8.42	12.5	S1	2	1	0	1	Mucky Mineral		
SM5-W	2	76	Ash Ironwood Hardwod swamp	4	Carpinus caroliniana	4.50	5.7	S1	2	1	0	1	Mucky Mineral		
SM5-W	3	48	Ash Ironwood Hardwod swamp	1	Carpinus caroliniana	15.75	8.8	S6	2	1	0	1	Stripping	60	70
SM5-W	3	48	Ash Ironwood Hardwod swamp	2	Morella cerifera	8.83	14	S6	2	1	0	1	Stripping		
SM5-W	3	48	Ash Ironwood Hardwod swamp	3	Ulmus americana	14.08	10.8	S6	2	1	0	1	Stripping		
SM5-W	3	48	Ash Ironwood Hardwod swamp	4	Ulmus americana	13.08	6.3	S6	2	1	0	1	Stripping		
						0.00									
		0				0.00									
SM6-W	0			0		0.00		0	0	0	0	0		70	95
SM6-W	1	48	Hardwood swamp	1	Liquidambar styraciflua	2.92	20.5	A10	0	1	1	0	Muck >0.5"	50	100

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM6-W	1	48	Hardwood swamp	2	Ulmus americana	10.75	8.9	A10	0	1	1	0	Muck >0.5"		
SM6-W	1	48	Hardwood swamp	3	Liquidambar styraciflua	13.08	27.5	A10	0	1	1	0	Muck >0.5"		
SM6-W	1	48	Hardwood swamp	4	Tilia americana	10.58	12.2	A10	0	1	1	0	Muck >0.5"		
SM6-W	2	28	Hardwood swamp	1	Carpinus caroliniana	11.00	3.3	A10	0	1	1	0	Muck >0.5"	60	100
SM6-W	2	28	Hardwood swamp	2	Ulmus americana	2.08	8.6	A10	0	1	1	0	Muck >0.5"		
SM6-W	2	28	Hardwood swamp	3	Nyssa sylvatica var biflora	5.25	12.5	A10	0	1	1	0	Muck >0.5"		
SM6-W	2	28	Hardwood swamp	4	Nyssa sylvatica var biflora	8.50	11.7	A10	0	1	1	0	Muck >0.5"		
SM6-W	3	15	Hardwood swamp	1	Morella cerifera	10.08	2.7	A10	0	1	0	1	Muck >0.5"	80	80
SM6-W	3	15	Hardwood swamp	2	Carpinus caroliniana	7.00	4.2	A10	0	1	0	1	Muck >0.5"		
SM6-W	3	15	Hardwood swamp	3	Ulmus americana	8.67	3.1	A10	0	1	0	1	Muck >0.5"		
SM6-W	3	15	Hardwood swamp	4	Carpinus caroliniana	8.92	16.3	A10	0	1	0	1	Muck >0.5"		
						0.00									

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM7-W	0			0		0.00		0	0	0	0	0		20	90
SM7-W	1	188	Hardwood hammock	1	Liquidambar styraciflua	12.67	43.4	S5	3	1	0	0	Sandy Redox	95	90
SM7-W	1	188	Hardwood hammock	2	Morella cerifera	11.33	9.4	S5	3	1	0	0	Sandy Redox		
SM7-W	1	188	Hardwood hammock	3	Quercus laurifolia	9.42	17	S5	3	1	0	0	Sandy Redox		
SM7-W	1	188	Hardwood hammock	4	Magnolia grandiflora	13.25	13.6	S5	3	1	0	0	Sandy Redox		
SM7-W	2	142	Hardwood hammock	1	Morella cerifera	2.83	3.3	S5	4	1	0	0	Sandy Redox	75	95
SM7-W	2	142	Hardwood hammock	2	Carpinus caroliniana	14.58	13.2	S5	4	1	0	0	Sandy Redox		
SM7-W	2	142	Hardwood hammock	3	Carpinus caroliniana	1.33	3.8	S5	4	1	0	0	Sandy Redox		
SM7-W	2	142	Hardwood hammock	4	Tilia americana	3.17	11.3	S5	4	1	0	0	Sandy Redox		
SM7-W	3	95	Hardwood hammock	1	Ulmus americana	3.67	4.8	0	6	0	0	0	Clayey soil but not dak until 6 inches		
SM7-W	3	95	Hardwood hammock	2	Morella cerifera	8.25	2.5	0	6	0	0	0	Clayey soil but not dak until 6 inches		
SM7-W	3	95	Hardwood hammock	3	Carya aquatica	7.92	5.6	0	6	0	0	0	Clayey soil but not dak until 6 inches		
SM7-W	3	95	Hardwood hammock	4	Ulmus americana	5.42	3.1	0	6	0	0	0	Clayey soil but not dak until 6 inches		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM7-W	4	76	Bay - Hardwood swamp	1	Liquidambar styraciflua	8.17	17.5	F3	0	1	0	0	Clayey Soil, Depleted Matrix, Redox	80	100
SM7-W	4	76	Bay - Hardwood swamp	2	Persea palustris	7.17	3.2	F3	0	1	0	0	Clayey Soil, Depleted Matrix, Redox		
SM7-W	4	76	Bay - Hardwood swamp	3	Persea palustris	10.67	12.7	F3	0	1	0	0	Clayey Soil, Depleted Matrix, Redox		
SM7-W	4	76	Bay - Hardwood swamp	4	Liquidambar styraciflua	8.58	50.7	F3	0	1	0	0	Clayey Soil, Depleted Matrix, Redox		
SM7-W	5	49	Bay - Hardwood swamp	1	Persea palustris	5.58	8	F3	1	1	0	0	Clayey Soil, Depleted Matrix, Redox	10	100
SM7-W	5	49	Bay - Hardwood swamp	2	Quercus laurifolia	3.50	27.2	F3	1	1	0	0	Clayey Soil, Depleted Matrix, Redox		
SM7-W	5	49	Bay - Hardwood swamp	3	Persea palustris	7.67	10.7	F3	1	1	0	0	Clayey Soil, Depleted Matrix, Redox		
SM7-W	5	49	Bay - Hardwood swamp	4	Persea palustris	2.75	10.6	F3	1	1	0	0	Clayey Soil, Depleted Matrix, Redox		
SM7-W	6	23	Bay - Hardwood swamp	1	Liquidambar styraciflua	9.75	30.5	S1	2	1	0	0	Mucky Mineral	10	100
SM7-W	6	23	Bay - Hardwood swamp	2	Liquidambar styraciflua	9.50	15.8	S1	2	1	0	0	Mucky Mineral		
SM7-W	6	23	Bay - Hardwood swamp	3	Carpinus caroliniana	2.92	9.1	S1	2	1	0	0	Mucky Mineral		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM7-W	6	23	Bay - Hardwood swamp	4	Morella cerifera	8.67	2.8	S1	2	1	0	0	Mucky Mineral		
						0.00									
SM8-E	0			0		0.00		0	0	0	0	0			
SM8-E	1	232	Bay - Tupelo Hardwood swamp	1	Persea palustris	5.92	19.6	S6	3	1	0	0	Sandy Stripping		
SM8-E	1	232	Bay - Tupelo Hardwood swamp	2	Quercus laurifolia	5.42	22.7	S6	3	1	0	0	Sandy Stripping		
SM8-E	1	232	Bay - Tupelo Hardwood swamp	3	Persea palustris	11.42	14.5	S6	3	1	0	0	Sandy Stripping		
SM8-E	1	232	Bay - Tupelo Hardwood swamp	4	Ostrya virginiana	9.17	12	S6	3	1	0	0	Sandy Stripping		
SM8-E	2	196	Bay - Tupelo Hardwood swamp	1	Ostrya virginiana	6.25	4.2	A7	0	1	0	1	Mucky mineral		
SM8-E	2	196	Bay - Tupelo Hardwood swamp	2	Morella cerifera	4.58	3	A7	0	1	0	1	Mucky mineral		
SM8-E	2	196	Bay - Tupelo Hardwood swamp	3	Morella cerifera	4.50	2.9	A7	0	1	0	1	Mucky mineral		
SM8-E	2	196	Bay - Tupelo Hardwood swamp	4	Persea palustris	9.42	20.7	A7	0	1	0	1	Mucky mineral		
SM8-E	3	172	Bay - Tupelo Hardwood swamp	1	Nyssa sylvatica var biflora	6.17	11	A7	0	1	0	1	Mucky mineral		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM8-E	3	172	Bay - Tupelo Hardwood swamp	2	Ostrya virginiana	7.00	5.8	A7	0	1	0	1	Mucky mineral		
SM8-E	3	172	Bay - Tupelo Hardwood swamp	3	Nyssa sylvatica var biflora	6.67	16.7	A7	0	1	0	1	Mucky mineral		
SM8-E	3	172	Bay - Tupelo Hardwood swamp	4	Persea palustris	7.33	6	A7	0	1	0	1	Mucky mineral		
SM8-E	4	148	Tupelo Hardwood swamp	1	Morella cerifera	5.75	5.1	A7	0	1	0	1	Mucky mineral		
SM8-E	4	148	Tupelo Hardwood swamp	2	Nyssa sylvatica var biflora	14.83	24.3	A7	0	1	0	1	Mucky mineral		
SM8-E	4	148	Tupelo Hardwood swamp	3	Ostrya virginiana	2.00	3.4	A7	0	1	0	1	Mucky mineral		
SM8-E	4	148	Tupelo Hardwood swamp	4	Nyssa sylvatica var biflora	9.83	8.4	A7	0	1	0	1	Mucky mineral		
SM8-E	5	128	Tupelo Hardwood swamp	1	Morella cerifera	8.83	3.9	A7	0	1	0	1	Mucky mineral		
SM8-E	5	128	Tupelo Hardwood swamp	2	Ostrya virginiana	5.83	5	A7	0	1	0	1	Mucky mineral		
SM8-E	5	128	Tupelo Hardwood swamp	3	Fagus grandifolia	7.17	10.5	A7	0	1	0	1	Mucky mineral		
SM8-E	5	128	Tupelo Hardwood swamp	4	Carpinus caroliniana	7.67	8.3	A7	0	1	0	1	Mucky mineral		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
						0.00									
						0.00									
SM9-E	0			0		0.00		0	0	0	0	0		90	60
						0.00									
SM9-E	1	205	Tupelo Hardwood swamp	1	Sabal palmetto	9.25	42	S6	5	1	0	0	Sandy Stripping	50	85
SM9-E	1	205	Tupelo Hardwood swamp	2	Quercus nigra	4.67	5.5	S6	5	1	0	0	Sandy Stripping		
SM9-E	1	205	Tupelo Hardwood swamp	3	Quercus nigra	6.75	6.2	S6	5	1	0	0	Sandy Stripping		
SM9-E	1	205	Tupelo Hardwood swamp	4	Pinus taeda	6.92	46.1	S6	5	1	0	0	Sandy Stripping		
SM9-E	2	188	Tupelo Hardwood swamp	1	Magnolia grandiflora	4.67	9.8	S6	3	1	0	0	Sandy Stripping	50	90
SM9-E	2	188	Tupelo Hardwood swamp	2	Nyssa sylvatica var biflora	1.17	15.1	S6	3	1	0	0	Sandy Stripping		
SM9-E	2	188	Tupelo Hardwood swamp	3	Magnolia grandiflora	2.50	13.8	S6	3	1	0	0	Sandy Stripping		
SM9-E	2	188	Tupelo Hardwood swamp	4	Nyssa sylvatica var biflora	4.25	22.5	S6	3	1	0	0	Sandy Stripping		
SM9-E	3	178	Tupelo Hardwood swamp	1	Persea palustris	2.00	5.2	S6	1	1	0	0	Stripping, Sandy Redox	60	80

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM9-E	3	178	Tupelo Hardwood swamp	2	Persea palustris	3.08	33.6	S6	1	1	0	0	Stripping, Sandy Redox		
SM9-E	3	178	Tupelo Hardwood swamp	3	Nyssa sylvatica var biflora	7.42	53.6	S6	1	1	0	0	Stripping, Sandy Redox		
SM9-E	3	178	Tupelo Hardwood swamp	4	Nyssa sylvatica var biflora	5.58	30.5	S6	1	1	0	0	Stripping, Sandy Redox		
SM9-E	4	162	Bay Hardwood mix	1	Carpinus caroliniana	9.75	4.1	A7	0	1	0	0	Mucky mineral	80	85
SM9-E	4	162	Bay Hardwood mix	2	Persea palustris	3.25	46.3	A7	0	1	0	0	Mucky mineral		
SM9-E	4	162	Bay Hardwood mix	3	Persea palustris	10.50	6.7	A7	0	1	0	0	Mucky mineral		
SM9-E	4	162	Bay Hardwood mix	4	Liquidambar styraciflua	7.67	14.5	A7	0	1	0	0	Mucky mineral		
SM9-E	5	113	Bay Hardwood mix	1	Persea palustris	18.25	12.7	A7	0	1	0	1	Mucky mineral	80	80
SM9-E	5	113	Bay Hardwood mix	2	Liquidambar styraciflua	1.17	5.8	A7	0	1	0	1	Mucky mineral		
SM9-E	5	113	Bay Hardwood mix	3	Carpinus caroliniana	11.75	7.8	A7	0	1	0	1	Mucky mineral		
SM9-E	5	113	Bay Hardwood mix	4	Carpinus caroliniana	11.75	8.1	A7	0	1	0	1	Mucky mineral		
SM9-E	6	72	Bay Hardwood mix	1	Carpinus caroliniana	2.08	7.5	A7	0	1	0	1	Mucky mineral	30	80
SM9-E	6	72	Bay Hardwood mix	2	Morella cerifera	2.58	7.7	A7	0	1	0	1	Mucky mineral		
SM9-E	6	72	Bay Hardwood mix	3	Nyssa sylvatica var biflora	5.67	15.7	A7	0	1	0	1	Mucky mineral		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM9-E	6	72	Bay Hardwood mix	4	Quercus nigra	4.58	4.1	A7	0	1	0	1	Mucky mineral		
						0.00									
						0.00									
SM10-E				0		0.00		0	0	0	0	0		60	80
SM10-E	1	129	Ash-Tupelo Hardwood swamp	1	Carya aquatica	4.17	18.8	A10	0	1	0	0	Muck	20	90
SM10-E	1	129	Ash-Tupelo Hardwood swamp	2	Fraxinus profunda	7.58	5.8	A10	0	1	0	0	Muck		
SM10-E	1	129	Ash-Tupelo Hardwood swamp	3	Fraxinus profunda	9.75	7.2	A10	0	1	0	0	Muck		
SM10-E	1	129	Ash-Tupelo Hardwood swamp	4	Quercus nigra	6.92	6.2	A10	0	1	0	0	Muck		
SM10-E	2	111	Ash-Tupelo Hardwood swamp	1	Fraxinus profunda	5.83	7.8	A10	0	1	0	0	Muck	70	95
SM10-E	2	111	Ash-Tupelo Hardwood swamp	2	Nyssa sylvatica var biflora	3.92	5.8	A10	0	1	0	0	Muck		
SM10-E	2	111	Ash-Tupelo Hardwood swamp	3	Morella cerifera	12.50	5	A10	0	1	0	0	Muck		
SM10-E	2	111	Ash-Tupelo Hardwood swamp	4	Ilex vomitoria	7.08	3.8	A10	0	1	0	0	Muck		
SM10-E	3	65	Ash-Tupelo Hardwood swamp	1	Ulmus americana	13.75	13.8	A10	0	1	0	0	Muck	80	80

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM10-E	3	65	Ash-Tupelo Hardwood swamp	2	Fraxinus profunda	10.42	20.1	A10	0	1	0	0	Muck		
SM10-E	3	65	Ash-Tupelo Hardwood swamp	3	Fraxinus profunda	3.58	9.7	A10	0	1	0	0	Muck		
SM10-E	3	65	Ash-Tupelo Hardwood swamp	4	Quercus nigra	11.33	8.8	A10	0	1	0	0	Muck		
SM10-E	4	42	Bay Tupelo Hardwood swamp	1	Morella cerifera	4.00	3.3	A7	0	1	0	0	Mucky mineral	40	90
SM10-E	4	42	Bay Tupelo Hardwood swamp	2	Fraxinus profunda	6.58	3.9	A7	0	1	0	0	Mucky mineral		
SM10-E	4	42	Bay Tupelo Hardwood swamp	3	Nyssa sylvatica var biflora	4.50	19.6	A7	0	1	0	0	Mucky mineral		
SM10-E	4	42	Bay Tupelo Hardwood swamp	4	Quercus nigra	8.75	12.2	A7	0	1	0	0	Mucky mineral		
SM10-E	5	27	Bay Tupelo Hardwood swamp	1	Nyssa sylvatica var biflora	3.42	34	A10	0	1	0	0	Muck	60	100
SM10-E	5	27	Bay Tupelo Hardwood swamp	2	Fraxinus profunda	6.08	5.6	A10	0	1	0	0	Muck		
SM10-E	5	27	Bay Tupelo Hardwood swamp	3	Persea palustris	5.33	8.1	A10	0	1	0	0	Muck		
SM10-E	5	27	Bay Tupelo Hardwood swamp	4	Nyssa sylvatica var biflora	6.83	4.8	A10	0	1	0	0	Muck		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM10-E	6	13	Bay Tupelo Hardwood swamp	1	Persea palustris	4.67	9.8	S6	1,0	1	0	0	Stripping, Sandy Redox	20	100
SM10-E	6	13	Bay Tupelo Hardwood swamp	2	Nyssa sylvatica var biflora	3.33	48	S6	1,0	1	0	0	Stripping, Sandy Redox		
SM10-E	6	13	Bay Tupelo Hardwood swamp	3	Fraxinus profunda	7.33	5.6	S6	1,0	1	0	0	Stripping, Sandy Redox		
SM10-E	6	13	Bay Tupelo Hardwood swamp	4	Morella cerifera	4.75	6.1	S6	1,0	1	0	0	Stripping, Sandy Redox		
						0.00									
SM10-W	0			0		0.00		0	0	0	0	0		10	60
SM10-W	1	358	Bay Tupelo Hardwood swamp	1	Sabal palmetto	4.50	43	S6	3	1	0	1	Stripping	30	20
SM10-W	1	358	Bay Tupelo Hardwood swamp	2	Ilex vomitoria	32.83	4.6	S6	3	1	0	1	Stripping		
SM10-W	1	358	Bay Tupelo Hardwood swamp	3	Acer saccharum	16.00	16.5	S6	3	1	0	1	Stripping		
SM10-W	1	358	Bay Tupelo Hardwood swamp	4	Quercus laurifolia	15.17	24.1	S6	3	1	0	1	Stripping		
SM10-W	2	337	Bay Tupelo Hardwood swamp	1	Persea palustris	2.58	8.6	A7	0	1	0	1	Mucky Mineral, Stripping	40	50
SM10-W	2	337	Bay Tupelo Hardwood swamp	2	Persea palustris	5.33	7.8	A7	0	1	0	1	Mucky Mineral, Stripping		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM10-W	2	337	Bay Tupelo Hardwood swamp	3	Magnolia virginiana	6.42	20.7	A7	0	1	0	1	Mucky Mineral, Stripping		
SM10-W	2	337	Bay Tupelo Hardwood swamp	4	Magnolia grandiflora	4.92	15.6	A7	0	1	0	1	Mucky Mineral, Stripping		
SM10-W	3	299	Bay Tupelo Hardwood swamp	1	Persea palustris	8.58	11.4	A7	0	1	0	1	Mucky Mineral	60	60
SM10-W	3	299	Bay Tupelo Hardwood swamp	2	Quercus phellos	9.25	16.3	A7	0	1	0	1	Mucky Mineral		
SM10-W	3	299	Bay Tupelo Hardwood swamp	3	Nyssa sylvatica var biflora	17.08	11.2	A7	0	1	0	1	Mucky Mineral		
SM10-W	3	299	Bay Tupelo Hardwood swamp	4	Persea palustris	9.67	14.1	A7	0	1	0	1	Mucky Mineral		
SM10-W	4	277	Tupelo Hardwood swamp	1	Celtis laevigata	4.17	3.6	A7	0	1	1	0	Mucky Mineral	80	70
SM10-W	4	277	Tupelo Hardwood swamp	2	Fraxinus profunda	10.92	6.7	A7	0	1	1	0	Mucky Mineral		
SM10-W	4	277	Tupelo Hardwood swamp	3	Morella cerifera	5.58	5	A7	0	1	1	0	Mucky Mineral		
SM10-W	4	277	Tupelo Hardwood swamp	4	Magnolia grandiflora	6.75	6.2	A7	0	1	1	0	Mucky Mineral		
SM10-W	5	249	Tupelo Hardwood swamp	1	Morella cerifera	7.17	7.6	A10	0	1	1	0	Muck	40	80

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM10-W	5	249	Tupelo Hardwood swamp	2	Celtis laevigata	12.25	5.1	A10	0	1	1	0	Muck		
SM10-W	5	249	Tupelo Hardwood swamp	3	Nyssa sylvatica var biflora	5.83	12.6	A10	0	1	1	0	Muck		
SM10-W	5	249	Tupelo Hardwood swamp	4	Nyssa sylvatica var biflora	3.67	10.1	A10	0	1	1	0	Muck		
SM10-W	6	213	Tupelo Hardwood swamp	1	Morella cerifera	5.83	8.3	A7	0	1	0	1	Mucky Mineral	30	90
SM10-W	6	213	Tupelo Hardwood swamp	2	Morella cerifera	8.75	3.9	A7	0	1	0	1	Mucky Mineral		
SM10-W	6	213	Tupelo Hardwood swamp	3	Nyssa sylvatica var biflora	6.75	18.2	A7	0	1	0	1	Mucky Mineral		
SM10-W	6	213	Tupelo Hardwood swamp	4	Persea palustris	11.42	14.8	A7	0	1	0	1	Mucky Mineral		
						0.00									
SM10-W	7	120	Tupelo Hardwood swamp	1	Persea palustris	3.50	7	A10	0	1	0	1	Muck	40	70
SM10-W	7	120	Tupelo Hardwood swamp	2	Cephalanthus occidentalis	10.92	3	A10	0	1	0	1	Muck		
SM10-W	7	120	Tupelo Hardwood swamp	3	Morella heterophylla	11.75	2.6	A10	0	1	0	1	Muck		
SM10-W	7	120	Tupelo Hardwood swamp	4	Nyssa sylvatica var biflora	7.75	19.8	A10	0	1	0	1	Muck		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM10-W	8	73	Tupelo Hardwood swamp	1	Nyssa sylvatica var biflora	8.75	9.5	A7	0	1	1	0	Mucky Mineral	80	40
SM10-W	8	73	Tupelo Hardwood swamp	2	Morella cerifera	4.25	6.8	A7	0	1	1	0	Mucky Mineral		
SM10-W	8	73	Tupelo Hardwood swamp	3	Nyssa sylvatica var biflora	18.83	19.2	A7	0	1	1	0	Mucky Mineral		
SM10-W	8	73	Tupelo Hardwood swamp	4	Ilex cassine	34.75	7.8	A7	0	1	1	0	Mucky Mineral		
						0.00									
						0.00									
SM11-E	0			0		0.00		0	0	0	0	0		30	95
SM11-E	1	232	Hardwood hammock	1	Magnolia grandiflora	1.17	4.6	A7	3	1	0	0	Mucky mineral, stripping	20	95
SM11-E	1	232	Hardwood hammock	2	Magnolia grandiflora	7.67	8.6	A7	3	1	0	0	Mucky mineral, stripping		
SM11-E	1	232	Hardwood hammock	3	Persea palustris	2.08	5.8	A7	3	1	0	0	Mucky mineral, stripping		
SM11-E	1	232	Hardwood hammock	4	Persea palustris	11.42	13.5	A7	3	1	0	0	Mucky mineral, stripping		
SM11-E	2	210	Hardwood hammock	1	Sabal palmetto	7.83	28.5	A7	0	1	0	0	Mucky mineral	40	95
SM11-E	2	210	Hardwood hammock	2	Juniperus virginiana	7.58	44.6	A7	0	1	0	0	Mucky mineral		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM11-E	2	210	Hardwood hammock	3	Persea palustris	7.25	13.4	A7	0	1	0	0	Mucky mineral		
SM11-E	2	210	Hardwood hammock	4	Persea palustris	4.58	5.8	A7	0	1	0	0	Mucky mineral		
SM11-E	3	176	Tupelo Bay Hardwood mix	1	Persea palustris	5.08	11.2	A7	0	1	0	1	Mucky mineral	40	90
SM11-E	3	176	Tupelo Bay Hardwood mix	2	Nyssa sylvatica var biflora	3.83	10.7	A7	0	1	0	1	Mucky mineral		
SM11-E	3	176	Tupelo Bay Hardwood mix	3	Persea palustris	6.25	6.5	A7	0	1	0	1	Mucky mineral		
SM11-E	3	176	Tupelo Bay Hardwood mix	4	Nyssa sylvatica var biflora	7.50	6.8	A7	0	1	0	1	Mucky mineral		
SM11-E	4	158	Tupelo Bay Hardwood mix	1	Persea palustris	13.75	11.7	A7	0	1	0	0	Mucky mineral	30	90
SM11-E	4	158	Tupelo Bay Hardwood mix	2	Acer saccharum	3.75	6.9	A7	0	1	0	0	Mucky mineral		
SM11-E	4	158	Tupelo Bay Hardwood mix	3	Morella cerifera	6.25	2.7	A7	0	1	0	0	Mucky mineral		
SM11-E	4	158	Tupelo Bay Hardwood mix	4	Persea palustris	11.83	7.8	A7	0	1	0	0	Mucky mineral		
SM11-E	5	112	Tupelo Swamp	1	Morella cerifera	7.42	5.5	A7	0	1	0	1	Mucky mineral	20	85
SM11-E	5	112	Tupelo Swamp	2	Nyssa sylvatica var biflora	3.58	7.2	A7	0	1	0	1	Mucky mineral		
SM11-E	5	112	Tupelo Swamp	3	Morella cerifera	7.50	3.6	A7	0	1	0	1	Mucky mineral		
SM11-E	5	112	Tupelo Swamp	4	Morella cerifera	6.25	4.9	A7	0	1	0	1	Mucky mineral		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM11-E	6	65	Tupelo Swamp	1	Nyssa sylvatica var biflora	6.67	23.3	A7	0	1	1	0	Mucky mineral	60	80
SM11-E	6	65	Tupelo Swamp	2	Nyssa sylvatica var biflora	12.33	25	A7	0	1	1	0	Mucky mineral		
SM11-E	6	65	Tupelo Swamp	3	Nyssa sylvatica var biflora	11.42	5.6	A7	0	1	1	0	Mucky mineral		
SM11-E	6	65	Tupelo Swamp	4	Nyssa sylvatica var biflora	12.75	21.5	A7	0	1	1	0	Mucky mineral		
						0.00									
						0.00									
SM11-W	0			0		0.00		0	0	0	0	0		20	90
SM11-W	1	238	Hardwood hammock	1	Morella cerifera	15.92	2.8	S6	5	1	0	0	Stripping	40	80
SM11-W	1	238	Hardwood hammock	2	Morella cerifera	3.75	2.6	S6	5	1	0	0	Stripping		
SM11-W	1	238	Hardwood hammock	3	Morella cerifera	4.75	4	S6	5	1	0	0	Stripping		
SM11-W	1	238	Hardwood hammock	4	Morella cerifera	14.50	3.6	S6	5	1	0	0	Stripping		
SM11-W	2	207	Hardwood hammock	1	Ulmus americana	5.00	18.8	S7	0	1	0	0	Dark Surface, Redox	60	70
SM11-W	2	207	Hardwood hammock	2	Fraxinus profunda	6.83	6.9	S7	0	1	0	0	Dark Surface, Redox		
SM11-W	2	207	Hardwood hammock	3	Sabal palmetto	5.92	27.9	S7	0	1	0	0	Dark Surface, Redox		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM11-W	2	207	Hardwood hammock	4	Ilex vomitoria	10.17	3.6	S7	0	1	0	0	Dark Surface, Redox		
SM11-W	3	172	Hardwood hammock	1	Fraxinus caroliniana	6.25	18.7	A7	0	1	0	0	Mucky Mineral	80	70
SM11-W	3	172	Hardwood hammock	2	Persea palustris	5.58	53.1	A7	0	1	0	0	Mucky Mineral		
SM11-W	3	172	Hardwood hammock	3	Acer rubrum	4.67	16.7	A7	0	1	0	0	Mucky Mineral		
SM11-W	3	172	Hardwood hammock	4	Sabal palmetto	12.83	32.3	A7	0	1	0	0	Mucky Mineral		
SM11-W	4	127	Hardwood hammock	1	Ostrya virginiana	1.67	4.4	A7	0	1	0	0	Mucky Mineral	95	70
SM11-W	4	127	Hardwood hammock	2	Acer rubrum	7.33	22.4	A7	0	1	0	0	Mucky Mineral		
SM11-W	4	127	Hardwood hammock	3	Ostrya virginiana	11.42	4.4	A7	0	1	0	0	Mucky Mineral		
SM11-W	4	127	Hardwood hammock	4	Persea palustris	9.75	36.5	A7	0	1	0	0	Mucky Mineral		
SM11-W	5	103	Tupelo swamp	1	Nyssa sylvatica var biflora	7.50	6.6	A7	0	1	0	1	Mucky Mineral	40	95
SM11-W	5	103	Tupelo swamp	2	Fagus grandifolia	6.83	6	A7	0	1	0	1	Mucky Mineral		
SM11-W	5	103	Tupelo swamp	3	Acer rubrum	9.42	14.8	A7	0	1	0	1	Mucky Mineral		
SM11-W	5	103	Tupelo swamp	4	Nyssa sylvatica var biflora	2.67	15.3	A7	0	1	0	1	Mucky Mineral		
SM11-W	6	82	Tupelo swamp	1	Persea palustris	7.00	59.2	A7	0	1	0	1	Mucky Mineral	30	70
SM11-W	6	82	Tupelo swamp	2	Nyssa sylvatica var biflora	3.50	30.9	A7	0	1	0	1	Mucky Mineral		

Transect	Point	Cumulative distance (feet)	Field Community	PCQ Point	Plant name (GSpp)	PCQ_Dist (tenths)	DBH (cm)	Indicator (A11, S6, F3, etc.)	Depth to SHS* (in)	Hydric (1/0)	Inundated (1/0)	Saturated	indicator description	% ground cover	% canopy cover
SM11-W	6	82	Tupelo swamp	3	Nyssa sylvatica var biflora	9.17	21.3	A7	0	1	0	1	Mucky Mineral		
SM11-W	6	82	Tupelo swamp	4	Nyssa sylvatica var biflora	5.17	39.7	A7	0	1	0	1	Mucky Mineral		
SM11-W	7	44	Tupelo swamp	1	Nyssa sylvatica var biflora	5.00	20.3	A7	0	1	0	1	Mucky Mineral	40	60
SM11-W	7	44	Tupelo swamp	2	Nyssa sylvatica var biflora	8.50	7.9	A7	0	1	0	1	Mucky Mineral		
SM11-W	7	44	Tupelo swamp	3	Nyssa sylvatica var biflora	6.75	15.5	A7	0	1	0	1	Mucky Mineral		
SM11-W	7	44	Tupelo swamp	4	Acer rubrum	6.83	14	A7	0	1	0	1	Mucky Mineral		

A3. Estuarine portion of the St. Marks River

MFLs for Sally Ward, Wakulla, and St. Marks River Rise Springs Systems for the Northwest Florida Water Management District

Lower St. Marks River - Estuarine Transects

Data collected for each task will be used to support modeling and/or analysis to be used in development of MFLs for the Sally Ward, Wakulla, and St. Marks River Rise springs system. These data will help refine WRVs to be developed under a subsequent work order and will be used to define MFL targets (i.e., cypress wetlands, fish habitat) for the WRVs.

The general emphasis of the biological sampling data was conducted upstream of the confluence of the Wakulla and St. Marks rivers for instream habitat, PHABSIM modeling, floodplain and aquatic habitat analysis, and elevational survey. Further biological sampling was conducted downstream of the confluence of the two rivers and four transects were established in the lower St. Marks river. The lower St. Marks River is characterized predominantly with one NWI class system (E2EM1P) representing approximately 77% of the area within the lower St. Marks River floodplain.

According to NWI, vegetation classes on the lower St. Marks river is predominately classified as emergent vegetation, persistent, irregularly flooded marsh. Higher elevations located to the east and west away from the river include palustrine forested mixes of deciduous and evergreen, broad and needled leaved, species. Four transects (E1 – E4) were identified on the lower St. Marks floodplain based on a desktop analysis that included GIS files of aerial photography, NWI, FLUCCS, NRCS soils survey, and 100 year floodplain layers. The four transects were located perpendicular to the St. Marks River and extend from 50 feet landward of the marsh edge on the west side of the river to 50 feet landward of the marsh edge on the east side. These transects were placed in areas that were representative of the overall marsh.

Observations made during the field sampling, November 10, 2015, indicate that the NWI vegetation classes identified in the lower St. Marks floodplain are accurate. General observations included photographs, GPS coordinates, and general notes of dominant vegetation were used to confirm the NWI vegetation classes.

Wakulla and St. Marks MFL

Estuarine Transect Notes from November 10, 2015

Field reconnaissance was conducted on November 10, 2015, on four transects located within the estuarine portion of the St. Marks river below the confluence of the St. Marks and Wakulla rivers. Desktop analyses of these four transects included aerial photography, NWI, FLUCCS, NRCS soils survey, and 100 year floodplain layers. The field reconnaissance was utilized to confirm that land uses were accurate according to the desktop analysis.

NWI Codes from the transects that extend from floodplain to floodplain

NWI Code	Description	Acres	% of Total Acres	Cumulative %	# of Transects
E2EM1P	Estuarine, intertidal, emergent (vegetation), persistent, irregularly flooded (i.e. marsh)	3396.3	77.2	77.2	4
PFO1/4C	BLD and NLE, seasonally flooded	204.3	4.6	81.8	2
E2EM1N	Estuarine, intertidal, emergent (vegetation), persistent, regularly flooded (i.e. marsh)	191.5	4.4	86.2	1
E2USN	Estuarine, intertidal, unconsolidated shore, regularly flooded (i.e. tidal)	135.4	3.1	89.3	2
PFO4C	Needle leaved evergreen (NLE), seasonally flooded	130.3	3	92.3	2
E2USP	Estuarine, intertidal, unconsolidated shore, irregularly flooded (i.e. tidal)	93.3	2.1	94.4	2
PFO4R	Needle leaved evergreen (NLE), seasonal - tidal	58.7	1.3	95.7	3
E2USM	Estuarine, intertidal, unconsolidated shore, irregularly exposed	43.8	1	96.7	2
PFO4/1C	Needle leaved evergreen (NLE) (e.g. cedar and pine) and broad leaved deciduous (BLD), (e.g. tupelo, maple, elm), seasonally flooded	41.8	1	97.7	1
PEM1C	Emergent, persistent, seasonally flooded	38.2	0.9	98.6	2
E1ABL	Water – take out	27.9	0.6	99.2	-
PFO4/EM1R	Needle leaved evergreen (NLE), emergent (vegetation) seasonal - tidal	16.8	0.4	99.6	-
PEM1A	Emergent, persistent, temporarily flooded	11.1	0.3	99.9	1
PFO1/4R	BLD and NLE, seasonal - tidal	2.2	0	99.9	-
PEM1F	Emergent, persistent, semi-permanently flooded	1.9	0	99.9	-
PSS1R	BLD scrub shrub, seasonal - tidal	1.4	0	99.9	-
E2EM1/SS4P	Estuarine, emergent, NLE irregularly flooded	0.9	0	99.9	-
PUBH	Water, take out	0.7	0	99.9	-
PFO2/1C	NLD (e.g. bald cypress) and BLD, seasonally flooded	0.3	0	99.9	-

General notes

E1

- East: Hardwood forest including *Sabal palmetto, Quercus* sp., Cedar, Spanish bayonet, *Persea palustris*.
- West: Sawgrass dominated marsh with *Juncus* sp. Clumps on the edge. Sawgrass was ~6-8 feet tall and extends west to a hardwood forest mix.

E2

- East: Juncus on edge then dominated by sawgrass. There is a small creek just south of the transect.
- West: Juncus buffer on the water edge approximately 10-20 feet wide and then a berm to more sawgrass. Upland ridges to the west that are hardwood forest mix.

E3

- East: Juncus dominated marsh that extends east to an upland hardwood forest mix consisting of cabbage palm, Pinus sp., red cedar. This was an old settlement in the late 1800s? early 1900s? Periwinkles present.
- West: Juncus dominated buffer approximately 50 ft wide and then turns into sawgrass marsh the further west you go. Periwinkles present.

E4

- East: Spartina alterniflora buffer on the edge and then Juncus dominated marsh extending further to the east. An upland ridge is present east of the water and is dominated by cedar.
- West: Small band of Spartina alterniflora and then Juncus dominated marsh extending west along entire transect. No sawgrass present. Periwinkles present.

Appendix B. Instream habitat and PHABSIM data. Relative elevations will be referenced to permanent benchmark once acquired.
SM = St. Marks River, W= Wakulla River

Snag and woody debris samples and elevations.

Transect	Snag #	Feature (DWD or Live Root)	Top Elevation.	Bottom Elev. (0 = null)	Mean	Elevation Relative to Benchmark	Notes
SM PHABSIM 1 - East	0	Eyebolt Benchmark	1.4	0	1.4	0	
SM PHABSIM 1 - East	0	Nail Benchmark	1	0	1	0.4	Useful if nail is above eyebolt
SM PHABSIM 1 - East	0	Top of Bank	1.7	0	1.7	-0.3	
SM PHABSIM 1 - East	0	Top of Water surface	4.7	0	4.7	-3.3	
SM PHABSIM 1 - East	1	DWD	3.1	4	3.55	-2.15	
SM PHABSIM 1 - East	2	DWD	4.2	4.8	4.5	-3.1	
SM PHABSIM 1 - East	3	DWD	3.5	4	3.75	-2.35	
SM PHABSIM 1 - East	4	Live root	1.9	3.9	2.9	-1.5	Cypress knee
SM PHABSIM 1 - East	5	Live root	2.5	2.7	2.6	-1.2	Cypress knee
SM PHABSIM 1 - East	6	DWD	4.1	4.7	4.4	-3	
SM PHABSIM 1 - East	7	DWD	2.7	3	2.85	-1.45	
SM PHABSIM 1 - East	8	Live root	1.5	4.3	2.9	-1.5	
SM PHABSIM 1 - East	9	Live root	1.7	3.7	2.7	-1.3	
SM PHABSIM 1 - East	10	Live root	1.7	4.8	3.25	-1.85	
SM PHABSIM 1 - East	11	Live root	0.7	3.5	2.1	-0.7	
SM PHABSIM 1 - East	12	DWD	2.8	3.7	3.25	-1.85	
SM PHABSIM 1 - East	13	Live root	2.6	4.6	3.6	-2.2	
SM PHABSIM 1 - East	14	DWD	3.3	5.7	4.5	-3.1	
SM PHABSIM 1 - East	15	DWD	4.4	5.6	5	-3.6	
SM PHABSIM 1 - West	0	Top of Water surface	4.4	0	4.4	-3	All shots from one location for east and west
SM PHABSIM 1 - West	0	Top of Bank	1.7	0	1.7	-0.3	

Transect	Snag #	Feature (DWD or Live Root)	Top Elevation.	Bottom Elev. (0 = null)	Mean	Elevation Relative to Benchmark	Notes
SM PHABSIM 1 - West	1	Live root	2.6	3.5	3.05	-1.65	
SM PHABSIM 1 - West	2	DWD	3.2	4.2	3.7	-2.3	
SM PHABSIM 1 - West	3	DWD	3.8	3.9	3.85	-2.45	
SM PHABSIM 1 - West	4	Live root	3	3.8	3.4	-2	
SM PHABSIM 1 - West	5	Live root	2.6	3.5	3.05	-1.65	
SM PHABSIM 1 - West	6	Live root	2.3	3.3	2.8	-1.4	
SM PHABSIM 1 - West	7	Live root	3.8	5	4.4	-3	
SM PHABSIM 1 - West	8	DWD	3.9	4.2	4.05	-2.65	
SM PHABSIM 1 - West	9	Live root	2.8	4	3.4	-2	
SM PHABSIM 1 - West	10	DWD	4.3	5.1	4.7	-3.3	
SM PHABSIM 1 - West	11	Live root	2.6	3.4	3	-1.6	
SM PHABSIM 1 - West	12	Live root	3.2	4.5	3.85	-2.45	
SM PHABSIM 1 - West	13	DWD	2.4	3.8	3.1	-1.7	
SM PHABSIM 1 - West	14	DWD	3	4.1	3.55	-2.15	
SM PHABSIM 1 - West	15	Live root	3.2	4.1	3.65	-2.25	
SM PHABSIM 2 - East	0	Eyebolt BM	5.8	0	5.8	0	
SM PHABSIM 2 - East	0	Nail BM	6.1	0	6.1	-0.3	
SM PHABSIM 2 - East	0	Top of Bank	6.4	0	6.4	-0.6	
SM PHABSIM 2 - East	0	Top of Water surface	7.7	0	7.7	-1.9	
SM PHABSIM 2 - East	1	DWD	6.7	7.7	7.2	-1.4	
SM PHABSIM 2 - East	2	DWD	6.1	8.9	7.5	-1.7	
SM PHABSIM 2 - East	3	Live root	6.4	8	7.2	-1.4	
SM PHABSIM 2 - East	4	Live root	5.4	7.3	6.35	-0.55	
SM PHABSIM 2 - East	5	Live root	7.3	7.7	7.5	-1.7	
SM PHABSIM 2 - East	6	Live root	7	8	7.5	-1.7	
SM PHABSIM 2 - East	7	Live root	6.7	7.2	6.95	-1.15	
SM PHABSIM 2 - East	8	DWD	5.4	6.6	6	-0.2	
SM PHABSIM 2 - East	9	Live root	6.5	7.3	6.9	-1.1	
SM PHABSIM 2 - East	10	Live root	6.8	7.8	7.3	-1.5	Cypress knee

Transect	Snag #	Feature (DWD or Live Root)	Top Elevation.	Bottom Elev. (0 = null)	Mean	Elevation Relative to Benchmark	Notes
SM PHABSIM 2 - East	11	Live root	7.7	7.9	7.8	-2	
SM PHABSIM 2 - East	12	DWD	7	7.6	7.3	-1.5	
SM PHABSIM 2 - East	13	Live root	5.3	7.9	6.6	-0.8	Cypress knee
SM PHABSIM 2 - East	14	Live root	6.5	7.6	7.05	-1.25	
SM PHABSIM 2 - East	15	Live root	7.1	7.6	7.35	-1.55	
SM PHABSIM 2 - West	0	Top of Bank	5.9	0	5.9	-0.1	
SM PHABSIM 2 - West	0	Top of Water surface	7.6	0	7.6	-1.8	All shots from one location for east and west
SM PHABSIM 2 - West	1	DWD	7	8.6	7.8	-2	
SM PHABSIM 2 - West	2	Live root	6	7.9	6.95	-1.15	Cypress knee
SM PHABSIM 2 - West	3	DWD	7.6	7.8	7.7	-1.9	
SM PHABSIM 2 - West	4	Live root	6.1	8.7	7.4	-1.6	
SM PHABSIM 2 - West	5	Live root	5.3	7.7	6.5	-0.7	
SM PHABSIM 2 - West	6	Live root	6.4	8	7.2	-1.4	
SM PHABSIM 2 - West	7	Live root	7.5	8.1	7.8	-2	
SM PHABSIM 2 - West	8	Live root	6.7	7.7	7.2	-1.4	
SM PHABSIM 2 - West	9	Live root	6.5	8.1	7.3	-1.5	
SM PHABSIM 2 - West	10	Live root	7	7.9	7.45	-1.65	
SM PHABSIM 2 - West	11	Live root	6.8	7.9	7.35	-1.55	
SM PHABSIM 2 - West	12	DWD	7	8.3	7.65	-1.85	
SM PHABSIM 2 - West	13	DWD	7.2	8.6	7.9	-2.1	
SM PHABSIM 2 - West	14	Live root	6	7.5	6.75	-0.95	
SM PHABSIM 2 - West	15	DWD	7.5	7.8	7.65	-1.85	
SM PHABSIM 3 - East	0	Top of Bank	5.2	0	5.2	0	TOB is the Temporary Benchmark
SM PHABSIM 3 - East	0	Top of Water surface	8.8	0	8.8	-3.6	

Transect	Snag #	Feature (DWD or Live Root)	Top Elevation.	Bottom Elev. (0 = null)	Mean	Elevation Relative to Benchmark	Notes
SM PHABSIM 3 - East	0	Toe of Slope/Emergent Veg	7.7	0	7.7	-2.5	
SM PHABSIM 3 - East	0	Start of Limestone	8.1	0	8.1	-2.9	
SM PHABSIM 3 - East	1	DWD	8.8	9	8.9	-3.7	
SM PHABSIM 3 - East	2	DWD	8	8.5	8.25	-3.05	
SM PHABSIM 3 - East	3	DWD	8	9	8.5	-3.3	
SM PHABSIM 3 - East	4	DWD	6.8	9.6	8.2	-3	
SM PHABSIM 3 - East	5	DWD	8.1	8.9	8.5	-3.3	
SM PHABSIM 3 - East	6	Live root	6.6	8.9	7.75	-2.55	
SM PHABSIM 3 - East	7	Live root	7.3	8.2	7.75	-2.55	
SM PHABSIM 3 - East	8	Live root	7.2	8.1	7.65	-2.45	
SM PHABSIM 3 - East	9	Live root	8.4	9	8.7	-3.5	
SM PHABSIM 3 - East	10	DWD	9.4	9.8	9.6	-4.4	
SM PHABSIM 3 - East	11	Live root	5.9	8.1	7	-1.8	
SM PHABSIM 3 - East	12	DWD	7.8	8.8	8.3	-3.1	
SM PHABSIM 3 - East	13	Live root	7.6	8.6	8.1	-2.9	
SM PHABSIM 3 - East	14	DWD	8.1	9.8	8.95	-3.75	
SM PHABSIM 3 - East	15	Live root	7.3	9.8	8.55	-3.35	
SM PHABSIM 3 - West	0	Top of Bank				?	
SM PHABSIM 3 - West	0	Top of Water surface	10.2	0	10.2	-5	
SM PHABSIM 3 - West	1	Live root	8.3	9.9	9.1	-3.9	
SM PHABSIM 3 - West	2	DWD	7.7	9.3	8.5	-3.3	
SM PHABSIM 3 - West	3	Live root	5.9	9.9	7.9	-2.7	
SM PHABSIM 3 - West	4	DWD	9.3	10.4	9.85	-4.65	
SM PHABSIM 3 - West	5	Live root	6.5	9.4	7.95	-2.75	
SM PHABSIM 3 - West	6	Live root	8.6	9.7	9.15	-3.95	
SM PHABSIM 3 - West	7	Live root	6.4	9.3	7.85	-2.65	
SM PHABSIM 3 - West	8	DWD	9.1	9.4	9.25	-4.05	
SM PHABSIM 3 - West	9	Live root	7.3	9.5	8.4	-3.2	
SM PHABSIM 3 - West	10	DWD	9	9.7	9.35	-4.15	

Transect	Snag #	Feature (DWD or Live Root)	Top Elevation.	Bottom Elev. (0 = null)	Mean	Elevation Relative to Benchmark	Notes
SM PHABSIM 3 - West	11	Live root	7.1	9.1	8.1	-2.9	
SM PHABSIM 3 - West	12	Live root	7	9.1	8.05	-2.85	
SM PHABSIM 3 - West	13	DWD	7.1	9.1	8.1	-2.9	
SM PHABSIM 3 - West	14	DWD	8.8	9.1	8.95	-3.75	
SM PHABSIM 3 - West	15	Live root	7.3	9.2	8.25	-3.05	
W PHABSIM 1 - West	0	Benchmark	2	0	2	0	Elevation of Benchmark = 8.645
W PHABSIM 1 - West	0	Top of Bank	3.7	0	3.7	-1.7	
W PHABSIM 1 - West	0	Toe of Slope	4.7	0	4.7	-2.7	
W PHABSIM 1 - West	0	Top of Water surface	5.7	0	5.7	-3.7	
W PHABSIM 1 - West	0	Edge of Emergent Veg	5.8	0	5.8	-3.8	
W PHABSIM 1 - West	0	Edge of Vegetation	7.5	0	7.5	-5.5	
W PHABSIM 1 - West	1	Live root	4.1	5.7	4.9	-2.9	Cypress knee
W PHABSIM 1 - West	2	Live root	2.8	5.7	4.25	-2.25	Cypress knee
W PHABSIM 1 - West	3	Live root	4.1	5.6	4.85	-2.85	Cypress knee
W PHABSIM 1 - West	4	Live root	4.6	5.7	5.15	-3.15	Cypress knee
W PHABSIM 1 - West	5	Live root	3.7	5.6	4.65	-2.65	
W PHABSIM 1 - East	0	Benchmark (Top of water surface = 5.0)	5	0	5	0	Carried over from West side by water
W PHABSIM 1 - East	0	Upland Forest edge	2.9	0	2.9	2.1	
W PHABSIM 1 - East	0	Start of mixed Hardwood Wetland	3.7	0	3.7	1.3	
W PHABSIM 1 - East	0	Start of Wetland Swamp	4.5	0	4.5	0.5	
W PHABSIM 1 - East	0	Top of Water surface	5	0	5	0	Benchmark elevation for East side
W PHABSIM 1 - East	1	DWD	4.3	5.5	4.9	0.1	

Transect	Snag #	Feature (DWD or Live Root)	Top Elevation.	Bottom Elev. (0 = null)	Mean	Elevation Relative to Benchmark	Notes
W PHABSIM 1 - East	2	DWD	4	5.6	4.8	0.2	
W PHABSIM 1 - East	3	DWD	4.9	5.4	5.15	-0.15	
W PHABSIM 1 - East	4	Live root	3.7	5.3	4.5	0.5	
W PHABSIM 1 - East	5	DWD	3.4	5.1	4.25	0.75	
W PHABSIM 1 - East	6	Live root	4.3	5.2	4.75	0.25	
W PHABSIM 1 - East	7	Live root	3.8	4.7	4.25	0.75	
W PHABSIM 1 - East	8	Live root	3.1	5.1	4.1	0.9	Cypress knee
W PHABSIM 1 - East	9	Live root	2.6	5	3.8	1.2	Cypress knee
W PHABSIM 1 - East	10	Live root	3.3	5.2	4.25	0.75	Cypress knee
W PHABSIM 2 - West	0	Benchmark	2.5	0	2.5	0	Need to get the height
W PHABSIM 2 - West	0	Upland/Wetland line	2.2	0	2.2	0.3	
W PHABSIM 2 - West	0	Start of mixed Hardwood Wetland	4.8	0	4.8	-2.3	
W PHABSIM 2 - West	0	Top of Water surface	5.1	0	5.1	-2.6	
W PHABSIM 2 - West	0	Emergent Veg	5.4	0	5.4	-2.9	
W PHABSIM 2 - West	0	Emergent veg end	7.2	0	7.2	-4.7	
W PHABSIM 2 - West	1	DWD	5.1	5.3	5.2	-2.7	
W PHABSIM 2 - West	2	DWD	4.8	5.2	5	-2.5	
W PHABSIM 2 - West	3	Live root	4.3	5.1	4.7	-2.2	
W PHABSIM 2 - West	4	DWD	5	5.3	5.15	-2.65	
W PHABSIM 2 - West	5	DWD	3.9	5.2	4.55	-2.05	
W PHABSIM 2 - West	6	DWD	2.7	4.8	3.75	-1.25	
W PHABSIM 2 - West	7	Live root	3.9	4.8	4.35	-1.85	Cypress knee
W PHABSIM 2 - West	8	DWD	4.9	5.3	5.1	-2.6	
W PHABSIM 2 - West	9	DWD	4.8	5.3	5.05	-2.55	
W PHABSIM 2 - West	10	Live root	3.7	4.9	4.3	-1.8	
W PHABSIM 2 - East	0	Benchmark	3.8	0	3.8	0	

Transect	Snag #	Feature (DWD or Live Root)	Top Elevation.	Bottom Elev. (0 = null)	Mean	Elevation Relative to Benchmark	Notes
W PHABSIM 2 - East	0	Upland/mixed hardwood edge	2.6	0	2.6	1.2	
W PHABSIM 2 - East	0	Mixed Hardwood/Bottomland Floodplain edge	3.5	0	3.5	0.3	
W PHABSIM 2 - East	0	Top of Water surface	5.4	0	5.4	-1.6	
W PHABSIM 2 - East	0	Emergent Veg Start	6.6	0	6.6	-2.8	
W PHABSIM 2 - East	1	DWD	4.7	6.9	5.8	-2	
W PHABSIM 2 - East	2	DWD	5.4	6.2	5.8	-2	
W PHABSIM 2 - East	3	DWD	5.5	6	5.75	-1.95	
W PHABSIM 2 - East	4	DWD	5.2	5.9	5.55	-1.75	
W PHABSIM 2 - East	5	DWD	5.2	6.6	5.9	-2.1	
W PHABSIM 2 - East	6	DWD	5	6.9	5.95	-2.15	
W PHABSIM 2 - East	7	DWD	5.9	7.3	6.6	-2.8	
W PHABSIM 3 - West	0	Benchmark	2.3	0	2.3	0	Elevation = 10.9
W PHABSIM 3 - West	0	Upland/mixed hardwood edge	7.1	0	7.1	-4.8	
W PHABSIM 3 - West	0	Mixed Hardwood/Bottomland Floodplain edge	9	0	9	-6.7	
W PHABSIM 3 - West	0	Edge of inundation	9.8	0	9.8	-7.5	
W PHABSIM 3 - West	0	Top of Bank	8.9	0	8.9	-6.6	
W PHABSIM 3 - West	0	Top of Bank	4.6	0	4.6	-2.3	moved equipment and shot to new benchmark on TOB

Transect	Snag #	Feature (DWD or Live Root)	Top Elevation.	Bottom Elev. (0 = null)	Mean	Elevation Relative to Benchmark	Notes
W PHABSIM 3 - West	0	Emergent Vegetation start	5.1	0	5.1	-2.8	
W PHABSIM 3 - West	0	Emergent Vegetation end	8.3	0	8.3	-6	
W PHABSIM 3 - West	1	DWD	3.1	5.6	4.35	-2.05	
W PHABSIM 3 - West	2	DWD	6.6	9.2	7.9	-5.6	
W PHABSIM 3 - West	3	DWD	4.7	5.6	5.15	-2.85	
W PHABSIM 3 - West	4	DWD	5.8	7.4	6.6	-4.3	
W PHABSIM 3 - West	5	Live root	4	4.7	4.35	-2.05	Cypress knee
W PHABSIM 3 - West	6	DWD	5.3	5.9	5.6	-3.3	
W PHABSIM 3 - West	7	Live root	4.4	5.6	5	-2.7	Cypress knee
W PHABSIM 3 - West	8	Live root	4.7	5.5	5.1	-2.8	Cypress knee
W PHABSIM 3 - West	9	DWD	5	6	5.5	-3.2	
W PHABSIM 3 - West	10	Live root	5	5.4	5.2	-2.9	
W PHABSIM 3 - East	0	Benchmark (upland)	4.4	0	4.4	0	Elevation = 4.4
W PHABSIM 3 - East	0	Upland/mixed hardwood edge	2.7	0	2.7	1.7	
W PHABSIM 3 - East	0	Mixed Hardwood/Bottomland Floodplain edge	5.8	0	5.8	-1.4	
W PHABSIM 3 - East	0	Edge of inundation	5.6	0	5.6	-1.2	
W PHABSIM 3 - East	1	DWD	5.1	5.7	5.4	-1	
W PHABSIM 3 - East	2	DWD	5.4	5.8	5.6	-1.2	
W PHABSIM 3 - East	3	Live root	4.6	6	5.3	-0.9	
W PHABSIM 3 - East	4	DWD	5	6	5.5	-1.1	
W PHABSIM 3 - East	5	DWD	4.1	5.6	4.85	-0.45	
W PHABSIM 3 - East	6	Live root	5.2	5.8	5.5	-1.1	

Transect	Snag #	Feature (DWD or Live Root)	Top Elevation.	Bottom Elev. (0 = null)	Mean	Elevation Relative to Benchmark	Notes
W PHABSIM 3 - East	7	Live root	4.3	5.9	5.1	-0.7	
W PHABSIM 3 - East	8	DWD	5.2	6	5.6	-1.2	
W PHABSIM 3 - East	9	DWD	5.3	5.9	5.6	-1.2	
W PHABSIM 3 - East	10	DWD	5.3	6	5.65	-1.25	
W PHABSIM 3 - East	0	Benchmark by river	4.7	0	4.7	-0.3	
W PHABSIM 3 - East	0	Emergent Vegetation start	6.7	0	6.7	-2.3	
W PHABSIM 3 - East	0	Top of Water surface	5.7	0	5.7	-1.3	
W PHABSIM 3 - East	0	Depth of Emergent Vegetation end	3.8	0	3.8	-5.1	Depth = Top of water surface + -3.8 for elevation

Distance across river along instream habitat transects (excluding Transect1, 2, and 3 completed by James Gore).

River	Depth across Depth	Notes
SM PHABSIM 1	Conducted by Gore	
SM PHABSIM 2	Conducted by Gore	
SM PHABSIM 3	11.1	East to West evenly spaced across channel
SM PHABSIM 3	13.1	
SM PHABSIM 3	13	
SM PHABSIM 3	14.2	
W PHABSIM 1	8.4	West to East evenly spaced across channel
W PHABSIM 1	7.1	
W PHABSIM 1	4.4	
W PHABSIM 2	3	West to East evenly spaced across channel
W PHABSIM 2	3.5	
W PHABSIM 2	3.9	
W PHABSIM 2	3.1	
W PHABSIM 2	2.9	
W PHABSIM 2	2.7	
W PHABSIM 2	3.4	
W PHABSIM 2	2.8	
W PHABSIM 3	7.4	West to East evenly spaced across channel
W PHABSIM 3	6.5	
W PHABSIM 3	4.6	
W PHABSIM 3	3.7	
W PHABSIM 3	3.3	
W PHABSIM 3	3.7	

PHABSIM data collected by Jamie Banner and James Gore at SM-1 (3 replicate transects).

PHABSIM Field Data

Project St. Marks River

Date: 8/25/2015

Page: 1 of 1

Time: 1200 WSE/ 1300 Flows

TBM Used: Nail on LB Cypress of T1

Habitat Type: Shoal

B.S. : Nail = -0.9 Below nail

Transect: 1

B.S.(2) : Eyebolt = 1.43

Staff TH JB

			MID		LB	
WS:	RB	3.58				3.62
Slope:	WS up	3.57				
	WS dn	3.64				
Distance to next upstream transect		50 '				

Distance 50'

Distance 80'

Weight 25%

Comments: Large Cypress on LB with Eyebolt -- RB leaning tree most downstream transect Total Q = 463

		Substrate						Leaves/Wood				Vegetation						Cover			VELOCITY (ft/sec)
INTERVAL(ft)	F.S. (ft)	S	M	CL	R	GR	SH	LL	LP	ER	WD	TV	WV	SAV	FAV	AL	EV	OHC	PROX	DEPTH (ft)	Bottom
86	1.1	X								X	X							X			
92	1.2	X								X								X			
100	EOW 3.58 WSE	X								X								X		0	0.00
106	4.6	X																X		1	0.00
110	4.8	X																X		1.2	0.10
116	5.2				X															1.6	0.18
112	5.7				X									X						2.1	0.25
118	5.9				X									X						2.3	0.39
124	5.6				X									X						2	0.54
130	5.9				X									X						2.3	0.80
136	6.2				X									X						2.6	0.97
142	6.5				X									X						2.9	1.13
148	5.8				X									X						2.2	0.99
154	7.4				X									X						3.8	1.05
160	9.2				X									X						5.6	1.14
166	10.6				X									X						7	1.06

172	11.3				X								X						7.7	1.75
178	11.1				X								X						7.5	1.36
184	10.7				X								X						7.1	1.47
190	10.2				X								X						6.6	1.57
196	10.2				X								X						6.6	1.20
202	8.1				X								X						4.5	1.30
208	5.6				X								X						2	1.15
212	4.8	X								X									1.2	0.99
26	4.3	X								X							X		0.7	0.27
220	3.8	X								X							X		0.2	0.08
222	EOW 3.62	X										X					X		0	0.00
226	3.2	X										X					X	X		

S=sand M=mud/muck CL=clay R=rock GR=gravel SH=shell LL=leaf litter LP=leaf pack ER=exposed roots WD=woody debris TV=terrestrial vegetation WV=wetland vegetation

SAV=submerged aquatic vegetation **FAV**=floating aquatic vegetation **AL**=algae **EV**=emergent vegetation **OHC**=overhead cover **PROX**=proximal cover

PHABSIM Field Data																		**Project**		St. Marks River		
Date:	8/25/2015																	Page:		1 of 1		
Time:	1200 WSE/ 1300 Flows																	TBM Used:		Nail on LB Cypress of T1		
Habitat Type:	Shoal																	B.S. :		Nail = -0.9 Below nail		
Transect:	2																	B.S.(2) :		Eyebolt = 1.43		
WS:	RB	3.57			MID				LB	3.6								Staff	JB TH			
Slope:	WS up	3.42																Distance		90'		
	WS dn	3.59																Distance		50'		
Distance to next upstream transect		90'																Weight		50%		
Comment	LB Large Oak - to- RB cluster of 3 small 4" oaks, tied to that furthest one Middle transect TOTAL Q = 465																					

			Substrate					**Leaves/Wood**					**Vegetation**					**Cover**			**VELOCITY (ft/sec)**	
INTERVAL(ft)	**F.S. (ft)**	**S**	**M**	**CL**	**R**	**GR**	**SH**	**LL**	**LP**	**ER**	**WD**	**TV**	**WV**	**SAV**	**FAV**	**AL**	**EV**	**OHC**	**PROX**	**DEPTH (ft)**	**Bottom**	**Top Rdg**
100	EOW 3.60 WS	X								X								X		0	0.00	

106	4.8				X					X								X		1.2	0.13	
112	5.8				X													X		2.2	0.09	
118	5.3				X									X				X		1.7	0.10	
124	5.5				X									X				X		1.9	0.09	
130	6.5				X									X						2.9	0.79	
136	6.2				X									X						2.6	1.39	
142	6.4				X									X						2.8	1.37	
148	6.2				X									X						2.6	1.55	
154	6.1				X									X						2.5	1.37	
160	6.8				X									X						3.2	1.89	
166	7				X									X						3.4	1.43	
172	7				X									X						3.4	1.06	
178	6.9				X									X						3.3	1.02	
184	7.5				X									X						3.9	1.16	
190	6.9				X									X						3.3	1.72	
196	6.9				X									X						3.3	1.75	
202	8.8				X									X						5.2	1.92	
208	7.6				X									X						4	1.72	
214	6.9				X									X						3.3	1.68	
220	7				X									X						3.4	1.08	
226	6.2				X									X						2.6	0.54	
232	5.5				X									X						1.9	0.28	
242	5				X															1.4	0.10	
248	3.9	X															X	X		0.3	0.05	
250	EOW 3.57 WS	X											X				X	X		0	0.00	
256	2.3 tree	X											X					X				

S=sand **M**=mud/muck **CL**=clay **R**=rock **GR**=gravel **SH**=shell **LL**=leaf litter **LP**=leaf pack **ER**=exposed roots **WD**=woody debris **TV**=terrestrial vegetation **WV**=wetland vegetation **SAV**=submerged aquatic vegetation **FAV**=floating aquatic vegetation **AL**=algae **EV**=emergent vegetation **OHC**=overhead cover **PROX**=proximal cover

PHABSIM Field Data																		**Project**		St. Marks River		
Date:	8/25/2015																	Page:		1 of 1		
Time:	1200 WSE/ 1300 Flows																	TBM Used:		Nail on LB Cypress of T1		
Habitat Type:	Pool																	B.S. :		Nail = -0.9 Below nail		
Transect:	3																	B.S.(2) :		Eyebolt = 1.43		
																		Staff		TH JB		
WS:	RB	3.42			MID			LB	3.42													
Slope:	WS up	3.36																Distance		100'		
	WS dn	3.58																Distance		90'		
Distance to next upstream transect			N/A															Weight		25%		
Comments:	Palm on LB to a small oak on RB next to a 36" oak																	most upstream transect		TOTAL Q =458		
			Substrate						**Leaves/Wood**					**Vegetation**						**Cover**			**VELOCITY (ft/sec)**	
INTERVAL(ft)	**F.S. (ft)**	**S**	**M**	**CL**	**R**	**GR**	**SH**	**LL**	**LP**	**ER**	**WD**	**TV**	**WV**	**SAV**	**FAV**	**AL**	**EV**	**OHC**	**PROX**	**DEPTH (ft)**	**Bottom**	**Top Rdg**
100	0.9	X						X		X								X				
104	2.5 Palm	X								X								X				
110	3.3	X								X								X				
112	EOW 3.42 WS	X								X							X	X		0	0.00	

116	3.7	X														X	X		0.3	0.06	
122	4.4	X												X			X	X		1	0.14	
128	6.7	X												X						3.3	0.33	
134	10.2	X												X						6.8	0.83	
140	10.9	X												X						7.5	0.92	
146	10.4	X												X						7	1.15	
152	9.9	X												X						6.5	1.21	
158	7.8	X												X						5.4	1.13	
164	7.7	X												X						5.3	1.11	
170	7.8	X												X						5.4	1.18	
176	7.4	X												X						5	1.31	
182	7.2	X												X						3.8	1.51	
188	6.2	X												X						2.8	1.53	
194	5.7				X													X		2.3	1.37	
200	5.2				X													X		1.8	1.16	
206	4.5				X													X		1.1	0.90	
212	4.6				X													X		1.2	0.47	
218	3.8				X													X		0.4	0.15	
224	3.7				X													X		0.3	0.00	
226	EOW 3.4				X													X		0	0.00	
228	3.1				X													X				
230	2.8	X								X								X				
236	2.4 Oak	X								X								X				

S=sand **M**=mud/muck **CL**=clay **R**=rock **GR**=gravel **SH**=shell **LL**=leaf litter **LP**=leaf pack **ER**=exposed roots **WD**=woody debris **TV**=terrestrial vegetation **WV**=wetland vegetation

SAV=submerged aquatic vegetation **FAV**=floating aquatic vegetation **AL**=algae **EV**=emergent vegetation **OHC**=overhead cover **PROX**=proximal cover

PHABSIM Field Data

Project St. Marks River

Date: 8/25/2015 | Page: 1 of 1

Time: 430 Flows / 1600 WS | TBM Used: LB of Center Transect #2 on Cypress @EOW

Habitat Type: Pool | B.S. : Nail = 5.10

Transect: 1 | B.S.(2) : Eyebolt = 4.87

Staff TH JB

WS: RB 7.58 MID 7.58 LB 7.58

Slope: WS up 7.42 | Distance 50'

WS dn 7.62 | Distance 65'

Distance to next upstream transect 50' | Weight 30%

Comments: GPS 3013.855 / 8409.083 Large Oak on LB with Eyebolt most downstream transect

		Substrate						Leaves/Wood				Vegetation						Cover			VELOCITY (ft/sec)	
INTERVAL(ft)	F.S. (ft)	S	M	CL	R	GR	SH	LL	LP	ER	WD	TV	WV	SAV	FAV	AL	EV	OHC	PROX	DEPTH (ft)	Bottom	Top Rdg
95	3.4	X						X		X	X							X	X			
100	3.5	X						X		X								X	X			
106	7.2	X								X								X				
110	EOW 7.58 WS	X																X		0	0	
114	8.2	X																X		0.6	0.04	
118	8.6	X																		1	0.25	
122	9.6	X																		2	0.43	
126	11.1	X																		3.5	0.49	
130	12.9	X																		5.3	0.55	
134	14.3	X																		6.7	0.63	
138	14.9	X																		7.3	0.74	
142	15	X																		7.4	0.73	
146	15.6	X																		8	0.7	
150	16.3	X																		8.7	0.63	
154	1.1	X																		9.5	0.81	
158	17.5	X																		9.9	0.86	
162	17.6	X																		10	0.83	
166	17.8	X																		10.2	1.01	
170	17.6	X																		10	1.03	
174	17.6	X																		10	1.05	
178	16.9	X																		9.3	1.03	
182	15.9	X																		8.3	0.97	
186	15.1	X																		7.5	0.7	
190	15.4	X																		7.8	0.73	
194	15	X																		7.4	0.56	
198	13.1	X																		5.5	0.33	
202	11.1	X																X		3.5	0.23	
206	8.8	X																X		1.2	0.11	
210	8.2	X								X								X		0.6	0.05	
212	7.6 EOW	X								X								X		0	0	
214	7.2	X						X		X								X	X			
218	6.2	X						X				X						X	X			

S=sand **M**=mud/muck **CL**=clay **R**=rock **GR**=gravel **SH**=shell **LL**=leaf litter **LP**=leaf pack **ER**=exposed roots **WD**=woody debris **TV**=terrestrial vegetation **WV**=wetland vegetation

SAV=submerged aquatic vegetation **FAV**=floating aquatic vegetation **AL**=algae **EV**=emergent vegetation **OHC**=overhead cover **PROX**=proximal cover

PHABSIM Field Data

Project St. Marks River

Date:	8/25/2015						Page:	1 of 1	
Time:	430 Flows / 1600 WSE						TBM Used:	LB of Center Transect #2 on Cypress @EOW	
Habitat Type:	Pool						B.S. :	Nail = 5.10	
Transect:	2						B.S.(2) :	Eyebolt = 4.87	
							Staff	TH JB	
WS:	RB	7.42	MID	7.42	LB	7.42			
Slope:	WS up	7.33					Distance	60'	
	WS dn	7.58					Distance	50'	
Distance to next upstream transect		60'					Weight	30%	

Comments: GPS 3013.855 / 8409.083 TBM on Cypress at Tree at EOW and Eyebolt middle transect

		Substrate						Leaves/Wood				Vegetation					Cover			VELOCITY (ft/sec)	
INTERVAL(ft)	F.S. (ft)	S	M	CL	R	GR	SH	LL	LP	ER	WD	TV	WV	SAV	FAV	AL	EV	OHC	PROX	DEPTH (ft)	Bottom	Top Rdg
95	5.1	X						X		X		X						X	X			
100	6.8	X								X			X					X	X			
104	EOW 7.42 WS	X								X								X		0	0	
108	8.1	X								X								X		0.7	0.03	
112	8.1	X																X		0.7	0.08	
116	8.7	X																		1.3	0.3	
120	10.5	X																		3.1	0.48	
124	12.3	X																		4.9	0.49	
128	12.3	X																		4.9	0.56	
132	13.7	X																		6.3	0.61	
136	14.6	X																		7.2	0.59	
140	15.4	X																		8	0.56	
144	15.7	X																		8.3	0.62	
148	16.4	X																		9	0.75	
152	17.4	X																		0.2	0.68	
156	18.1	X																		10.7	0.81	
160	18.1	X																		10.7	0.96	
164	18.1	X																		10.7	0.99	
168	17.4	X																		10.2	1.13	
172	18.1	X																		10.7	1.11	
176	15.9	X																		8.5	0.91	
180	15.3	X																		7.9	0.86	
184	15.1	X																		7.7	0.77	
188	16.3	X																		8.9	0.68	
192	11.3	X																		3.9	0.39	
196	9.3	X																		1.9	0.21	
200	8.8	X																X		1.4	0.1	
204	8.2	X																X		0.9	0.09	
208	7.6	X																X		0.2	0.05	
209	EOW 7.42 ws	X																X	X	0	0	
210	7.2	X																X	X			
216	4.6	X																X	X			

S=sand **M**=mud/muck **CL**=clay **R**=rock **GR**=gravel **SH**=shell **LL**=leaf litter **LP**=leaf pack **ER**=exposed roots **WD**=woody debris **TV**=terrestrial vegetation **WV**=wetland vegetation
SAV=submerged aquatic vegetation **FAV**=floating aquatic vegetation **AL**=algae **EV**=emergent vegetation **OHC**=overhead cover **PROX**=proximal cover

PHABSIM Field Data

Project St. Marks River

Date: 8/25/2015

Page: 1 of 1

Time: 430 Flows / 1600 WSE

TBM Used: LB of Center Transect #2 on Cypress @EOW

Habitat Type: Pool

B.S. : Nail = 5.10

Transect: 3

B.S.(2) : Eyebolt = 4.87

Staff: TH JB

WS: RB 7.33 MID 7.33 LB 7.33

Slope: WS up 7.37 — Distance 50'

WS dn 7.42 — Distance 60'

Distance to next upstream transect N/A — Weight 40%

Comments: GPS 3013.855 / 8409.083 Large Oak on LB with Eyebolt most upstream transect

		Substrate						Leaves/Wood				Vegetation						Cover			VELOCITY (ft/sec)	
INTERVAL(ft)	F.S. (ft)	S	M	CL	R	GR	SH	LL	LP	ER	WD	TV	WV	SAV	FAV	AL	EV	OHC	PROX	DEPTH (ft)	Bottom	Top Rdg
90	4.7	X						X		X								X	X			
100	6.9	X								X								X	X			
102	EOW 7.3	X								X								X	X	0	0	
104	8.2	X	X							X								X	X	0.9	0.07	
108	8.6	X	X															X		1.3	0.21	
112	10.4	X	X															X		3.1	0.29	
116	12.7	X																		5.3	0.36	
120	13.9	X																		6.6	0.4	
124	16	X																		8.7	0.41	
128	15.8	X																		8.5	0.64	
132	15.8	X																		8.5	0.78	
136	16.2	X																		8.9	0.68	
140	16.6	X																		9.3	0.62	
144	17.1	X																		9.8	0.68	
148	17.4	X																		10.1	0.76	
152	17.2	X																		9.9	0.93	
156	18.3	X																		11	0.88	
160	18.5	X																		11.2	0.95	
164	18.5	X																X		11.2	1.01	
168	18.1	X																X		10.8	0.93	
172	17.5	X																X		9.2	0.86	
176	15.2	X																X		7.9	0.63	
180	10.9	X																X		3.6	0.52	
184	8.6	X	X															X		1.3	0.22	
188	8	X	X															X		0.7	0.06	
192	7.6	X	X							X								X		0.3	0.05	
194	EOW 7.33 WS	X								X								X		0	0	
196	7.2	X								X								X	X			
198	5	X						X										X	X			
200	4.2	X						X										X	X			

S=sand **M**=mud/muck **CL**=clay **R**=rock **GR**=gravel **SH**=shell **LL**=leaf litter **LP**=leaf pack **ER**=exposed roots **WD**=woody debris **TV**=terrestrial vegetation **WV**=wetland vegetation

SAV=submerged aquatic vegetation **FAV**=floating aquatic vegetation **AL**=algae **EV**=emergent vegetation **OHC**=overhead cover **PROX**=proximal cover

Emails regarding application of PHABSIM to Wakulla River

From: JAMES A. GORE [mailto:JGORE@ut.edu]
Sent: Wednesday, September 02, 2015 11:17 AM
To: Dorsey, Kevin F <Kevin.Dorsey@atkinsglobal.com>
Cc: Kelly, Martin H <Martin.H.Kelly@atkinsglobal.com>; Pam Latham <platham@researchplanning.com>
Subject: RE: St Marks and Wakulla

Every model that I know of requires calibration data (mesoHABSIM and others). They would all be faced with the same problem; vegetation interfering with accurate velocity measurements. I suppose you could use the fish passage model but that still supposes that you can get an accurate survey of the bottom.

James A. Gore, PhD

Dean, College of Natural and Health Sciences

Professor of Biology

University of Tampa

From: Dorsey, Kevin F [mailto:Kevin.Dorsey@atkinsglobal.com]
Sent: Wednesday, September 02, 2015 11:13 AM
To: JAMES A. GORE
Cc: Kelly, Martin H; Pam Latham
Subject: RE: St Marks and Wakulla

Jim,

Thanks for the insight into the problems on collecting data on the Wakulla. It seems to be enough justification to forgo the PHABSIM modeling for the Wakulla. Are there alternative models that would not be limited by the vegetation issues? Doesn't seem like it, but it's the obvious question.

Pam and Marty. Feel free to jump in.

Kevin F. Dorsey, PG

Senior Project Manager, Water Infrastructure

ATKINS

4030 West Boy Scout Boulevard, Suite 700, Tampa, FL, 33618| Tel: +1 (813) 281 8374 | Fax: +1 (813) 636 8583 | Cell: +1 (727) 858 7670 |

Email: kevin.dorsey@atkinsglobal.com | Web: www.atkinsglobal.com/northamerica www.atkinsglobal.com

From: JAMES A. GORE [mailto:JGORE@ut.edu]
Sent: Wednesday, September 02, 2015 11:01 AM
To: Dorsey, Kevin F
Cc: Kelly, Martin H
Subject: St Marks and Wakulla

Kevin,

After my lunch discussion with Marty and a long discussion with Jamie today, all I can list is our concerns, at this point:

- On the St Marks, we measured at a sight which Graham assured us was not tidally influenced. However, at the time of our measurements the river was probably close to or just past a high tidal influence because it had dropped about 2 feet by the time they returned to the boat

ramp. This can be verified by NWFWMD people who went with Jamie and Tammie to do the site. Graham told Jamie that he had only been on the river two or three times in his career and that he took a guess at where tidal influence ended. We can compensate for the tidal influence but the reliability of the model will drop significantly.

- On the Wakulla, even with a pontoon boat, and assuming a stable platform to mount the bridge-board, there are still some problems.
    - When Jamie and Tammie went out a month ago to scope out the sites, they identified two areas that were good for measurements.
    - When they returned both sites were covered in emergent vegetation [up to 5 feet high] as well as the bottom being covered by vegetation and periphyton to a height of 2 feet or more. This presents problems:
        - The ADCP cannot work since it reads the bottom vegetation as the bottom of the river. More importantly, the vegetation moves with flow and "confuses" the ADCP as to where the true mean depth is for velocity measurement
        - The same bottom vegetation would interfere with mechanical velocity measurement (Price AA or Pygmy) as the rotating blades would be clogged. A magnetic current meter (Marsh-McBirney) would still have the same problem as the ADCP as the vegetation would alter the true velocity at any point and the flux of the magnetic field would be problematic.
        - The other problem would be the emergent vegetation which would have to be cut down in order to get the boat to the correct positions along the transect. This would take hours, if not days, and would, of course, alter the channel so that it was no longer "typical" for purposes of PHABSIM

At this point, I think I have encountered a river (Wakulla) that simply cannot be analyzed by PHABSIM

Opinons?

Jim

James A. Gore, PhD

Dean, College of Natural and Health Sciences

Professor of Biology

University of Tampa

Appendix C. List of woody vegetation species found along sampling transects in the Wakulla and St. Marks rivers floodplains

(X denotes presence, - denotes absence, along sampling transects).

Common Name	***Scientific Name***	**Wakulla River**	**St. Marks River**
Red maple	Acer rubrum	X	X
Sugar maple	Acer saccharum	X	X
Saltbush	Baccharis hamifolia	X	-
Ironwood	Carpinus caroliniana	X	X
Water hickory	Carya aquatica	X	X
Pignut hickory	Carya glabra	X	-
Hackberry	Celtis laevigata	X	X
Buttonbush	Cephalanthus occidentalis	X	-
White cedar	Chamaecyparis thyoides	X	X
Stiff dogwood	Cornus foemina	X	X
Hawthorn	Crataegus sp.	X	-
Beech	Fagus grandiflora	-	X
Pumpkin ash	Fraxinus profunda	X	X
Dahoon holly	Ilex cassine	X	X
Possumhaw	Ilex decidua	X	-
American holly	Ilex opaca	X	X
Yaupon holly	Ilex vomitoria	X	X
Eastern red cedar	Juniperus virginiana	-	X
Sweetgum	Liquidambar styraciflua	X	X
Southern magnolia	Magnolia grandiflora	X	X
Sweetbay magnolia	Magnolia virginiana	X	X
Wax myrtle	Morella cerifera	X	X
Southern bayberry	Morella heterophylla	-	X
Blackgum	Nyssa sylvatica var. biflora	X	X
Water tupelo	Nyssa aquatica	X	-
Eastern hophornbeam	Ostrya virginiana	X	-
Swamp bay	Persea palustris	X	X

Slash pine	Pinus elliottii	-	X
Spruce pine	Pinus glabra	-	X
Loblolly pine	Pinus taeda	X	X
Planertree	Planera aquatica	-	X
Cherry laurel	Prunus caroliniana	X	X
Laurel oak	Quercus laurifolia	X	X
Swamp chestnut oak	Quercus michauxii	-	X
Water oak	Quercus nigra	X	X
Willow oak	Quercus phellos	-	X
Live oak	Quercus virginiana	-	X
Cabbage palm	Sabal palmetto	X	X
Saw palmetto	Serenoa repens	X	X
Pond cypress	Taxodium ascendens	X	X
Bald cypress	Taxodium distichum	X	X
Basswood	Tilia americana	-	X
Winged elm	Ulmus alata	-	X
American elm	Ulmus americana	X	X
Blueberry	Vaccinium sp.	-	X
Total		33	38

Appendix D. Survey Data for Wakulla and St. Marks Rivers.

Wakulla River

Object	POINT #	NORTHING	EASTING	ELEVATION		DESCRIPTION
1	13	431981.4201	2045241.99	-0.27	NG	
2	14	431985.2405	2045245.22	-4.66	NG	
3	15	431989.0609	2045248.44	-7.01	NG	
4	16	431992.8812	2045251.67	-7.96	NG	
5	17	431996.7016	2045254.89	-11	NG	
6	18	432000.5219	2045258.12	-13.54	NG	
7	19	432004.3423	2045261.34	-14.07	NG	
8	20	432008.1627	2045264.57	-14.93	NG	
9	22	432011.983	2045267.8	-15.53	NG	
10	23	432015.8034	2045271.02	-15.58	NG	
11	24	432019.6237	2045274.25	-15.1	NG	
12	25	432023.4441	2045277.47	-14.76	NG	
13	26	432027.2645	2045280.7	-14	NG	
14	27	432031.0848	2045283.92	-9.77	NG	
15	28	432034.9052	2045287.15	-5.8	NG	
16	29	432038.7255	2045290.38	-4.93	NG	
17	30	431292.4724	2046450.81	-3.36	NG	
18	31	431299.1758	2046458.23	-7.71	NG	
19	32	431305.8792	2046465.65	-9.7	NG	
20	33	431312.5826	2046473.07	-10.25	NG	
21	34	431319.2859	2046480.49	-10.88	NG	
22	35	431325.9893	2046487.91	-11.68	NG	
23	36	431332.6927	2046495.33	-12.18	NG	
24	37	427637.7583	2049501.44	-4.11	NG	
25	38	427647.4313	2049498.91	-4.42	NG	
26	39	427657.1043	2049496.37	-5.1	NG	
27	40	427666.7773	2049493.84	-5.59	NG	
28	41	427676.4504	2049491.3	-5.96	NG	
29	42	427686.1234	2049488.76	-6.29	NG	
30	43	427695.7964	2049486.23	-8.67	NG	
31	44	427705.4694	2049483.69	-8.06	NG	
32	45	425643.9899	2051858.04	-3.31	NG	
33	46	425649.0845	2051866.64	-3.47	NG	
34	47	425654.1792	2051875.25	-3.8	NG	
35	48	425659.2738	2051883.85	-4.55	NG	
36	49	425664.3684	2051892.46	-5.29	NG	
37	50	425669.463	2051901.06	-6.04	NG	
38	51	425674.5576	2051909.67	-6.47	NG	
39	52	425679.6522	2051918.27	-6.98	NG	
40	53	425684.7468	2051926.88	-7.19	NG	
41	54	425689.8414	2051935.48	-6.65	NG	
42	55	425694.936	2051944.08	-4.74	NG	
43	56	425700.0307	2051952.69	-4.38	NG	
44	57	425705.1253	2051961.29	-3.57	NG	
45	58	425710.2199	2051969.9	-3.24	NG	
46	59	425715.3145	2051978.5	-3.62	NG	
47	60	425720.4091	2051987.11	-6.37	NG	
48	61	425725.5037	2051995.71	-4.75	NG	
49	62	425730.5983	2052004.32	-7.17	NG	
50	63	425735.6929	2052012.92	-7.53	NG	
51	64	425740.7875	2052021.53	-7.52	NG	
52	65	425745.8822	2052030.13	-7.05	NG	
53	66	425750.9768	2052038.74	-6.29	NG	

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
54	67	423927.2009	2052887.1	-3.84	NG
55	68	423932.5102	2052895.57	-3.97	NG
56	69	423937.8195	2052904.05	-4.24	NG
57	70	423943.1288	2052912.52	-4.47	NG
58	71	423948.4381	2052921	-4.82	NG
59	72	423953.7474	2052929.47	-5.17	NG
60	73	423959.0567	2052937.94	-5.72	NG
61	74	423964.366	2052946.42	-6.2	NG
62	75	423969.6753	2052954.89	-6.63	NG
63	76	423974.9847	2052963.37	-7.41	NG
64	77	423980.294	2052971.84	-8.51	NG
65	78	423985.6033	2052980.31	-8.8	NG
66	79	423990.9126	2052988.79	-9.34	NG
67	80	423996.2219	2052997.26	-9.46	NG
68	81	424001.5312	2053005.74	-9.79	NG
69	82	427496.87	2048890.8	14.47	A82
70	83	427931.748	2049093.48	14.66	A83
71	84	424006.8405	2053014.21	-9.94	NG
72	85	424012.1498	2053022.69	-10	NG
73	86	424017.4591	2053031.16	-8.52	NG
74	88	431968.0336	2045230.69	0.25	NG
75	89	432051.1356	2045300.85	-1.9	NG
76	90	431280.4098	2046438.63	-0.75	NG
77	91	427588.0378	2049514.48	-2.03	NG
78	92	427738.1766	2049475.11	-3.7	NG
79	93	425603.2933	2051789.3	-2.2	NG
80	94	425776.9581	2052082.62	-3.5	NG
81	95	423878.4042	2052809.21	-1.8	NG
82	96	424037.7987	2053063.97	-4.6	NG
83	700	428079.42	2049385.03	2.7	IRC TRAVPTLB 705
84	707	427659.633	2048962.09	16.62	OM XCUT
85	712	427563.094	2049584.13	4.03	CHK 704
86	807	427659.566	2048962.08	16.27	CHK 707
87	823	431874.641	2046912.08	7.56	CHK 723
88	824	431874.558	2046912.14	7.62	CHK 724
89	825	431874.598	2046912.19	7.69	CHK 725
90	826	431938.68	2046947.02	8.18	CHK 726
91	827	431938.699	2046946.99	8.19	CHK 727
92	828	431938.694	2046947.01	8.21	CHK 728
93	829	432639.199	2045737.71	10.77	CHK 729
94	830	432639.116	2045737.71	10.86	CHK 730
95	831	432639.217	2045737.69	10.92	CHK 731
96	832	432740.668	2045826.24	12.82	CHK 732
97	833	432740.669	2045826.22	12.79	CHK 733
98	834	432740.662	2045826.24	12.83	CHK 734
99	882	427496.876	2048890.77	14.48	CHK A82
100	884	428585.486	2049418.46	7.62	CHK A84
101	902	426798.571	2050932.83	3.68	XCUT
102	925	424091.313	2053081.67	1.65	IRC GPS TRAV
103	934	427678.433	2050625.13	3.67	IRC GPS TRAV
104	1000	425824.465	2052130.51	2.46	IRC GPS TRAV
105	1001	425580.922	2051693.23	1.68	OM SET SCREW
106	1002	424091.059	2053081.32	1.21	IRC GPS TRAV
107	1003	423800.933	2052723.6	2.32	IRC GPS TRAV
108	1004	448226.856	2034528.11	16.59	FSCHK WSP4
109	1005	447473.865	2035033.98	13.04	FSCHK WSP5

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
110	1006	447247.642	2035258.47	10.59	NLS
111	1007	447082.002	2036136.49	8.29	NLS
112	1008	446888.972	2036601.19	10.25	IRC GPS TRAV
113	1009	446618.948	2036938	14.03	IRC GPS TRAV
114	1010	446396.618	2037417.82	16.54	NLS
115	1011	446120.209	2038298.88	10.08	NLS
116	1012	445481.38	2039043.44	12.13	NLS
117	1013	445086.836	2039316.08	14.09	NLS
118	1014	444616.372	2039341.23	15.61	NLS
119	1015	444061.563	2039599.04	17.99	NLS
120	1016	443902.795	2039899.14	18.37	NLS
121	1017	443638.466	2040900.75	9.43	NLS
122	1018	443322.733	2041283.35	9.37	NLS
123	1020	442933.233	2041633.06	10.92	NLS
124	1021	442281.716	2041767.87	10.81	NLS
125	1022	441891.137	2041819.37	11.58	SAT
126	1023	441707.701	2041948.95	9.42	SAT
127	1024	441522.301	2042559.04	12.87	W3WN
128	1025	441332.757	2043046.58	10.44	W3WS
129	1026	441180.955	2043398.89	10.36	IRC GPS TRAV
130	1027	441362.672	2043743.47	15.2	59-77-A01
131	1028	446671.119	2037087.33	7.34	SAT
132	1029	441926.912	2043061.08	10.94	IRC WGI TRAV
133	1030	441898.752	2042930.41	10.24	NG
134	1031	441900.132	2042939.77	10.78	NG
135	1032	441901.619	2042948.99	10.75	NG
136	1033	441903.511	2042957.5	10.55	NG
137	1034	441905.979	2042966.56	10.59	NG
138	1035	441908.153	2042975.01	10.58	NG
139	1036	441910.271	2042983.88	10.6	NG
140	1037	441911.93	2042992.75	10.64	NG
141	1038	441913.415	2043001.02	11.01	NG
142	1039	441915.67	2043009.36	10.71	NG
143	1040	441917.137	2043017.1	10.55	NG
144	1041	441918.747	2043025.83	10.48	NG
145	1042	441920.832	2043034.62	10.55	NG
146	1043	441923.087	2043044.27	11.17	NG
147	1044	441925.686	2043052.75	10.81	NG
148	1045	441928.482	2043069.85	10.33	NG
149	1046	441931.614	2043077.94	10.55	NG
150	1047	441933.603	2043086.06	10.78	NG
151	1048	441934.782	2043093.81	10.92	NG
152	1049	441937.963	2043101.83	10.7	NG
153	1050	441938.326	2043110.62	9.76	NG
154	1052	441941.5428	2043119.48	9.08	NG
155	1053	441943.1763	2043129.18	8.35	NG
156	1054	441945.8982	2043139.22	7.59	NG
157	1055	441948.2558	2043146.71	6.84	NG
158	1056	441950.376	2043156.78	6.29	NG
159	1057	441952.8335	2043165.91	5.7	NG
160	1058	441955.3697	2043175.5	4.95	NG
161	1059	441957.7282	2043185.24	4.27	NG
162	1060	441958.85	2043195.12	3.83	NG
163	1061	441960.6525	2043203.6	3.77	NG
164	1062	441962.3284	2043212.29	3.32	NG
165	1063	441965.0176	2043223.1	3.37	NG

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
166	1064	441967.0084	2043231.79	3.14	NG
167	1065	441969.0678	2043240.67	2.85	NG
168	1067	441971.0103	2043249.46	2.6	NG
169	1068	441972.4671	2043256.58	2.74	NG
170	1069	441974.5083	2043264.28	4.5	NG
171	1070	441976.1168	2043273.58	1.51	NG
172	1071	441977.8747	2043280.49	1.19	NG
173	1072	441978.8593	2043287.78	2.71	NG
174	1073	441981.201	2043296.01	2.66	NG
175	1074	441983.4509	2043305.92	3.01	NG
176	1075	441985.7794	2043314.93	3.6	NG
177	1076	441969.2054	2043241.44	3.23	WE 10/2/15 11:02AM
178	1077	442007.212	2043313.61	4.08	IRC WGI TRAV
179	1078	441988.6558	2043327.13	-0.96	NG
180	1079	441989.8575	2043334.95	-2.61	NG
181	1080	441993.9824	2043345.06	-3.72	NG
182	1081	441997.4069	2043364.65	-4.22	NG
183	1082	442001.7309	2043381.93	-3.32	NG
184	1083	442006.209	2043397.03	-1.89	NG
185	1084	442009.19	2043411.31	-1.62	NG
186	1085	442013.499	2043425.83	-0.12	NG
187	1086	442014.292	2043443.62	-1.05	NG
188	1087	442018.1902	2043456.92	-0.37	NG
189	1088	442020.672	2043473.03	-0.29	NG
190	1089	442025.6046	2043488.37	-0.49	NG
191	1090	442029.52	2043503.76	-0.22	NG
192	1091	442033.9564	2043514.14	0.32	NG
193	1092	442035.7176	2043524.56	-0.02	NG

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
194	1093	442038.1756	2043534.59	-0.1	NG
195	1094	442036.9369	2043546.24	-0.16	NG
196	1095	442041.0589	2043556.91	0.58	NG
197	1096	442040.4212	2043565.29	-0.13	NG
198	1097	442042.2031	2043581.32	-0.53	NG
199	1098	442050.1977	2043599.51	0.43	NG
200	1099	442054.0307	2043625.65	-1	NG
201	1100	442060.1635	2043643.59	-0.15	NG
202	1101	442063.0894	2043659.7	0.11	NG
203	1102	442066.2805	2043673.33	1.36	NG
204	1103	442069.6556	2043691.43	1.39	NG
205	1104	442071.4361	2043703.71	2.25	NG
206	1105	442075.1055	2043716.56	3.28	NG
207	1106	442084.744	2043722.71	4.23	NLS
208	1107	442077.3109	2043734.69	1.39	NG
209	1108	442079.5871	2043743.73	1.33	NG
210	1109	442084.4953	2043753.41	1.02	NG
211	1110	442085.7159	2043766.24	2.03	NG
212	1111	442091.3497	2043781.38	2.48	NG
213	1112	442096.486	2043792.05	4.4	CMON 4X4
214	1113	442096.2124	2043802.87	3.2	WEDG 10/02/15 12:30PM
215	1114	442099.3739	2043816.77	3.45	NG
216	1115	442102.2054	2043829.37	3.72	NG
217	1116	442105.6196	2043843.24	3.93	NG
218	1117	442108.1595	2043853.9	3.99	NG
219	1118	442111.1904	2043867.22	3.98	NG
220	1119	442114.2735	2043880.18	4.12	NG
221	1120	442117.2102	2043892.51	4.67	NG

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
222	1121	442120.3441	2043906.01	4.62	NG
223	1122	442123.147	2043917.56	6.1	NG
224	1123	442125.107	2043927.77	5.89	NG
225	1124	442127.226	2043938.81	6.48	NG
226	1125	442129.724	2043950.93	7.08	NG
227	2000	431675.8877	2046799.06	7.73	NLS
228	2001	431517.6397	2046664.23	7.09	NLS
229	2002	431356.3337	2046524.08	7.06	NLS
230	2003	431256.7296	2046411.5	2.35	IRC GPS TRAV
231	2004	432430.4295	2045621.79	6.95	NLS
232	2005	432360.0194	2045537.74	2.48	NLS
233	2006	432072.1461	2045318.38	3.07	NLS
234	10102	432398.167	2045463.4	0	W4 EAST
235	10103	431651.595	2044981.43	0	W4 WEST
236	10105	431575.083	2046983.46	0	W5 EAST
237	10106	431062.196	2046192.94	0	W5 WEST
238	10118	448484.704	2034613.84	8.65	W1 WEST
239	10500	425802.9395	2052126.51	-0.71	WEDG 11:22AM 9/17/2015
240	10501	425806.9663	2052133.31	0.06	NG
241	10502	425811.0833	2052142.94	0.9	NG
242	10503	425814.5578	2052152.46	1.13	NG
243	10504	425819.8186	2052161.33	0.96	NG
244	10505	425825.1163	2052168.87	1.03	NG
245	10506	425829.386	2052176.97	1.11	NG
246	10507	425834.8271	2052184.45	1.17	NG
247	10508	425840.7814	2052193.89	1.26	NG
248	10509	425847.0041	2052203.65	1.4	NG
249	10510	425851.6941	2052213.84	1.33	NG
250	10511	425858.2074	2052224.4	1.39	NG
251	10512	425863.3904	2052233.39	1.51	NG
252	10513	425867.1481	2052239.6	1.37	NG
253	10514	425871.3408	2052246.51	1.44	NG
254	10515	425876.3264	2052254.97	1.41	NG
255	10516	425880.957	2052261.87	1.37	NG
256	10517	425885.6317	2052269.56	1.33	NG
257	10518	425889.5406	2052275.69	1.35	NG
258	10519	425894.0825	2052283.04	1.2	NG
259	10520	425897.5403	2052289.28	1.33	NG
260	10521	425902.228	2052296.81	1.38	NG
261	10522	425906.0825	2052303.58	1.37	NG
262	10523	425910.0151	2052310.14	1.43	NG
263	10524	425914.7324	2052317.98	1.52	NG
264	10525	425919.0253	2052325.08	1.57	NG
265	10526	425923.7128	2052332.7	1.57	NG
266	10527	425927.9592	2052339.69	1.45	NG
267	10528	425932.2563	2052347.05	1.59	NG
268	10529	425936.0317	2052353.28	1.63	NG
269	10530	425940.8536	2052361.16	1.59	NG
270	10531	425945.4584	2052368.69	1.7	NG
271	10532	425949.2544	2052374.95	2.4	NG
272	10533	425953.0747	2052381.4	2.51	NG
273	10534	425956.9506	2052387.8	2.39	NG
274	10535	425961.8112	2052395.82	2.08	NG
275	10536	425966.698	2052403.88	2.19	NG
276	10537	425971.8651	2052412.41	2.11	NG
277	10538	425976.3113	2052419.75	2.1	NG

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
278	10539	425980.8297	2052427.21	1.98	NG
279	10540	425987.0986	2052437.43	2.56	NG
280	10541	425988.204	2052439.42	2.91	NG
281	10542	425562.5967	2051720.56	-1.13	WEDG 1:35PM 9/17/2015
282	10543	425558.5034	2051713.65	0.34	NG
283	10544	425551.8898	2051702.48	1.04	NG
284	10545	425547.0302	2051694.08	1.71	NG
285	10546	425541.4018	2051684.01	1.26	NG
286	10547	425536.4873	2051675.71	1.34	NG
287	10548	425531.3047	2051667.67	1.28	NG
288	10549	425526.6355	2051659.82	1.31	NG
289	10550	425521.6547	2051653.22	1.41	NG
290	10551	425517.6431	2051644.63	1.46	NG
291	10552	425513.3315	2051636.63	1.43	NG
292	10553	425508.0149	2051628.08	1.35	NG
293	10554	425502.9936	2051619.25	1.47	NG
294	10555	425498.275	2051611.36	1.42	NG
295	10556	425493.9736	2051603.92	1.48	NG
296	10557	425489.059	2051596.31	1.52	NG
297	10558	425484.2983	2051588.34	1.55	NG
298	10559	425480.1972	2051581.37	1.5	NG
299	10560	425475.7079	2051573.83	1.6	NG
300	10561	425470.696	2051565.41	1.65	NG
301	10562	425466.7457	2051558.29	1.71	NG
302	10563	425461.5428	2051550.09	1.71	NG
303	10564	425456.379	2051541.29	1.79	NG
304	10565	425451.0449	2051532.7	1.76	NG
305	10566	425445.8773	2051523.64	1.89	NG
306	10567	425439.3025	2051512.6	1.9	NG
307	10568	425434.241	2051504.3	1.87	NG
308	10569	425429.185	2051495.79	1.94	NG
309	10570	425423.8008	2051485.87	3.09	NG
310	10571	425415.636	2051472.38	2.68	NG
311	10572	425409.1029	2051461.31	3.07	NG
312	10573	424151.916	2053246.73	4.04	NG
313	10574	424146.5489	2053236.45	3.51	NG
314	10575	424139.7796	2053226.15	2.83	NG
315	10576	424132.5692	2053215.78	2.35	NG
316	10577	424125.8801	2053206.35	2.13	NG
317	10578	424117.932	2053194.87	2.19	NG
318	10579	424112.5728	2053183.72	1.58	NG
319	10580	424106.5307	2053174.16	1.63	NG
320	10581	424099.6605	2053163.17	1.5	NG
321	10582	424093.5151	2053152.65	1.36	NG
322	10583	424087.2896	2053142.07	1.54	NG
323	10584	424079.7571	2053131.75	1.85	NG
324	10585	424073.1375	2053123.18	2.06	NG
325	10586	424067.3234	2053110.75	0.82	NG
326	10587	424058.1384	2053096.77	-0.71	WEDG 3:23PM 9/21
327	10588	423829.6075	2052731.33	0.21	WEDG 3:58PM 9/21
328	10589	423825.1457	2052724.2	1.1	NG
329	10590	423816.1353	2052708.6	2.39	NG
330	10591	423811.4547	2052700.07	2.32	NG
331	10592	423804.3349	2052687.85	1.68	NG
332	10593	423795.9948	2052677.81	1.63	NG
333	10594	423788.7995	2052666.25	1.56	NG

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
334	10595	423785.0966	2052659.27	1.53	NG
335	10596	423778.6178	2052648.71	1.44	NG
336	10597	423768.8024	2052634.32	1.47	NG
337	10598	423761.4845	2052621.7	1.29	NG
338	10599	423754.9074	2052609.97	1.2	NG
339	10600	423746.9723	2052599.18	1.23	NG
340	10601	423741.494	2052588.14	1.25	NG
341	10602	423735.7475	2052579.26	2.04	NG
342	10603	423728.6514	2052567.79	2.18	NG
343	10604	423721.089	2052556.36	1.68	NG
344	10605	423713.1258	2052543.85	2.43	NG
345	10606	423706.0295	2052532.65	2.43	NG
346	10607	423697.1802	2052518.67	1.13	NG
347	10608	423689.3096	2052506.82	1.22	NG
348	10609	423682.4761	2052495.16	2.06	NG
349	10610	423674.9408	2052483.96	2.38	NG
350	10611	423668.2379	2052472.03	2.28	NG
351	10612	423659.9178	2052458.77	2.07	NG
352	10613	423654.0157	2052450.5	1.59	NG
353	10614	423648.245	2052441.31	1.23	NG
354	10615	428109.7256	2049377.69	5.2	NG
355	10616	428100.8115	2049379.58	4.21	NG
356	10617	428091.8733	2049381.92	2.96	NG
357	10618	428083.8656	2049384.08	2.59	NG
358	10619	428072.3064	2049385.44	2.57	NG
359	10620	428062.2739	2049389.45	2.12	NG
360	10621	428052.3285	2049392.02	1.92	NG
361	10622	428041.4584	2049395.01	1.82	NG
362	10623	428033.7842	2049397.19	1.87	NG
363	10624	428025.5199	2049399.82	1.93	NG
364	10625	428015.7758	2049402.05	1.82	NG
365	10626	428007.748	2049404.66	1.85	NG
366	10627	427998.7122	2049406.86	1.82	NG
367	10628	427989.5653	2049409.17	1.87	NG
368	10629	427981.3543	2049411.46	1.76	NG
369	10630	427972.5752	2049414.27	1.76	NG
370	10631	427964.4963	2049415.7	1.81	NG
371	10632	427956.9783	2049417.91	1.78	NG
372	10633	427949.238	2049420.3	1.73	NG
373	10634	427939.7842	2049422.66	1.91	NG
374	10635	427929.865	2049425.57	1.63	NG
375	10636	427920.8457	2049427.86	1.59	NG
376	10637	427912.0414	2049429.92	1.57	NG
377	10638	427902.4787	2049432.22	1.52	NG
378	10639	427893.6151	2049434.49	1.59	NG
379	10640	427885.0671	2049436.6	1.5	WEDG 9:09AM 9/22
380	10641	427425.3909	2049552.32	4.64	NG
381	10642	427434.6746	2049550.13	3.98	NG
382	10643	427445.7917	2049548.86	3.17	NG
383	10644	427454.1634	2049545.09	3.07	NG
384	10645	427464.5836	2049543.55	3.13	NG
385	10646	427472.9123	2049540.35	2.4	NG
386	10647	427480.6502	2049538.86	2.18	NG
387	10648	427488.8074	2049536.37	2.06	WEDG 9:46AM 9/22
388	10649	427496.352	2049534.39	1.99	NG
389	10650	427504.5259	2049532.42	1.85	NG

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
390	10651	427513.9576	2049530.52	1.78	NG
391	10652	427522.9342	2049530.18	1.47	NG
392	10653	427529.7317	2049527.49	0.97	NG
393	10654	427538.3172	2049527.52	0.43	NG
394	10655	427770.8837	2049466.54	0.68	NG
395	10656	427780.0126	2049463.88	1.26	NG
396	10657	427788.3181	2049462.23	1.54	NG
397	10658	427794.7578	2049459.48	1.34	NG
398	10659	427805.1229	2049456.84	0.92	NG
399	10660	427812.3134	2049455	0.89	NG
400	10661	427819.6452	2049453.75	1.38	NG
401	10662	427826.1799	2049450.93	1.39	NG
402	10663	427833.6686	2049448.94	1.32	NG
403	10664	427841.8873	2049447.39	1.51	NG
404	10665	427847.7222	2049445.68	1.57	NG
405	10666	427856.1717	2049443.72	1.55	NG
406	10667	427865.8792	2049441.38	1.69	NG
407	10668	427876.0934	2049438.95	1.72	NG
408	10669	431818.6557	2047024.8	8.13	NG
409	10670	431812.1928	2047017.04	7.9	NG
410	10671	431803.1117	2047008.17	7.03	NG
411	10672	431793.8959	2046998.96	7.02	NG
412	10673	431785.2044	2046989.3	7.17	NG
413	10674	431776.5154	2046979.69	6.9	NG
414	10675	431767.9969	2046970.43	6.59	NG
415	10676	431759.6669	2046961.2	6.6	NG
416	10677	431752.5625	2046952.76	6.82	NG
417	10678	431746.7153	2046944.81	6.38	NG
418	10679	431739.7889	2046936.72	6.3	NG
419	10680	431732.7539	2046929.12	6.1	NG
420	10681	431724.703	2046921.73	5.83	NG
421	10682	431717.0092	2046911.72	5.41	NG
422	10683	431710.1031	2046902.28	4.91	NG
423	10684	431700.7549	2046892.89	4.32	NG
424	10685	431692.6766	2046886.68	4.19	NG
425	10686	431684.2648	2046877.74	3.6	NG
426	10687	431675.5064	2046867.76	2.88	NG
427	10688	431667.1556	2046856.89	2.39	NG
428	10689	431658.8468	2046848.37	2.24	NG
429	10690	431646.511	2046835.87	2.37	NG
430	10691	431638.4566	2046827.12	2.27	NG
431	10692	431630.676	2046820.05	2.18	NG
432	10693	431623.4694	2046811.58	2.25	NG
433	10694	431615.9526	2046804.28	2.37	NG
434	10695	431609.8132	2046795.7	2.33	NG
435	10696	431599.6181	2046787.74	2.21	NG
436	10697	431591.7768	2046778.02	2.32	NG
437	10698	431584.7905	2046772.17	2.24	NG
438	10699	431580.7352	2046765.67	2.06	NG
439	10700	431572.3384	2046752.28	2	NG
440	10701	431563.1114	2046744.47	2.11	NG
441	10702	431555.7994	2046735.19	2.31	NG
442	10703	431546.1422	2046725.76	2.23	NG
443	10704	431536.4565	2046717.79	2.4	NG
444	10705	431527.8741	2046708.57	2.26	NG
445	10706	431519.6867	2046699.67	2.23	NG

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
446	10707	431512.8786	2046691.53	2.28	NG
447	10708	431507.4564	2046684.08	2.1	NG
448	10709	431499.3378	2046674.66	1.97	NG
449	10710	431492.0645	2046665.3	2.09	NG
450	10711	431486.25	2046659.43	2.07	NG
451	10712	431480.9186	2046653.55	2.09	NG
452	10713	431473.631	2046646.31	2.02	NG
453	10714	431467.6168	2046639.85	1.95	NG
454	10715	431459.6384	2046632.85	2.01	NG
455	10716	431453.5172	2046623.43	1.95	NG
456	10717	431445.6165	2046615.73	1.93	NG
457	10718	431438.8568	2046607.01	1.96	NG
458	10719	431430.545	2046599.25	1.94	NG
459	10720	431420.9298	2046588.5	1.93	NG
460	10721	431412.3252	2046580.22	2.02	NG
461	10722	431404.2158	2046571.59	2.18	NG
462	10723	431395.8948	2046561.82	2.28	NG
463	10724	431388.7585	2046553.34	2.58	NG
464	10725	431381.0948	2046544.8	2.42	NG
465	10726	431371.6036	2046536.8	1.74	WEDG 11:33AM 9/2
466	10727	431364.6106	2046530.89	0.36	NG
467	10728	431356.3191	2046524.08	-2.89	NG
468	10729	431349.452	2046513.88	-9.39	NG
469	10730	431268.3472	2046426.45	1.89	WEDG 12:14PM 9/2
470	10731	431262.6484	2046417.79	2.01	NG
471	10732	431254.4098	2046409.82	1.97	NG
472	10733	431245.8194	2046399.56	1.53	NG
473	10734	431233.5979	2046387.14	1.54	NG
474	10735	431208.8259	2046359.63	1.96	NG
475	10736	431195.4834	2046344.98	2.12	NG
476	10737	431186.4355	2046334.95	2.03	NG
477	10738	431178.8805	2046326.08	2.01	NG
478	10739	431171.7208	2046318.03	2	NG
479	10740	431160.1018	2046306.68	2.05	NG
480	10741	431151.7259	2046297.32	2	NG
481	10742	431144.8735	2046287.49	2.13	NG
482	10743	431136.268	2046277.72	2.01	NG
483	10744	431128.1536	2046268.83	2.15	NG
484	10745	431119.7185	2046259.54	2.09	NG
485	10746	431110.6236	2046249.38	2.26	NG
486	10747	431101.7259	2046239.41	2.36	NG
487	10748	431092.8345	2046229.56	2.31	NG
488	10749	431083.9564	2046219.99	2.85	NG
489	10750	431075.7544	2046210.84	3.13	NG
490	10751	431067.6341	2046201.57	3.62	NG
491	10752	431059.2825	2046192.09	4.19	NG
492	10753	431050.041	2046182.02	4.58	NG
493	10754	431039.9558	2046170.68	5.71	NG
494	10755	431030.8691	2046160.55	5.45	NG
495	10756	431022.7997	2046151.75	7.2	NG
496	10757	431221.4703	2046373.38	1.88	NG
497	10758	431239.5306	2046393.15	1.64	NG
498	10759	432418.0747	2045581.43	5.58	NG
499	10760	432407.7645	2045573.07	4.63	NG
500	10761	432396.7802	2045564.24	4.1	NG
501	10762	432388.7316	2045558.21	3.58	NG

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
502	10763	432379.2968	2045551.61	3.31	NG
503	10764	432367.241	2045541.29	2.54	NG
504	10765	432356.5157	2045535.31	2.38	NG
505	10766	432345.4331	2045528.05	2.47	NG
506	10767	432335.3033	2045518.98	2.17	NG
507	10768	432325.0116	2045510.25	2.15	NG
508	10769	432312.5979	2045501.55	2.03	NG
509	10770	432301.5681	2045493.09	2.04	NG
510	10771	432291.372	2045485.45	2.15	NG
511	10772	432281.9646	2045477.61	2.06	NG
512	10773	432270.9918	2045469.47	2.04	NG
513	10774	432259.63	2045460.03	1.96	NG
514	10775	432248.8143	2045452.02	2.07	NG
515	10776	432239.5016	2045445.62	1.97	NG
516	10777	432229.4334	2045438.58	2.03	NG
517	10778	432220.4459	2045430.67	1.98	NG
518	10779	432210.9655	2045422.69	2.06	NG
519	10780	432199.8702	2045415.11	2.07	NG
520	10781	432189.9014	2045406.62	1.99	NG
521	10782	432180.5346	2045398.65	1.95	NG
522	10783	432168.0145	2045388.95	1.9	NG
523	10784	432157.4614	2045381.09	1.67	NG
524	10785	432146.4512	2045371.43	1.66	NG
525	10786	432136.7358	2045365.03	1.75	NG
526	10787	432121.4274	2045355.54	1.8	NG
527	10788	432110.3633	2045347.26	1.98	NG
528	10789	432099.7906	2045339.19	1.73	NG
529	10790	432088.6132	2045330.43	1.74	NG
530	10791	432076.7702	2045321.92	2.39	NG
531	10792	432063.5457	2045311.33	1.06	WEDG 2:27PM 9/23
532	10793	431954.647	2045219.39	0.85	WEDG 3:16PM 9/23
533	10794	431944.7073	2045216.81	3.57	NLS
534	10795	431942.1578	2045213.3	2.06	NG
535	10796	431934.3322	2045206.19	1.92	NG
536	10797	431926.7098	2045199.87	2.2	NG
537	10798	431916.4921	2045191.38	2.04	NG
538	10799	431906.0616	2045182.94	2.1	NG
539	10800	431896.1796	2045175.92	2.05	NG
540	10801	431885.596	2045166.42	2.07	NG
541	10802	431875.2838	2045158.38	1.95	NG
542	10803	431864.0926	2045149.44	1.84	NG
543	10804	431852.9794	2045140.06	1.86	NG
544	10805	431842.8149	2045131.32	1.92	NG
545	10806	431832.5317	2045123.33	2.23	NG
546	10807	431819.6989	2045114.9	1.88	NG
547	10808	431809.3513	2045104.96	2.03	NG
548	10809	431798.4066	2045096.07	2.16	NG
549	10810	431789.8464	2045089	1.95	NG
550	10811	431778.845	2045080.18	1.93	NG
551	10812	431767.8394	2045071.24	1.94	NG
552	10813	431758.7876	2045063.9	1.86	NG
553	10814	431746.9423	2045054.28	2.15	NG
554	10815	431735.4698	2045044.96	2.11	NG
555	10816	431723.1631	2045034.95	2.19	NG
556	10817	431714.358	2045027.71	2.18	NG
557	10818	431701.3451	2045016.87	2.69	NG

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
558	10819	431684.836	2045003.44	3.32	NG
559	10820	431671.7756	2044992.78	3.01	NG
560	10821	431661.9119	2044984.76	4.43	NG
561	10822	431646.9089	2044972.56	5.2	NG
562	10823	446573.198	2036997.66	15.35	NG
563	10824	446582.8425	2037005	14.35	NG
564	10825	446584.7909	2037006.86	13.68	NG
565	10826	446587.1859	2037008.67	13.59	NG
566	10827	446591.3374	2037011.62	14.71	NG
567	10828	446597.8199	2037018.37	13.99	NG
568	10829	446605.7601	2037024.58	13.5	NG
569	10830	446612.5246	2037030.21	12.92	NG
570	10831	446619.6204	2037036.25	12.33	NG
571	10832	446626.4408	2037041.95	11.56	NG
572	10833	446632.7394	2037047.3	10.74	NG
573	10834	446639.4639	2037053.08	9.86	NG
574	10835	446646.1378	2037059.96	9.42	NG
575	10836	446653.6688	2037065.76	7.55	NG
576	10837	446661.4915	2037071.9	7.33	NG
577	10838	446668.1827	2037078.62	6.94	NG
578	10839	446682.5552	2037089.42	6.3	NG
579	10840	446690.996	2037095.79	5.9	NG
580	10841	446699.3563	2037101.63	5.6	NG
581	10842	446706.9588	2037108.42	5.06	NG
582	10843	446713.0674	2037114.53	4.85	NG
583	10844	446720.6722	2037121.07	4.82	NG
584	10845	446728.2881	2037126.29	4.63	NG
585	10846	446735.9002	2037133.35	4.39	NG
586	10847	446743.2673	2037139.06	4.23	NG
587	10848	446753.3465	2037146.12	4.41	NG
588	10849	446759.5432	2037153.84	4.22	NG
589	10850	446763.4578	2037157.53	3.89	NG
590	10851	446766.088	2037160.43	3.25	NG
591	10852	446770.2088	2037163.46	2.39	NG
592	10853	446740.7171	2037136.6	4.85	WEDG 11:29AM EST. 09/30/2015
593	10854	446778.5179	2037166.87	2.56	NG
594	10855	446788.9586	2037175.47	1.77	NG
595	10856	446797.9536	2037184.75	1.64	NG
596	10857	446805.5968	2037191.36	1.38	NG
597	10858	446817.2165	2037201.91	1.44	NG
598	10859	446829.2295	2037209	1.28	NG
599	10860	446840.123	2037218.27	0.63	NG
600	10861	446860.6909	2037236.11	0.63	NG
601	10863	446873.6987	2037245.31	0.99	NG
602	10864	446888.1163	2037257.19	1.25	NG
603	10865	446896.4982	2037264.08	1.95	NG
604	10866	446904.8026	2037270.96	1.87	NG
605	10867	446913.445	2037278.96	1.7	NG
606	10868	446925.154	2037287.59	1.73	NG
607	10869	446933.7728	2037295.01	1.96	NG
608	10870	446942.3716	2037302.66	1.96	NG
609	10871	446951.0263	2037309.93	1.63	NG
610	10872	446959.0837	2037315.22	1.32	NG
611	10873	446966.1078	2037321.46	1.18	NG
612	10874	446977.338	2037330.34	1	NG
613	10875	446985.933	2037337.14	1.3	NG

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
614	10876	446994.2556	2037343.78	1.71	NG
615	10877	447002.7038	2037351.67	1.73	NG
616	10878	447014.1424	2037360.94	2.56	NG
617	10879	447026.274	2037371.34	1.75	NG
618	10880	447044.535	2037384.34	2.37	NG
619	10881	447059.841	2037397.22	2.13	NG
620	10882	447068.65	2037403.72	2.26	NG
621	10883	447078.16	2037411.2	1.73	NG
622	10884	447088.1537	2037425.17	1.22	NG
623	10885	447097.0004	2037430.61	3.54	NG
624	10886	447114.7626	2037446.59	4.56	NG
625	10887	447124.1318	2037451.66	3.46	NG
626	10888	447135.8663	2037461.36	3.5	NG
627	10889	447143.6278	2037468.93	3.47	NG
628	10890	447152.3574	2037474.65	4.18	NG
629	10891	447159.3859	2037480.83	4.14	NG
630	10892	447167.6603	2037487.56	4.49	NG
631	10893	447174.0738	2037492.31	5.2	WEDG 12:12PM EST. 09/30/2015
632	10894	447180.0842	2037498.2	5.07	NG
633	10895	447174.101	2037495.22	6.46	NLS
634	10896	447190.1525	2037503.18	5.87	NG
635	10897	447201.2851	2037512.53	5.44	NG
636	10898	447212.6809	2037522.56	5.46	NG
637	10899	447224.1004	2037532.04	6.02	NG
638	10900	447235.8108	2037542.01	6.51	NG
639	10901	447247.8447	2037552.25	7.15	NG
640	10902	447260.7425	2037563.23	7.71	NG
641	10903	447268.2206	2037569.6	7.66	NG
642	10904	447279.3364	2037579.06	8.21	NG
643	10905	447288.9413	2037587.24	8.84	NG
644	10906	447298.855	2037595.68	9.28	NG
645	10907	448408.689	2034588.83	12.56	NG
646	10908	448416.711	2034592.79	12.01	NG
647	10909	448424.721	2034595.49	11.66	NG
648	10910	448432.503	2034598.63	10.84	NG
649	10911	448440.425	2034600.92	10.18	NG
650	10912	448447.918	2034604.26	9.85	NG
651	10913	448456.247	2034606.95	9.3	NG
652	10914	448464.344	2034609.49	9.2	NG
653	10915	448472.765	2034612.89	8.85	NG
654	10916	448480.714	2034616.06	8.42	NG
655	10917	448491.359	2034616.91	8.47	NG
656	10918	448499.952	2034619.07	8.01	NG
657	10919	448508.493	2034621.35	7.48	NG
658	10920	448517.166	2034624.65	7.04	NG
659	10921	448525.274	2034628.1	6.94	NG
660	10922	448533.798	2034630.79	5.58	NG
661	10923	448542.479	2034633.33	5.23	NG
662	10924	448550.675	2034636.55	5.26	NG
663	10925	448559.072	2034639.95	5.2	NG
664	10926	448568.028	2034642.86	4.88	WEDG 1:23PM EST. 09/30/2015
665	10927	448578.429	2034646.39	3.9	NG
666	10928	448588.263	2034649.92	4.23	NG
667	10929	448599.533	2034653.49	3.93	NG
668	10930	448611.626	2034654.48	3.25	NG
669	10931	448622.795	2034658.93	2.95	NG

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
670	10932	448631.845	2034662.13	2.69	NG
671	10933	448641.377	2034664.99	3.1	NG
672	10934	448662.935	2034672.21	-3.65	NG
673	10935	448677.901	2034679.87	-2.62	NG
674	10936	448690.846	2034680.2	-0.22	NG
675	10937	448708.736	2034685.88	0.53	NG
676	10938	448731.547	2034694.77	1.45	NG
677	10939	448744.499	2034698.43	3.74	NG
678	10940	448752.716	2034707.69	1.12	NG
679	10941	448764.209	2034713.53	1.3	NG
680	10942	448783.477	2034722.42	1.13	NG
681	10943	448800.937	2034723.9	1.55	NG
682	10944	448816.492	2034733.52	1.12	NG
683	10945	448830.003	2034739.37	2.57	NG
684	10946	448843.719	2034745.98	1.85	NG
685	10947	448860.18	2034751.26	1.18	NG
686	10948	448870.317	2034755.26	2.31	NG
687	10949	448881.222	2034760.08	2.34	NG
688	10950	448891.719	2034763.43	-0.48	NG
689	10951	448903.914	2034766.01	-0.49	NG
690	10952	448925.398	2034775.37	0.28	NG
691	10953	448931.959	2034778.21	2.09	NG
692	10954	448942.311	2034778.56	3.26	NG
693	10955	448952.315	2034782.02	4.14	NG
694	10956	448966.009	2034786.01	3.67	NG
695	10957	448977.153	2034790.07	4.7	NG
696	10958	448982.429	2034792.42	4.16	NG
697	10959	449000.366	2034799.4	5.02	NG
698	10960	449011.749	2034802	4.08	NG
699	10961	449026.533	2034806.82	4.74	NG
700	10962	449037.155	2034809.96	4.72	NG
701	10963	449050.558	2034815.02	5.02	NG
702	10964	449062.246	2034819.75	4.95	NG
703	10965	449077.394	2034825.16	5.35	NG
704	10966	449090.823	2034829.72	5.7	NG
705	10967	449106.685	2034835.85	5.69	NG
706	10968	449120.193	2034840.19	5.76	NG
707	10969	449133.29	2034844.91	6.52	NG
708	10970	449148.686	2034850.27	6.86	NG
709	10971	449163.959	2034855.79	7.29	NG
710	10972	449174.584	2034858.98	7.33	NG
711	10973	449188.254	2034863.76	7.96	NG
712	10974	449200.639	2034867.8	8.81	NG
713	10975	449211.489	2034871.43	8.72	NG
714	10976	449224.979	2034876.58	9.21	NG
715	10977	449067.97	2034821.87	5.03	WEDG 2:02PM EST. 09/30/2015
716	10978	448956.654	2034783.82	6.95	NLS
717	20000	431293.16	2046449.88	-3.28	
718	20001	431290.08	2046460.23	-5.02	
719	20002	431294.89	2046454.66	-5.1	
720	20003	431281.48	2046467.89	-5.3	
721	20004	431286.28	2046463.71	-5.57	
722	20005	431299.82	2046453.25	-6.47	
723	20006	431304.81	2046452.05	-7.35	
724	20007	431297.7	2046458.91	-7.67	
725	20008	431309.84	2046452.38	-8.72	

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
726	20009	431301.3	2046462.54	-9.18	
727	20010	431305.55	2046465.32	-9.68	
728	20011	431314.74	2046453.78	-9.78	
729	20012	431323.21	2046456.55	-10.09	
730	20013	431310.8	2046467.79	-10.2	
731	20014	431327.73	2046458.86	-10.66	
732	20015	431331.89	2046461.81	-11.62	
733	20016	431335.62	2046465.18	-12.28	
734	20017	431338.97	2046468.98	-12.66	
735	20018	431269.06	2046479.61	-4.65	
736	20019	431277.11	2046471.48	-5.15	
737	20020	431266.02	2046483.61	-5.4	
738	20021	431272.37	2046475.84	-6.12	
739	20022	431262.7	2046488.38	-6.99	
740	20023	431315.35	2046469.91	-10.8	
741	20024	431319.76	2046472.31	-11.23	
742	20025	431323.9	2046475.18	-11.71	
743	20026	431327.67	2046478.49	-12.36	
744	20027	431333.29	2046485.53	-12.63	
745	20028	431342.07	2046473.02	-12.73	
746	20029	431344.78	2046477.46	-12.79	
747	20030	431335.5	2046490.12	-12.8	
748	20031	431346.64	2046482.14	-12.83	
749	20032	431255.55	2046498.6	-6.15	
750	20033	431326.77	2046518.58	-10.44	
751	20034	431330.61	2046515.19	-11.05	
752	20035	431333.81	2046511.26	-12.17	
753	20036	431335.89	2046506.69	-13.08	
754	20037	431336.77	2046495.04	-13.2	
755	20038	431336.94	2046500.73	-13.44	
756	20039	431322.28	2046521.72	-9.72	
757	20040	427648.56	2049493.78	-4.41	
758	20041	427652.91	2049491.17	-4.86	
759	20042	427657.51	2049488.91	-5.35	
760	20043	427662.11	2049486.93	-5.57	
761	20044	427666.85	2049484.94	-5.75	
762	20045	427671.61	2049483	-5.9	
763	20046	427676.36	2049481.07	-5.97	
764	20047	427681.01	2049479.09	-6.17	
765	20048	427685.55	2049476.96	-8.01	
766	20049	427689.76	2049474.23	-8.8	
767	20050	427693.41	2049470.77	-9.4	
768	20051	427627.21	2049514.92	-3.53	
769	20052	427629.57	2049510.47	-3.7	
770	20053	427632.67	2049506.33	-3.9	
771	20054	427636.23	2049502.68	-4.06	
772	20055	427640.31	2049499.38	-4.18	
773	20056	427667.82	2049518.23	-5.45	
774	20057	427676.53	2049514.65	-5.52	
775	20058	427681.09	2049512.55	-5.9	
776	20059	427685.88	2049510.16	-6.08	
777	20060	427696.7	2049505.96	-6.48	
778	20061	427690.55	2049508.13	-6.62	
779	20062	427713.69	2049517.57	-8.37	
780	20063	427706.89	2049504.49	-8.46	
781	20064	427701.69	2049504.78	-8.46	

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
782	20065	427711.88	2049504.94	-9	
783	20066	427718.61	2049516.3	-9.06	
784	20067	427717.73	2049506.25	-9.14	
785	20068	427723.64	2049515.9	-9.55	
786	20069	427730.11	2049517.05	-9.74	
787	20070	427749.37	2049537.52	-1.56	
788	20071	427749.99	2049532.55	-1.9	
789	20072	427744.43	2049519.8	-2.26	
790	20073	427749.23	2049527.52	-2.26	
791	20074	427624.37	2049538.14	-2.27	
792	20075	427623.46	2049533.16	-2.45	
793	20076	427623.2	2049528.1	-2.94	
794	20077	427633.66	2049542.57	-3.28	
795	20078	427624.07	2049523.17	-3.28	
796	20079	427635.46	2049537.82	-3.41	
797	20080	427638.51	2049533.8	-3.64	
798	20081	427642.51	2049530.62	-3.85	
799	20082	427646.93	2049528.2	-3.98	
800	20083	427651.41	2049525.83	-4.12	
801	20084	427655.85	2049523.51	-4.37	
802	20085	427676.56	2049543.89	-4.92	
803	20086	427660.48	2049521.32	-5.04	
804	20087	427680.73	2049540.36	-5.62	
805	20088	427685.2	2049536.67	-6.11	
806	20089	427689.23	2049533.58	-6.66	
807	20090	427693.41	2049530.47	-7.03	
808	20091	427697.54	2049527.29	-7.47	
809	20092	427701.58	2049524.23	-7.81	
810	20093	427705.76	2049521.42	-8.14	
811	20094	427737.75	2049523.57	-8.43	
812	20095	427747.57	2049542.24	-8.58	
813	20096	427739.53	2049528.41	-8.62	
814	20097	427734.59	2049519.68	-9.46	
815	20098	427740.04	2049533.49	-9.72	
816	20099	427739.4	2049541.14	-10.01	
817	20100	427633.17	2049547.56	-2.53	
818	20101	427633.69	2049555.15	-2.96	
819	20102	427638.73	2049564.89	-3.14	
820	20103	427628.19	2049546.75	-3.15	
821	20104	427636.22	2049559.59	-3.22	
822	20105	427660.29	2049556.92	-3.43	
823	20106	427664.33	2049553.95	-3.78	
824	20107	427668.33	2049550.82	-4.09	
825	20108	427672.34	2049547.48	-4.89	
826	20109	427745.34	2049546.77	-9.92	
827	20110	427733.99	2049569.05	-10.06	
828	20111	427736.37	2049564.51	-10.32	
829	20112	427743.25	2049551.41	-10.41	
830	20113	427738.78	2049560.12	-10.53	
831	20114	427646.63	2049583.12	-2.28	
832	20115	427644.49	2049578.57	-2.69	
833	20116	427642.24	2049573.32	-2.78	
834	20117	427731.32	2049573.58	-9.33	
835	20118	427717.46	2049592.43	-9.57	
836	20119	427721.1	2049588.12	-9.63	
837	20120	427726.07	2049581.43	-9.68	

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
838	20121	427676.98	2049612.4	-3.76	
839	20122	427683.26	2049612.01	-4.44	
840	20123	427688.26	2049611.14	-4.69	
841	20124	427694.59	2049608.87	-6.77	
842	20125	427700.38	2049606.28	-6.91	
843	20126	427705.83	2049602.89	-7.64	
844	20127	427713.97	2049596.02	-9.05	
845	20128	425669.72	2051861.66	-2.92	
846	20129	425658.83	2051855.78	-3.02	
847	20130	425674.08	2051864.55	-3.5	
848	20131	425663.29	2051858.05	-3.55	
849	20132	425624.61	2051860.98	-3.68	
850	20133	425624.02	2051867.66	-3.76	
851	20134	425682.21	2051870.38	-3.31	
852	20135	425625.49	2051875.83	-3.91	
853	20136	425627.48	2051880.82	-4	
854	20137	425630.09	2051885.78	-4.24	
855	20138	425686.23	2051873.36	-4.5	
856	20139	425632.71	2051890.11	-4.55	
857	20140	425635.49	2051894.46	-4.77	
858	20141	425690.26	2051876.4	-4.96	
859	20142	425694.3	2051879.5	-5.13	
860	20143	425698.37	2051882.63	-5.68	
861	20144	425702.46	2051885.75	-6.01	
862	20145	425706.57	2051888.91	-6.33	
863	20146	425710.8	2051892.34	-6.44	
864	20147	425565.98	2051895.04	-3.82	
865	20148	425566.54	2051900.15	-3.98	
866	20149	425568.15	2051904.92	-4.09	
867	20150	425570.58	2051909.54	-4.43	
868	20151	425573.41	2051913.9	-4.74	
869	20152	425576.33	2051918.05	-5.27	
870	20153	425638.32	2051898.77	-5.35	
871	20154	425641.2	2051903.01	-5.72	
872	20155	425644.21	2051907.26	-6.32	
873	20156	425714.66	2051895.55	-6.53	
874	20157	425718.55	2051898.81	-6.61	
875	20158	425647.23	2051911.38	-6.72	
876	20159	425650.28	2051915.37	-6.84	
877	20160	425722.44	2051902.13	-6.86	
878	20161	425733.76	2051913.38	-6.97	
879	20162	425726.28	2051905.6	-6.98	
880	20163	425729.95	2051909.23	-7.06	
881	20164	425753.73	2051938.32	-3.22	
882	20165	425757.57	2051943.47	-4.21	
883	20166	425579.4	2051922.16	-5.76	
884	20167	425750.73	2051934.22	-6.14	
885	20168	425582.64	2051926.19	-6.3	
886	20169	425585.9	2051930	-6.68	
887	20170	425743.38	2051924.7	-6.69	
888	20171	425747.66	2051930.09	-6.79	
889	20172	425740.17	2051920.86	-6.84	
890	20173	425654.45	2051920.56	-6.86	
891	20174	425589.24	2051933.75	-6.95	
892	20175	425659.53	2051926.65	-6.96	
893	20176	425593.22	2051937.99	-7.02	

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
894	20177	425596.81	2051941.68	-7.06	
895	20178	425665.01	2051933.09	-7.3	
896	20179	425668.44	2051936.91	-7.46	
897	20180	425672.1	2051940.82	-7.49	
898	20181	425692.89	2051965.92	-3.06	
899	20182	425689.41	2051962.14	-3.59	
900	20183	425681.4	2051952.28	-3.95	
901	20184	425686.05	2051958.21	-4.26	
902	20185	425762.94	2051951.29	-5.52	
903	20186	425766.33	2051956.07	-5.71	
904	20187	425772.44	2051963.55	-5.83	
905	20188	425775.67	2051967.5	-6.57	
906	20189	425678.35	2051948.26	-6.61	
907	20190	425605.55	2051950.5	-7.08	
908	20191	425620.95	2051966.54	-7.17	
909	20192	425609.19	2051954.15	-7.3	
910	20193	425601.98	2051946.9	-7.3	
911	20194	425612.74	2051957.74	-7.35	
912	20195	425616.23	2051961.33	-7.52	
913	20196	425702.53	2051975.78	-2.72	
914	20197	425706.21	2051979.38	-2.76	
915	20198	425696.42	2051969.57	-2.86	
916	20199	425643.91	2051991.89	-3.06	
917	20200	425639.59	2051987.74	-3.07	
918	20201	425635.15	2051983.22	-3.15	
919	20202	425631.73	2051979.41	-3.21	
920	20203	425721.81	2051992.75	-3.47	
921	20204	425710.03	2051982.88	-3.54	
922	20205	425628.38	2051975.47	-3.61	
923	20206	425625.13	2051971.57	-4.97	
924	20207	425713.9	2051986.23	-5.76	
925	20208	425717.77	2051989.51	-6.44	
926	20209	425814.25	2051972.02	-7.28	
927	20210	425815.98	2051991.65	-7.35	
928	20211	425816.1	2051976.71	-7.45	
929	20212	425817.08	2051984.65	-7.47	
930	20213	425656.52	2052004.16	-2.8	
931	20214	425660.18	2052007.7	-3.02	
932	20215	425649.24	2051997.08	-3.12	
933	20216	425652.87	2052000.58	-3.21	
934	20217	425663.96	2052011.12	-4.48	
935	20218	425726.02	2051995.79	-4.86	
936	20219	425793.56	2052015.37	-5.69	
937	20220	425800.97	2052011.99	-5.74	
938	20221	425667.94	2052014.41	-5.93	
939	20222	425805.09	2052008.86	-6.3	
940	20223	425672	2052017.49	-6.41	
941	20224	425788.58	2052016.56	-6.53	
942	20225	425730.31	2051998.62	-6.81	
943	20226	425808.65	2052005.18	-6.83	
944	20227	425811.73	2052001.05	-7.17	
945	20228	425739.7	2052004.23	-7.21	
946	20229	425734.63	2052001.26	-7.22	
947	20230	425783.57	2052017.35	-7.23	
948	20231	425814.26	2051996.41	-7.32	
949	20232	425744.22	2052006.68	-7.38	

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
950	20233	425748.95	2052009.09	-7.59	
951	20234	425778.51	2052017.58	-7.68	
952	20235	425755.12	2052012.04	-7.83	
953	20236	425760.47	2052014.09	-7.98	
954	20237	425773.26	2052017.19	-8.08	
955	20238	425768.22	2052016.28	-8.17	
956	20239	425760.98	2052036.6	-5.79	
957	20240	425756.57	2052039	-5.91	
958	20241	425752.05	2052041.15	-6.13	
959	20242	425747.36	2052042.89	-6.34	
960	20243	425677.41	2052021.14	-6.48	
961	20244	425742.35	2052044.05	-6.87	
962	20245	425681.86	2052023.82	-6.96	
963	20246	425686.88	2052026.69	-7.3	
964	20247	425691.35	2052029.35	-7.47	
965	20248	425695.61	2052031.99	-7.66	
966	20249	425699.94	2052034.66	-8.01	
967	20250	425704.26	2052037.18	-8.33	
968	20251	425709.18	2052039.67	-8.49	
969	20252	425727.19	2052044.29	-8.51	
970	20253	425716.03	2052042.19	-8.63	
971	20254	425720.99	2052043.41	-8.68	
972	20255	425737.35	2052044.59	-7.54	
973	20256	425732.27	2052044.64	-8.08	
974	20257	423878.76	2052859.32	-3.06	
975	20258	423886.17	2052862.4	-3.07	
976	20259	423870.18	2052858.02	-3.19	
977	20260	423849.18	2052865.83	-3.24	
978	20261	423890.55	2052864.87	-3.27	
979	20262	423862.34	2052858.76	-3.31	
980	20263	423857.5	2052860.34	-3.37	
981	20264	423897.01	2052868.76	-3.5	
982	20265	423845.4	2052870.55	-3.22	
983	20266	423842.74	2052875.56	-3.28	
984	20267	423840.69	2052881.38	-3.31	
985	20268	423843.03	2052890.84	-3.32	
986	20269	423839.75	2052887.06	-3.37	
987	20270	423847.92	2052876.76	-3.38	
988	20271	423909.39	2052875.73	-3.51	
989	20272	423901.41	2052871.14	-3.54	
990	20273	423913.72	2052878.45	-3.71	
991	20274	423918.06	2052881.21	-3.78	
992	20275	423928.41	2052888.04	-3.79	
993	20276	423922.42	2052884.1	-3.81	
994	20277	423934.06	2052891.4	-3.88	
995	20278	423839.75	2052894.63	-3.43	
996	20279	423841.36	2052904.45	-3.56	
997	20280	423843.02	2052899.25	-3.57	
998	20281	423843.04	2052909.29	-3.65	
999	20282	423846.06	2052915.66	-3.68	
1000	20283	423850.98	2052917.48	-3.72	
1001	20284	423939.57	2052894.52	-3.99	
1002	20285	423944.19	2052897.35	-4.12	
1003	20286	423948.42	2052900.17	-4.15	
1004	20287	423953.99	2052904.22	-4.24	
1005	20288	423958	2052907.43	-4.43	

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1006	20289	423961.96	2052910.69	-4.58	
1007	20290	423965.92	2052913.94	-4.62	
1008	20291	423969.93	2052917.18	-4.97	
1009	20292	423853.76	2052929.21	-3.77	
1010	20293	423849.94	2052922.77	-3.84	
1011	20294	423859.19	2052929.03	-3.85	
1012	20295	423855.66	2052924.28	-3.88	
1013	20296	423862.38	2052933.06	-4.09	
1014	20297	423856.63	2052933.5	-4.12	
1015	20298	423859.72	2052937.62	-4.22	
1016	20299	423865.71	2052937.07	-4.37	
1017	20300	423862.98	2052941.65	-4.48	
1018	20301	423869.09	2052940.88	-4.54	
1019	20302	423973.84	2052920.41	-5.03	
1020	20303	423977.72	2052923.69	-5.18	
1021	20304	423983.5	2052928.44	-5.26	
1022	20305	423987.55	2052931.6	-5.65	
1023	20306	423991.64	2052934.72	-5.85	
1024	20307	423996.92	2052938.39	-6.24	
1025	20308	424001.2	2052941.13	-6.62	
1026	20309	424005.54	2052943.69	-6.96	
1027	20310	423866.68	2052945.91	-4.57	
1028	20311	423877.65	2052949.42	-4.73	
1029	20312	423872.7	2052944.61	-4.76	
1030	20313	423871.18	2052950.74	-4.79	
1031	20314	423874.71	2052954.32	-4.87	
1032	20315	423881.96	2052953.28	-4.9	
1033	20316	423878.29	2052957.84	-5.05	
1034	20317	423885.81	2052956.48	-5.07	
1035	20318	423881.95	2052961.3	-5.25	
1036	20319	423889.79	2052959.61	-5.28	
1037	20320	423885.76	2052964.74	-5.43	
1038	20321	423894.02	2052962.86	-5.45	
1039	20322	423889.73	2052968.09	-5.6	
1040	20323	423898.08	2052965.88	-5.68	
1041	20324	423902.29	2052968.92	-5.97	
1042	20325	424010.04	2052946.14	-7.33	
1043	20326	424014.51	2052948.63	-7.55	
1044	20327	424018.88	2052951.09	-8.08	
1045	20328	424023.46	2052953.4	-8.53	
1046	20329	424028.01	2052955.48	-9.08	
1047	20330	424032.82	2052957.9	-9.15	
1048	20331	424045.97	2052954.24	-9.18	
1049	20332	424037.28	2052960.56	-9.22	
1050	20333	424048.61	2052958.58	-9.71	
1051	20334	424041.43	2052963.56	-9.74	
1052	20335	424050.99	2052963.18	-10.15	
1053	20336	424045.34	2052966.92	-10.27	
1054	20337	423893.97	2052971.44	-5.89	
1055	20338	423898.02	2052974.44	-6.08	
1056	20339	423906.59	2052971.87	-6.19	
1057	20340	423902.57	2052977.69	-6.33	
1058	20341	423910.84	2052974.65	-6.37	
1059	20342	423907.3	2052981.01	-6.53	
1060	20343	423915.23	2052977.36	-6.59	
1061	20344	423911.54	2052983.87	-6.86	

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1062	20345	423919.59	2052979.85	-6.91	
1063	20346	423925.17	2052982.82	-6.96	
1064	20347	423915.8	2052986.67	-7.35	
1065	20348	423929.71	2052985.15	-7.47	
1066	20349	423920.08	2052989.42	-7.67	
1067	20350	423934.23	2052987.43	-7.76	
1068	20351	423924.4	2052992.16	-7.9	
1069	20352	423938.72	2052989.71	-8.14	
1070	20353	423943.26	2052991.98	-8.44	
1071	20354	423947.85	2052994.17	-8.62	
1072	20355	424057.01	2052976.24	-9.89	
1073	20356	424052.38	2052974.26	-10.06	
1074	20357	424059.18	2052980.95	-10.06	
1075	20358	424061.22	2052985.55	-10.36	
1076	20359	424063.06	2052991.93	-10.56	
1077	20360	424048.99	2052970.51	-10.58	
1078	20361	424081.94	2053019.33	-4.96	
1079	20362	424081.3	2053014.35	-5.79	
1080	20363	424080.22	2053009.44	-6.68	
1081	20364	424062.45	2053015.24	-7.1	
1082	20365	424078.83	2053004.61	-7.66	
1083	20366	424070.83	2053008.23	-7.77	
1084	20367	424063.42	2053010.29	-7.93	
1085	20368	423928.73	2052994.82	-8.12	
1086	20369	423933.12	2052997.46	-8.48	
1087	20370	423937.59	2053000.04	-8.6	
1088	20371	424076.9	2052999.95	-8.75	
1089	20372	424063.89	2053005.19	-8.78	
1090	20373	424069.52	2053003.22	-8.79	
1091	20374	423942.11	2053002.54	-8.8	
1092	20375	423952.52	2052996.27	-8.89	
1093	20376	423946.53	2053004.9	-9.2	
1094	20377	423957.28	2052998.33	-9.56	
1095	20378	424063.87	2053000.04	-9.7	
1096	20379	423952.03	2053007.83	-9.7	
1097	20380	423990.44	2053013.32	-9.84	
1098	20381	423956.5	2053010.17	-9.84	
1099	20382	423968.9	2053003.38	-9.88	
1100	20383	423974.07	2053019.34	-9.91	
1101	20384	423995.16	2053015.47	-9.92	
1102	20385	423999.8	2053017.61	-9.99	
1103	20386	423985.73	2053011.13	-10.04	
1104	20387	423969.58	2053016.98	-10.1	
1105	20388	423961.12	2053012.58	-10.12	
1106	20389	423973.56	2053005.47	-10.13	
1107	20390	423978.66	2053007.8	-10.23	
1108	20391	424066.59	2052995.81	-10.33	
1109	20392	423964.13	2053001.29	-10.46	
1110	20393	424060.78	2053047.52	-2.8	
1111	20394	424073.02	2053042.74	-3.18	
1112	20395	424054.15	2053046.24	-3.18	
1113	20396	424049.64	2053043.99	-3.38	
1114	20397	424076.28	2053038.83	-3.48	
1115	20398	424078.85	2053034.33	-3.58	
1116	20399	424080.8	2053029.57	-3.87	
1117	20400	424081.8	2053024.61	-4.32	

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1118	20401	424045.19	2053041.62	-4.81	
1119	20402	424042.9	2053036.98	-5.22	
1120	20403	424048.01	2053034.43	-5.24	
1121	20404	424052.25	2053031.28	-5.42	
1122	20405	424037.98	2053038.28	-5.44	
1123	20406	424055.88	2053027.66	-5.67	
1124	20407	424032.97	2053038.83	-5.87	
1125	20408	424058.91	2053023.55	-6.12	
1126	20409	424027.88	2053039.06	-6.43	
1127	20410	424022.83	2053038.75	-6.8	
1128	20411	424030.99	2053034.21	-6.92	
1129	20412	424017.73	2053037.96	-7.22	
1130	20413	424026.53	2053031.78	-7.66	
1131	20414	424012.84	2053036.76	-7.79	
1132	20415	424022.08	2053029.31	-8.45	
1133	20416	424007.89	2053035.25	-8.53	
1134	20417	424003.04	2053033.53	-9.28	
1135	20418	424017.58	2053026.79	-9.33	
1136	20419	423998.39	2053031.67	-9.7	
1137	20420	423978.62	2053021.74	-9.8	
1138	20421	424013.02	2053024.3	-9.98	
1139	20422	424007.29	2053021.3	-10.04	
1140	20423	423983.13	2053024.14	-10.1	
1141	20424	423987.64	2053026.52	-10.34	
1142	20425	423993.72	2053029.55	-10.36	
1143	20426	431985.71	2045231.36	0.16	
1144	20427	431984.16	2045236.29	0.02	
1145	20428	431988.6	2045227.13	-0.36	
1146	20429	431992.33	2045223.64	-1.7	
1147	20430	431997.02	2045221.8	-3.37	
1148	20431	432001.91	2045220.63	-4.59	
1149	20432	432006.72	2045222.04	-5.65	
1150	20433	432011.43	2045224.04	-6.39	
1151	20434	432016.07	2045226.1	-6.94	
1152	20435	432022.21	2045229.56	-7.1	
1153	20436	432026.25	2045232.52	-7.47	
1154	20437	432030.19	2045235.78	-8.67	
1155	20438	431989.2	2045235.85	-11.65	
1156	20439	431993.41	2045238.6	-13.25	
1157	20440	431981.84	2045240.89	-0.18	
1158	20441	431979.95	2045245.78	-0.53	
1159	20442	431979.2	2045252.01	-0.66	
1160	20443	431977.95	2045256.99	-1.07	
1161	20444	431977.53	2045262.09	-1.41	
1162	20445	431960.12	2045262.44	-5.63	
1163	20446	431964.62	2045260.12	-6.12	
1164	20447	432046.64	2045261.53	-6.87	
1165	20448	432044.08	2045257.16	-7.25	
1166	20449	431969.67	2045259.89	-7.56	
1167	20450	432042.19	2045252.38	-7.74	
1168	20451	432040	2045247.83	-9.23	
1169	20452	432036.39	2045242.08	-9.66	
1170	20453	431997.32	2045241.73	-13.83	
1171	20454	432002.32	2045247.17	-14.13	
1172	20455	432005.32	2045251.2	-14.57	
1173	20456	432007.85	2045255.77	-14.84	

Object	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1174	20457	432010.51	2045260.17	-15.15	
1175	20458	432012.36	2045264.84	-15.84	
1176	20459	431977.33	2045267.24	-2.03	
1177	20460	431977.99	2045280.03	-2.78	
1178	20461	431978.48	2045272.17	-2.89	
1179	20462	431952.82	2045270.65	-4.33	
1180	20463	431955.6	2045266.41	-4.53	
1181	20464	431950.87	2045275.35	-4.78	
1182	20465	431962.27	2045286.76	-4.94	
1183	20466	431949.49	2045280.25	-5.35	
1184	20467	431948.41	2045285.24	-5.67	
1185	20468	431947.63	2045290.18	-6	
1186	20469	432033.6	2045285.68	-6.22	
1187	20470	432046.43	2045274	-9.18	
1188	20471	431990.74	2045280.22	-9.54	
1189	20472	431984.49	2045272.42	-10.38	
1190	20473	432041.44	2045274.53	-10.65	
1191	20474	431993.63	2045284.34	-10.69	
1192	20475	431996.51	2045288.56	-10.8	
1193	20476	432029.35	2045288.36	-11.94	
1194	20477	432034.81	2045275.28	-12.5	
1195	20478	432024.95	2045285.95	-13.94	
1196	20479	432020.53	2045283.42	-15.65	
1197	20480	432015.17	2045273.84	-15.85	
1198	20481	432016.95	2045279.84	-16.17	
1199	20482	432037.57	2045300.46	-2.88	
1200	20483	432035.96	2045295.66	-3.52	
1201	20484	432034.85	2045290.63	-4.59	
1202	20485	431959.07	2045290.61	-5.15	
1203	20486	431954.64	2045292.96	-5.64	
1204	20487	431949.72	2045295.16	-5.77	
1205	20488	432010.45	2045305.16	-7.41	
1206	20489	432006.12	2045302.65	-8.94	
1207	20490	432003.12	2045298.6	-10.29	
1208	20491	432000.35	2045294.37	-10.74	
1209	100001	448489.235	2034285.03	11.46	CMON 3IN RND MON WSP1
1210	100002	448394.38	2034096.47	14.19	CMON 3IN RND MON WSP2
1211	100003	448547.947	2033980.16	11.59	CMON 3IN RND MON WSP3
1212	100004	448227.044	2034528.1	0	IRC WSP4

St. Marks River

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
5003	462821.3520	2079523.7730	15.800	TP0IR
5004	462821.3808	2079539.9075	10.910	GS
5005	462822.1789	2079548.8464	9.850	GS
5006	462822.5835	2079553.3781	8.980	PD
5007	462823.3695	2079562.1811	8.520	GS
5008	462824.2605	2079572.1608	8.930	PD
5009	462825.1197	2079581.7830	10.060	GS
5010	462826.1387	2079593.1955	10.100	GS
5011	462826.6705	2079599.1519	9.140	GS
5012	462826.8645	2079601.3246	8.830	PD
5013	462827.5253	2079608.7254	7.630	GS
5014	462828.4231	2079618.7814	7.340	GS
5015	462829.4435	2079630.2097	7.020	GS
5016	462830.3839	2079640.7415	7.050	GS
5017	462831.3942	2079652.0568	6.120	GS
5018	462832.2542	2079661.6895	5.910	GS
5019	462833.1761	2079672.0144	5.940	GS
5020	462834.3354	2079684.9987	5.810	GS
5021	462835.1955	2079694.6314	6.070	GS
5022	462836.1505	2079705.3272	5.770	GS
5023	462837.1399	2079716.4091	5.220	GS
5024	462838.1915	2079728.1865	5.340	GS
5025	462839.1340	2079738.7426	5.510	GS
5026	462840.0594	2079749.1072	5.310	GS
5027	462842.7557	2079779.3052	4.350	GS
5028	462843.5174	2079787.8359	3.760	GS
5029	462844.1721	2079795.1684	3.750	GS
5030	462844.6413	2079800.4235	3.520	GS
5031	462845.4510	2079809.4919	2.860	GS
5032	462845.1884	2079806.5518	3.050	GS
5033	462848.0943	2079839.0974	3.640	GS
5034	462849.1537	2079850.9621	4.050	GS
5035	462850.7834	2079869.2143	4.260	GS
5036	462851.8070	2079880.6789	5.100	GS
5037	462852.8282	2079892.1160	5.690	GS
5038	462854.3355	2079908.9986	6.430	GS
5039	462855.3067	2079919.8750	6.270	GS
5040	462856.0507	2079928.2085	6.770	GS
5041	462857.1703	2079940.7478	6.140	GS
5042	462857.9347	2079949.3089	5.670	GS
5043	462859.2760	2079964.3317	5.770	GS
5044	462860.4729	2079977.7362	5.820	GS
5045	462861.9024	2079993.7465	6.500	GS
5046	462863.2543	2080008.8878	6.490	GS
5047	462864.0583	2080017.8926	6.380	GS
5048	462864.7964	2080026.1590	6.180	GS
5049	462866.0666	2080040.3858	6.580	GS
5050	462866.9152	2080049.8901	6.850	GS
5051	462867.6637	2080058.2731	7.060	GS
5052	462868.4555	2080067.1414	7.200	GS
5053	462869.0848	2080074.1895	8.240	GS
5054	462869.6406	2080080.4140	8.990	PD
5055	462869.7512	2080081.6523	9.250	GS

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
5056	462870.8576	2080094.0443	9.400	GS
5057	462871.7862	2080104.4451	9.560	GS
5058	462872.7591	2080115.3406	9.450	GS
5059	462873.8332	2080127.3712	9.350	GS
5060	462874.6870	2080136.9335	9.380	GS
5061	462875.5679	2080146.7999	9.870	GS
5062	462876.8094	2080160.7039	9.820	GS
5063	462877.6669	2080170.3078	10.030	GS
5064	462878.3572	2080178.0388	10.150	GS
5065	462878.8801	2080183.8959	10.340	GS
5066	462878.6737	2080181.5846	10.270	GS
5067	462879.5615	2080191.5277	10.630	GS
5068	462880.6627	2080203.8608	10.950	GS
5069	462881.8526	2080217.1876	11.000	GS
5070	462882.8331	2080228.1691	11.750	GS
5072	462883.9802	2080241.0167	11.580	GS
5073	462884.8946	2080251.2580	11.790	GS
5074	462886.0155	2080263.8118	12.280	GS
5075	462886.4247	2080268.3950	12.500	GS
5076	462887.4345	2080279.7044	9.240	GS
5077	462887.5944	2080281.4956	13.360	GS
5078	462888.7950	2080294.9421	14.670	GS
5079	462889.7022	2080305.1020	15.050	GS
5080	462890.8655	2080318.1313	15.630	GS
5082	462891.7085	2080327.5727	16.350	GS
5407	462841.8664	2079769.3448	4.670	GS
5408	462840.9770	2079759.3844	4.990	GS
5409	462847.2132	2079829.2289	3.380	GS
5410	462846.3321	2079819.3604	3.120	GS
5411	462849.9685	2079860.0882	4.150	GS
5412	462853.7317	2079902.2354	6.130	GS
5413	462858.6054	2079956.8203	5.720	GS
5414	462861.1873	2079985.7374	6.160	GS
5415	462865.4322	2080033.2804	6.380	GS
5416	462876.1887	2080153.7519	9.840	GS
5417	462870.2389	2080087.1152	9.820	TP0BM
SECTION SM02				
5083	461562.7780	2078804.4370	9.822	GS
5084	461368.0565	2079058.4954	8.504	PD
5085	461369.0055	2079057.2571	9.218	GS
5086	461370.4904	2079055.3198	9.653	GS
5087	461376.0012	2079048.1297	9.884	GS
5088	461381.6097	2079040.8121	9.632	GS
5089	461383.6774	2079038.1144	9.300	GS
5090	461386.3051	2079034.6859	8.747	GS
5091	461392.0833	2079027.1470	8.675	GS
5092	461394.4673	2079024.0365	8.867	GS
5094	461396.1953	2079021.7819	9.842	GS
5095	461401.7064	2079014.5914	9.196	GS
5096	461407.9832	2079006.4020	9.075	GS
5097	461415.7694	2078996.2431	9.018	GS
5098	461423.3483	2078986.3547	9.787	GS

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
5099	461430.5261	2078976.9895	9.459	GS
5100	461437.7764	2078967.5299	9.342	GS
5101	461446.2071	2078956.5302	9.357	GS
5102	461454.9840	2078945.0890	9.470	GS
5103	461462.1202	2078935.7680	9.475	GS
5104	461469.8838	2078925.6386	8.632	GS
5105	461476.0264	2078917.6241	8.955	GS
5106	461484.5781	2078906.4666	9.444	GS
5107	461492.1087	2078896.6411	9.119	GS
5108	461499.6876	2078886.7528	9.800	GS
5109	461506.9138	2078877.3245	9.457	GS
5110	461508.5453	2078875.1959	9.017	GS
5111	461509.9332	2078873.3850	8.727	GS
5112	461516.1741	2078865.2423	8.793	GS
5113	461522.3898	2078857.1327	8.998	GS
5114	461527.3296	2078850.6875	8.943	GS
5115	461528.6785	2078848.9276	9.198	GS
5117	461536.8409	2078838.2778	9.428	GS
5118	461545.0525	2078827.5639	9.449	GS
5119	461552.7907	2078817.4677	9.744	GS
5120	461559.6999	2078808.4531	9.590	GS
5121	461568.0889	2078797.5078	9.918	GS
5122	461575.8557	2078787.3742	9.688	GS
5123	461583.6652	2078777.1850	9.909	GS
5124	461591.7194	2078766.6765	9.857	GS
5125	461598.1540	2078758.2810	10.176	GS
5126	461599.9388	2078755.9523	10.544	GS
5127	461608.2369	2078745.1256	10.535	GS
5128	461616.0245	2078734.9649	10.369	GS
5129	461623.5316	2078725.1702	10.347	GS
5130	461632.5690	2078713.3789	10.646	GS
5131	461640.1099	2078703.5401	11.011	GS
5132	461648.6509	2078692.3964	11.005	GS
5133	461654.0967	2078685.2911	11.557	GS
5135	461659.9100	2078677.7063	11.831	GS
5136	461665.4574	2078670.4684	11.962	GS
5137	461672.6099	2078661.1364	12.151	GS
5138	461680.8081	2078650.4400	12.366	GS
5139	461687.7966	2078641.3219	13.127	GS
5140	461693.7218	2078633.5911	13.139	GS
5141	461700.7543	2078624.4157	13.225	GS
5142	461706.9443	2078616.3394	13.536	GS
5143	461713.4640	2078607.8330	13.716	GS
5144	461719.6520	2078599.7593	14.211	GS
5145	461725.9018	2078591.6050	14.593	GS
5147	461732.2397	2078583.3359	14.709	GS
5148	461739.5513	2078573.7963	14.791	GS
5149	461746.5395	2078564.6785	14.478	GS
5150	461748.1060	2078562.6346	14.734	GS

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
5151	461749.7280	2078560.5184	15.527	GS
5152	461752.7794	2078556.5371	15.758	GS
5153	461756.0556	2078552.2626	15.482	GS
5154	461757.7632	2078550.0346	15.060	GS
5155	461764.4214	2078541.3475	14.814	GS
5156	461773.0415	2078530.1007	15.493	GS
5157	461781.0451	2078519.6581	15.514	GS
5158	461787.1050	2078511.7517	15.267	GS
5159	461790.5456	2078507.2626	15.753	GS
5160	461792.8885	2078504.2058	15.790	GS
5161	461794.7924	2078501.7217	14.690	GS
5419	461768.7314	2078535.7241	15.154	GR
5420	461644.3804	2078697.9682	11.008	GS
5421	461480.3022	2078912.0454	9.200	GS
5426	461369.0055	2079057.2571	9.897	TP0BM
SECTION SM03				
5166	458028.2920	2079003.2870	6.534	TP0IR
5167	457979.8639	2079269.5221	5.065	PD
5168	457980.0312	2079268.5997	6.355	GS
5169	457980.4776	2079266.1392	6.465	GS
5170	457980.7418	2079264.6828	5.495	GS
5171	457981.0887	2079262.7706	4.824	PD
5172	457982.0458	2079257.4952	4.474	GS
5173	457982.9807	2079252.3420	4.951	PD

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
5174	457983.3837	2079250.1205	5.384	GS
5175	457984.6080	2079243.3721	5.652	GS
5176	457985.0726	2079240.8113	7.262	GS
5177	457986.5464	2079232.6872	6.404	GS
5178	457988.2207	2079223.4582	6.066	GS
5179	457988.9529	2079219.4225	7.074	GS
5180	457989.3953	2079216.9838	5.821	GS
5181	457991.2626	2079206.6907	5.315	GS
5182	457992.8905	2079197.7177	5.356	GS
5183	457993.3685	2079195.0830	6.269	GS
5184	457994.0042	2079191.5789	6.922	GS
5185	457995.4784	2079183.4530	6.861	GS
5186	457995.9959	2079180.6002	5.911	GS
5187	457996.4254	2079178.2327	4.805	PD
5188	457998.1695	2079168.6194	3.861	GS
5189	457999.0701	2079163.6552	3.550	GS
5190	458000.0676	2079158.1567	4.376	GS
5191	458000.7914	2079154.1670	4.910	PD
5192	458001.0832	2079152.5586	5.894	GS
5193	458002.3396	2079145.6329	6.291	GS
5194	458004.1997	2079135.3798	5.872	GS
5195	458006.1130	2079124.8338	6.057	GS
5196	458007.8232	2079115.4071	6.490	GS
5197	458009.7875	2079104.5793	7.339	GS
5198	458011.7624	2079093.6935	7.590	GS
5199	458013.7875	2079082.5308	7.855	GS
5200	458015.9614	2079070.5480	7.665	GS
5201	458017.6938	2079060.9987	6.418	GS

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
5202	458019.5894	2079050.5500	6.353	GS
5203	458021.5316	2079039.8446	5.968	GS
5204	458023.5165	2079028.9034	5.997	GS
5205	458025.4551	2079018.2178	6.071	GS
5206	458027.2577	2079008.2817	6.194	GS
5207	458029.2508	2078997.2951	6.876	GS
5208	458031.0867	2078987.1756	7.704	GS
5209	458033.3384	2078974.7642	7.920	GS
5210	458035.5297	2078962.6854	8.267	GS
5211	458039.2764	2078950.3284	9.039	GS
5212	458041.7113	2078938.5550	8.792	GS
5213	458044.2305	2078926.3744	9.045	GS
5214	458046.3189	2078916.2761	9.423	GS
5215	458048.7397	2078904.5708	9.824	GS
5216	458051.5354	2078891.0533	9.946	GS
5217	458054.4824	2078876.8035	10.415	GS
5218	458058.0174	2078859.7111	10.858	GS
5219	458061.0333	2078845.1287	11.353	GS
5220	458063.8117	2078831.6941	11.586	GS
5221	458066.9436	2078816.5505	12.306	GS
5222	458069.3513	2078804.9090	12.839	GS
5223	458072.0118	2078792.0447	13.145	GS
5224	458074.9973	2078777.6092	13.325	GS
5225	457983.8610	2079245.8750	5.357	TP0IR
5226	457977.3053	2079283.6250	1.945	GS
5227	457976.1767	2079289.8465	1.658	GS
5228	457973.6854	2079303.5785	0.404	GS
5229	457967.6978	2079336.5829	-0.551	GS
5230	457964.8187	2079352.4528	0.693	GS
5231	457964.0826	2079356.5104	1.190	GS
5232	457962.2637	2079366.5363	2.063	GS
5233	457960.6212	2079375.5904	2.092	GS
5234	457959.6512	2079380.9370	2.707	GS
5235	457958.9124	2079385.0092	4.640	GS
5236	457958.6805	2079386.2877	4.858	PD
5237	457958.2448	2079388.6890	5.161	GS
5238	457957.5673	2079392.4237	6.121	GS
5239	457957.0621	2079395.2082	7.095	GS
5240	457956.5100	2079398.2516	5.486	GS
5241	457956.1815	2079400.0625	5.042	PD
5242	457955.9283	2079401.4578	4.298	GS
5243	457955.4862	2079403.8948	3.761	GS
5244	457955.1181	2079405.9239	4.058	GS
5245	457954.9283	2079406.9698	4.902	PD
5246	457954.4755	2079409.4662	5.954	GS
5247	457953.8958	2079412.6613	7.151	GS
5248	457951.9507	2079423.3831	7.434	GS
5249	457950.3270	2079432.3328	7.854	GS
5250	457948.3876	2079443.0230	8.767	GS
5251	457946.4987	2079453.4353	8.768	GS
5252	457944.3748	2079465.1421	8.938	GS
5253	457942.2388	2079476.9163	7.008	GS
5254	457941.0058	2079483.7128	5.412	PD
5255	457939.9157	2079489.7215	4.019	GS

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
5256	457939.1738	2079493.8107	4.365	GS
5257	457939.0824	2079494.3144	4.996	PD
5258	457938.2394	2079498.9612	6.106	GS
5259	457937.3404	2079503.9168	6.748	GS
5260	457935.8411	2079512.1813	6.761	GS
5261	457935.2038	2079515.6941	7.861	GS
5262	457934.4320	2079519.9482	7.452	GS
5263	457932.6779	2079529.6169	6.507	GS
5264	457931.0397	2079538.6470	6.822	GS
5265	457930.2696	2079542.8918	7.672	GS
5266	457929.0254	2079549.7499	8.671	GS
5267	457926.9767	2079561.0427	8.878	GS
5268	457924.6661	2079573.7791	8.526	GS
5269	457922.6422	2079584.9351	8.718	GS
5270	457920.6178	2079596.0939	8.657	GS
5271	457918.3942	2079608.3507	8.900	GS
5272	457916.2915	2079619.9407	9.080	GS
5273	457916.5563	2079634.1527	9.109	GS
5274	457914.5225	2079649.3474	9.317	GS
5275	457913.2747	2079658.6695	9.489	GS
5276	457911.7026	2079670.4147	9.617	GS
5277	457909.1201	2079689.7083	10.238	GS
5278	457907.4821	2079701.9457	10.559	GS
5279	457944.9980	2079458.3530	8.860	TP0IR
5280	457904.6994	2079722.7348	11.113	GS
5281	457903.1069	2079734.6322	10.967	GS
5283	457901.4274	2079747.1795	10.908	GS
5284	457899.7030	2079760.0620	10.945	GS
5285	457898.0502	2079772.4104	11.046	GS
5286	457896.3658	2079784.9941	11.391	GS
5287	457894.8496	2079796.3212	11.463	GS
5288	457893.5180	2079806.2697	11.710	GS
5289	457892.3086	2079815.3046	12.126	GS
5290	457891.0093	2079825.0120	12.535	GS
5291	457889.7069	2079834.7422	12.717	GS
5292	457888.2046	2079845.9656	12.469	GS
5293	457887.1167	2079854.0932	12.305	GS
5294	457885.6908	2079864.7460	13.183	GS
5295	457884.4555	2079873.9745	13.628	GS
5296	457883.3405	2079882.3050	13.520	GS
5297	457882.0825	2079891.7027	13.417	GS
5298	457880.6721	2079902.2399	13.455	GS
5299	457879.2907	2079912.5599	14.323	GS
5300	457877.6249	2079925.0053	14.447	GS
5301	457876.2357	2079935.3837	14.872	GS
5302	457874.7940	2079946.1546	15.182	GS
5303	457873.2522	2079957.6730	15.707	GS
5304	457871.6358	2079969.7488	15.489	GS
5305	457870.0718	2079981.4337	16.154	GS

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
5306	458014.2160	2079078.6720	7.944	TP0NL
5422	457910.4113	2079680.0615	9.924	GS
5423	457906.0907	2079712.3402	10.836	GS
5427	458028.2920	2079320.0807	-0.074	GS
5460	457970.6916	2079320.081	-0.074	GS
SECTION SM04				
57	450831.8291	2080364.1393	3.876	GS
4054	451122.3230	2079728.9500	11.638	TP0IRRTK
4056	450913.3086	2080190.1957	5.264	TP0IRRTK
4057	450754.3600	2080528.0514	1.536	FLAG
4058	450750.2106	2080538.3991	2.574	PD
4059	450754.9303	2080528.3220	1.794	GS
4060	450757.3496	2080523.1566	-2.270	GS
4061	450758.4435	2080520.8210	-2.382	GS
4062	450762.1606	2080512.8847	-2.641	GS
4063	450764.3002	2080508.3164	-3.014	GS
4064	450769.2713	2080497.7026	-2.534	GS
4065	450772.4593	2080490.8960	-2.113	GS
4066	450774.2756	2080487.0180	-2.278	GS
4067	450781.1474	2080472.3491	-2.082	GS
4068	450784.3289	2080465.5603	1.520	GS
4069	450787.1417	2080459.5477	1.580	GS
4070	450790.0571	2080453.3272	2.557	PD
4071	450785.9587	2080460.8658	1.457	FLAG
4072	450916.9065	2080182.4801	3.226	SK0SET
4073	450954.1164	2080103.4889	8.696	SK0SET
4074	450994.7102	2080017.0363	3.839	SK0SET

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
4075	451037.5536	2079926.1248	6.143	SK0SET
4076	451037.3303	2079925.3795	6.173	GS
4077	451032.6447	2079935.3762	6.284	GS
4078	451028.1652	2079944.9404	6.711	GS
4079	451023.5335	2079954.8294	6.679	GS
4080	451018.8417	2079964.8470	7.032	GS
4081	451014.8421	2079973.3954	6.549	GS
4082	451010.1806	2079983.3391	4.291	GS
4083	451005.7719	2079992.7522	2.761	GS
4084	451001.3243	2080002.2482	2.415	GS
4085	450999.7098	2080005.6952	3.500	GS
4086	450995.2315	2080015.2568	3.721	GS
4087	450991.1877	2080023.8907	4.581	GS
4088	450985.6577	2080035.6978	5.015	GS
4089	450981.1714	2080045.2794	5.050	GS
4090	450977.0047	2080054.1728	4.811	GS
4091	450972.8794	2080062.9806	4.092	GS
4092	450968.5871	2080072.1451	4.237	GS
4093	450966.9935	2080075.5476	4.449	GS
4094	450964.9490	2080079.9127	2.553	GS
4095	450960.3332	2080089.7732	2.447	GS
4096	450956.7620	2080097.3928	4.352	GS
4097	450953.6623	2080104.0109	7.306	GS
4098	450949.4471	2080113.0106	7.118	GS
4099	450944.7966	2080122.9454	7.204	GS
4100	450940.7075	2080131.6706	4.041	GS
4101	450936.3740	2080140.9230	2.526	GS
4102	450933.8599	2080146.2909	4.221	GS

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
4103	450929.2704	2080156.0984	4.668	GS
4104	450928.0217	2080158.7559	2.870	GS
4105	450923.9671	2080167.4129	2.206	GS
4106	450922.3996	2080170.7632	2.233	GS
4107	450919.1077	2080177.7882	4.845	GS
4108	450914.7829	2080187.0220	5.256	GS
4109	450910.8931	2080195.3271	5.388	GS
4110	450906.3711	2080204.9821	5.928	GS
4111	450902.0352	2080214.2394	5.776	GS
4112	450898.9645	2080220.7957	5.861	GS
4113	450895.3234	2080228.5699	2.075	GS
4114	450893.4534	2080232.5624	-0.146	GS
4115	450889.6225	2080240.7494	-0.015	GS
4116	450887.8606	2080244.5035	1.912	GS
4117	450884.0555	2080252.6277	2.288	GS
4118	450882.2440	2080256.4955	4.997	GS
4119	450878.7155	2080264.0316	5.062	GS
4120	450874.8318	2080272.3213	4.455	GS
4121	450871.5166	2080279.3995	4.161	GS
4122	450871.4559	2080279.2169	4.109	SK0SET
4123	450867.0611	2080288.9124	4.359	GS
4124	450862.5381	2080298.5695	4.730	GS
4125	450858.4773	2080307.2396	4.069	GS
4126	450853.0559	2080318.8147	4.143	GS
4127	450848.6283	2080328.2682	3.997	GS
4128	450844.5992	2080336.8706	4.038	GS
4129	450839.6793	2080347.3812	4.474	GS
4130	450834.9101	2080357.5577	4.229	GS

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
4131	450829.5035	2080368.1632	3.847	SK0SET
4132	450828.7480	2080370.7209	3.523	GS
4133	450824.5335	2080379.7244	3.584	GS
4134	450820.5983	2080388.1148	4.520	GS
4135	450815.3751	2080399.2723	4.449	GS
4136	450810.6911	2080409.2760	4.500	GS
4137	450805.8709	2080419.5592	4.932	GS
4138	450801.1981	2080429.5361	5.111	GS
4139	450796.4228	2080439.7317	5.385	GS
4140	450793.2145	2080446.5818	5.201	GS
4141	450790.9229	2080451.4795	2.810	GS
5424	450740.4552	2080559.2277	4.450	TP0BM
5425	450790.9229	2080451.4795	5.850	TP0BM
5428	450777.7115	2080479.6836	-2.180	GS
5429	450931.5651	2080151.1947	4.444	GS
SECTION SM05				
4144	449460.7826	2078735.1927	12.885	TP0IRPOL
4145	449339.9141	2079109.3799	-3.180	GS
4146	449341.6351	2079103.9496	-1.630	GS
4147	449343.5476	2079097.9158	-0.138	GS
4148	449346.1027	2079089.8493	0.292	GS
4149	449348.4450	2079082.4614	0.748	GS
4150	449350.7583	2079075.1649	1.434	GS
4151	449351.3615	2079073.2712	2.445	PD
4152	449349.4345	2079081.6033	0.909	FLAG
4153	449321.1033	2079171.7331	1.556	FLAG
4154	449316.5740	2079182.9887	2.184	PD
4155	449318.9651	2079175.4465	1.750	GS

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
4156	449321.4330	2079167.6676	1.015	GS
4157	449323.7780	2079160.2736	0.507	GS
4158	449325.6294	2079154.4261	-0.261	GS
4159	449328.0445	2079146.8083	-2.217	GS
4160	449329.2185	2079143.1085	-4.303	GS
4161	449332.3229	2079133.3239	-5.194	GS
4162	449336.6122	2079119.7858	-4.973	GS
4163	449334.0418	2079127.9041	-5.590	GS
4164	449454.5265	2078747.5276	4.848	SK0SET
4165	449454.6862	2078747.3561	12.757	GS
4166	449453.2962	2078751.7403	12.252	GS
4167	449451.7128	2078756.7447	12.821	GS
4168	449448.4570	2078767.0099	13.674	GS
4169	449445.2582	2078777.1053	12.913	GS
4170	449442.1161	2078787.0155	13.177	GS
4171	449438.9253	2078797.0690	13.335	GS
4172	449435.3269	2078808.4189	13.343	GS
4173	449432.2534	2078818.1134	12.888	GS
4174	449429.3786	2078827.1809	13.048	GS
4175	449426.4748	2078836.3423	12.942	GS
4176	449424.9323	2078841.4264	12.868	SK0SET
4177	449423.5674	2078845.5108	12.824	GS
4178	449420.3586	2078855.6318	12.797	GS
4179	449417.3830	2078865.0192	12.318	GS
4180	449414.1593	2078875.1856	11.751	GS
4181	449410.8742	2078885.5475	10.989	GS
4182	449407.6744	2078895.6403	10.245	GS
4183	449404.7466	2078904.8797	9.597	GS
4184	449401.4958	2078915.1362	8.892	GS
4185	449398.7225	2078923.8764	8.422	GS
4186	449396.0292	2078933.2735	7.952	SK0SET
4187	449395.7027	2078933.4015	7.949	GS
4188	449392.4334	2078943.7133	7.735	GS
4189	449389.1351	2078954.1168	7.363	GS
4190	449385.7210	2078964.8907	7.211	GS
4191	449382.2501	2078975.8334	7.233	GS
4192	449378.7570	2078986.8513	6.976	GS
4193	449375.6044	2078996.8026	6.643	GS
4194	449372.3528	2079007.0516	6.329	GS
4195	449369.1267	2079017.2274	5.905	GS
4196	449365.8757	2079027.4816	5.669	GS
4197	449362.7604	2079037.3078	5.681	GS
4198	449359.5199	2079047.5289	6.130	GS
4199	449356.3172	2079057.6414	6.230	GS
4200	449353.7468	2079065.7383	6.821	GS
4201	449364.7376	2079033.0328	5.314	SK0SET
5430	449354.3512	2079063.8319	7.030	TP0BM
5431	449316.5740	2079182.9887	2.330	TP0BM
SECTION SM06				
4202	446104.5900	2076605.2620	11.920	TP0IRRTK
4204	445922.2784	2076979.1842	6.532	TP0IR

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
4205	445953.0573	2077063.4140	0.658	PD
4206	445950.8030	2077057.7911	-1.480	FLAG
4207	445948.5467	2077054.2005	-2.948	GS
4208	445944.4120	2077045.7548	-4.052	GS
4209	445943.0560	2077042.9851	-5.663	GS
4210	445936.7063	2077030.0149	-9.247	GS
4211	445935.7477	2077028.0562	-9.329	GS
4212	445927.7374	2077011.6948	-6.756	GS
4213	445933.2826	2077023.0215	-9.181	GS
4214	445926.6745	2077009.5280	-4.708	GS
4215	445922.0000	2076999.9750	-1.246	GS
4216	445919.8099	2076995.5017	0.120	GS
4217	445918.2629	2076992.3417	1.178	PD
4218	445920.3007	2076995.8935	-0.051	FLAG
4219	445876.6636	2076907.2142	5.144	SK0SET
4220	445830.5773	2076815.8005	9.401	SK0SET
4221	445803.8634	2076757.7766	12.742	SK0SET
4222	445803.3728	2076757.6633	12.279	GS
4223	445807.9509	2076767.0238	12.134	GS
4224	445812.4343	2076776.1751	11.836	GS
4225	445817.0320	2076785.5644	11.939	GS
4226	445821.6931	2076795.0850	11.319	GS
4227	445824.6569	2076801.1389	11.039	GS
4228	445829.2879	2076810.5984	9.933	GS
4229	445833.2549	2076818.7015	9.242	GS
4230	445837.6423	2076827.6646	8.382	GS
4231	445842.6684	2076837.9294	7.214	GS
4232	445847.6957	2076848.1987	6.541	GS
4233	445852.7591	2076858.5414	5.453	GS
4234	445857.2504	2076867.7203	4.742	GS
4235	445861.4149	2076876.2220	4.561	GS
4236	445865.3956	2076884.3596	4.414	GS
4237	445870.4027	2076894.5809	5.100	GS
4238	445875.3348	2076904.6638	5.089	GS
4239	445880.2432	2076914.6815	5.857	GS
4240	445884.7226	2076923.8311	6.185	GS
4241	445889.1836	2076932.9434	7.029	GS
4242	445893.6912	2076942.1508	7.147	GS
4243	445898.3934	2076951.7556	7.481	GS
4244	445902.4597	2076960.0615	7.624	GS
4245	445906.8375	2076969.0038	7.802	GS
4246	445910.9416	2076977.3958	7.438	GS
4247	445914.8075	2076985.2836	6.716	GS
5432	445986.9119	2077132.5706	6.590	TP0BM
5433	445939.8812	2077036.5000	-7.455	GS
SECTION SM07				
5351	439686.3110	2069994.4150	10.178	TP0IR
5352	439582.6970	2070221.5210	9.376	TP0IR
5353	439409.0284	2070597.7501	2.184	GS
5354	439410.1345	2070595.3371	2.532	PD
5355	439411.7698	2070591.7693	3.557	GS
5356	439416.2936	2070581.8998	3.811	GS
5357	439421.0866	2070571.4432	3.697	GS
5358	439426.1875	2070560.3146	3.573	GS

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
5359	439430.6155	2070550.6542	3.216	GS
5360	439432.1145	2070547.3838	3.331	GS
5361	439433.5016	2070544.3576	2.859	GS
5362	439437.4266	2070535.7947	2.889	GS
5363	439441.9397	2070525.9485	3.449	GS
5364	439446.2543	2070516.5356	3.805	GS
5365	439450.8383	2070506.5346	3.793	GS
5366	439453.5961	2070500.5180	3.942	GS
5367	439456.1740	2070494.8939	4.791	GS
5368	439458.3811	2070490.0788	5.042	GS
5369	439463.0762	2070479.8355	4.535	GS
5370	439467.4919	2070470.2020	4.757	GS
5371	439473.0520	2070458.0716	4.613	GS
5372	439479.0279	2070445.0342	4.567	GS
5373	439484.4269	2070433.2552	4.773	GS
5374	439491.2575	2070418.3531	5.261	GS
5375	439496.5977	2070406.7026	5.535	GS
5376	439501.3460	2070396.3434	5.884	GS
5377	439505.6853	2070386.8765	6.270	GS
5378	439510.5465	2070376.2708	7.305	GS
5379	439516.4957	2070363.2916	7.463	GS
5380	439521.5714	2070352.2182	7.406	GS
5381	439526.5699	2070341.3131	7.703	GS
5382	439530.6610	2070332.3876	7.858	GS
5383	439535.2303	2070322.4189	7.433	GS
5384	439539.8294	2070312.3851	7.678	GS
5385	439544.4950	2070302.2064	7.896	GS
5386	439549.4099	2070291.4837	8.257	GS
5387	439554.6582	2070280.0336	8.693	GS
5388	439559.9428	2070268.5042	8.427	GS
5389	439563.6820	2070260.3466	9.102	GS
5390	439567.7241	2070251.5281	8.907	GS
5391	439571.9651	2070242.2756	9.208	GS
5392	439577.5564	2070230.0772	9.223	GS
5393	439587.5171	2070208.3461	9.354	GS
5394	439592.1317	2070198.2785	9.416	GS
5395	439596.0415	2070189.7487	9.542	GS
5396	439601.1322	2070178.6425	9.129	GS
5397	439607.4606	2070164.8359	9.548	GS
5398	439612.3857	2070154.0909	9.565	GS
5399	439617.5029	2070142.9270	9.574	GS
5400	439622.3302	2070132.3954	9.740	GS
5401	439627.2995	2070121.5538	9.419	GS
5402	439630.9543	2070113.5803	9.875	GS
5434	439339.6895	2070771.8695	3.470	TP0BM
5435	439409.0284	2070597.7501	4.010	TP0BM
5459	439418.4488	2070577.1980	4.010	TP0BM
SECTION SM08				
5436	433830.7854	2069994.6753	2.905	TP0BM
10016	433801.2290	2069829.2300	1.795	TP0IR
10017	433791.8685	2069773.4437	2.391	GS
10018	433793.3546	2069781.8918	2.309	GS
10019	433794.6642	2069789.3364	1.916	GS
10020	433795.2596	2069792.7213	0.825	GS
10021	433796.8672	2069801.8598	0.505	GS
10022	433798.0642	2069808.6643	0.192	GS

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
10023	433798.4306	2069810.7474	-1.301	GS
10024	433799.2356	2069815.3233	2.137	GS
10025	433800.3833	2069821.8480	1.861	GS
10026	433802.0544	2069831.3474	-0.883	PD
10027	433803.6757	2069840.5640	-2.149	GS
10028	433805.8649	2069853.0091	-3.325	GS
10029	433808.0225	2069865.2748	-5.070	GS
10030	433809.1978	2069871.9557	-8.606	GS
10031	433814.0080	2069883.4950	-18.260	GS
10032	433815.9098	2069910.1114	-18.406	GS
10033	433819.4372	2069930.1641	-15.707	GS
10034	433820.3970	2069946.2970	-5.280	GS
10035	433826.4860	2069958.0490	-3.405	GS
10036	433827.6558	2069965.3051	-2.832	GS
10037	433830.8010	2069984.8150	-1.706	GS
10038	433830.4983	2069991.2538	-0.530	PD
10039	433830.4319	2069992.6659	2.393	GS
10040	433831.1567	2069996.7862	2.063	GS
10041	433831.3634	2069997.9611	-1.055	GS
10042	433833.0275	2070007.4207	-0.519	GS
10043	433833.3157	2070009.0594	1.772	GS
10044	433834.7704	2070017.3290	2.188	GS
10045	433836.2706	2070025.8572	2.260	GS
10046	433838.0308	2070035.8631	2.382	GS
10047	433838.8691	2070040.6285	2.452	GS
10048	433839.7257	2070045.4982	6.743	UFO0DECK
10049	433840.6959	2070051.0136	6.591	UFO0DECK
10050	433840.7841	2070051.5153	2.259	GS
10051	433843.0086	2070064.1606	2.211	GS
10052	433845.5831	2070078.7959	2.177	GS
10053	433847.7036	2070090.8504	2.032	GS
10054	433850.0327	2070104.0908	2.123	GS
10055	433851.6760	2070113.4326	1.999	GS
10056	433853.3200	2070122.7783	2.120	GS
10057	433854.7838	2070131.0994	2.500	GS
10058	433856.4637	2070140.6579	2.035	GS
10059	433858.4204	2070151.7722	1.953	GS
10060	433860.3162	2070162.5498	2.289	GS
10061	433862.9235	2070177.3714	2.381	GS
10062	433864.8454	2070188.2968	2.535	GS
10063	433867.0924	2070201.0705	2.824	GS
10064	433870.7688	2070221.9784	3.876	GS
10066	433872.9582	2070234.4156	3.571	GS
10067	433875.8392	2070250.7933	4.166	GS
10068	433877.5825	2070260.7079	4.579	GS
10069	433879.5488	2070271.8813	5.157	GS
10070	433880.9468	2070279.8307	4.902	GS
10071	433882.5187	2070288.7645	4.771	GS
10072	433884.5563	2070300.3567	5.368	GS
10073	433886.5161	2070311.4929	5.707	GS
10074	433888.1632	2070320.8517	5.962	GS
10075	433890.2990	2070332.9935	6.111	GS

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
SECTION SM09				
4404	431499.8720	2068786.1800	1.523	TP0IR
4405	431482.8240	2068840.3140	-3.050	FLAG
4406	431439.6150	2068973.4860	-1.808	FLAG
4407	431408.5700	2069068.9210	-0.877	SK0SET
4408	431371.6520	2069164.4810	1.845	SK0SET
4409	431354.6540	2069212.7830	6.117	SK0SET
5437	431426.7094	2069013.7256	1.980	TP0BM
5438	431452.1465	2068927.0066	-12.540	GS
5439	431471.4036	2068870.2709	-11.883	GS
6410	431355.1485	2069212.8229	10.055	GS
6411	431357.5406	2069205.7806	9.919	GS
6412	431361.1357	2069195.1699	8.898	GS
6413	431365.6224	2069181.9501	7.480	GS
6414	431368.7375	2069172.7717	6.900	GS
6415	431372.8590	2069160.6279	5.377	GS
6416	431376.3617	2069150.3318	4.760	GS
6417	431379.8939	2069139.8997	4.000	GS
6418	431383.5269	2069129.2014	3.661	GS
6419	431387.0758	2069118.7487	3.351	GS
6420	431390.7433	2069107.9326	3.546	GS
6421	431394.5674	2069096.6652	3.080	GS
6422	431398.0896	2069086.2871	2.948	GS
6423	431401.6501	2069075.8160	2.800	GS
6424	431408.8358	2069068.2953	2.914	GS
6425	431412.2622	2069057.8217	2.792	GS
6426	431415.8197	2069046.9698	2.253	GS
6427	431419.4588	2069035.8879	2.375	GS
6430	431430.0319	2069003.6157	1.612	GS
6431	431433.1095	2068994.2276	1.859	GS
6432	431435.2608	2068987.6711	2.418	GS
6433	431435.4878	2068986.9726	-0.450	PD
6434	431437.9809	2068979.3674	-1.318	GS
6435	431439.4746	2068974.8111	-1.766	GS
6436	431438.3457	2068967.6941	-2.269	GS
6437	431441.6321	2068957.9912	-3.400	GS
6438	431444.8452	2068948.5534	-7.035	GS
6439	431446.3921	2068943.9721	-9.673	GS
6440	431449.0840	2068936.0040	-12.714	GS
6441	431457.4901	2068911.2822	-12.913	GS
6442	431455.2090	2068918.0092	-12.366	GS
6444	431461.5807	2068899.2136	-13.750	GS
6445	431464.9395	2068889.3428	-14.703	GS
6446	431468.7314	2068878.1445	-13.003	GS
6447	431467.4452	2068881.9648	-13.713	GS
6448	431474.0758	2068862.3974	-10.763	GS
6450	431478.3338	2068849.8516	-5.253	GS

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
6451	431482.5564	2068837.4096	-2.945	GS
6452	431480.3058	2068844.0410	-4.577	GS
6453	431484.8047	2068830.8011	-2.419	GS
6454	431488.3512	2068820.3357	-1.847	GS
6455	431490.4699	2068814.0931	-1.131	GS
6456	431490.9752	2068812.6041	-1.222	GS
6457	431491.9050	2068809.9750	1.671	PD
SECTION SM10				
4017	427637.0830	2066005.6499	2.887	TP0IR
4018	427599.6542	2066419.7812	2.426	TP0IR
4019	427598.7588	2066436.7980	-1.401	FLAG
4020	427584.4967	2066612.0892	-0.692	FLAG
4023	427607.8447	2066324.0279	-0.755	SK0SET
4024	427615.3017	2066238.3625	0.870	SK0SET
4025	427615.2072	2066238.2548	0.871	GS
4026	427614.4968	2066246.9692	0.548	GS
4027	427613.8235	2066255.2064	0.363	GS
4028	427613.1397	2066263.5842	-0.030	GS
4029	427612.5314	2066271.0369	0.150	GS
4030	427611.8838	2066278.9702	0.279	GS
4031	427611.4937	2066283.7500	0.623	GS
4032	427611.2378	2066286.8854	2.115	GS
4033	427610.8651	2066291.4502	2.089	GS
4034	427610.7384	2066293.0033	0.349	GS
4035	427609.8415	2066304.0006	-2.027	GS
4036	427609.2036	2066311.8153	-1.893	GS
4037	427608.3783	2066321.9169	-2.037	GS
4038	427608.1847	2066324.2889	-0.494	GS

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
4039	427607.5040	2066332.6285	-0.374	GS
4040	427606.6452	2066343.1583	-0.791	GS
4041	427606.1796	2066348.8537	-0.657	GS
4042	427605.0974	2066362.1111	-0.538	GS
4043	427604.3506	2066371.2606	-0.017	GS
4044	427603.7027	2066379.2093	-0.142	GS
4045	427602.9666	2066388.2158	-0.423	GS
4046	427602.1467	2066398.2614	-0.546	GS
4047	427601.4200	2066407.1691	-0.152	GS
4048	427600.8331	2066414.3704	0.379	GS
4049	427600.7894	2066414.9035	1.881	GS
4050	427599.9177	2066425.5690	2.589	GS
4051	427599.7531	2066427.5852	-0.447	GS
4052	427598.9691	2066437.1974	-1.302	GS
4053	427588.0895	2066638.9760	2.197	IR0SET
4248	427598.9825	2066437.0647	-1.295	FLAG
4249	427588.0794	2066638.9755	2.213	TP0IR
4250	427584.6965	2066612.0456	-0.426	PD
4251	427589.7031	2066603.1043	-0.914	GS
4252	427590.5601	2066594.3279	-1.453	GS
4253	427591.2285	2066587.4512	-2.092	GS
4254	427591.7852	2066581.7176	-2.807	GS
4255	427592.0777	2066578.7067	-5.315	GS
4256	427592.8384	2066570.8755	-7.623	GS
4257	427593.7181	2066561.8202	-9.525	GS
4258	427604.3390	2066545.0132	-16.670	GS

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
4259	427603.4693	2066551.9660	-12.493	GS
4260	427595.4247	2066544.2525	-14.968	GS
4261	427596.7369	2066530.7542	-17.915	GS
4262	427596.1941	2066536.3334	-17.431	GS
4263	427598.4174	2066513.4463	-16.834	GS
4264	427597.0300	2066527.7380	-17.884	GS
4265	427599.4620	2066502.6938	-16.047	GS
4266	427600.3180	2066493.8823	-15.030	GS
4267	427601.2347	2066484.4458	-14.392	GS
4268	427602.4753	2066471.6806	-8.383	GS
4269	427596.9187	2066462.3104	-5.186	GS
4270	427597.5949	2066454.0256	-3.257	GS
4271	427598.2174	2066446.3993	-2.278	GS
4273	427599.5276	2066430.3634	-0.747	GS
4274	427600.0216	2066424.2964	-0.167	PD
4275	427580.4053	2066662.4876	2.712	SK0SET
4276	427573.2022	2066761.9388	2.091	SK0SET
4277	427565.0611	2066864.1640	3.450	SK0SET
4278	427542.8649	2067080.8749	3.344	TP0NL
4279	427564.0937	2066864.4590	3.597	GS
4280	427564.9828	2066853.5602	3.083	GS
4281	427565.9037	2066842.2918	3.130	GS
4282	427566.7689	2066831.6790	2.988	GS
4283	427567.6778	2066820.5443	2.848	GS
4284	427568.6115	2066809.1054	3.198	GS
4285	427569.4564	2066798.7687	2.456	GS
4286	427570.3413	2066787.9132	2.218	GS
4287	427571.1560	2066777.9409	2.387	GS
4288	427571.9653	2066768.0172	2.117	GS
4289	427572.7626	2066758.2499	2.075	GS
4290	427573.6252	2066747.6816	2.490	GS
4291	427574.4152	2066738.0057	2.659	GS
4292	427575.2534	2066727.7336	1.970	GS
4293	427576.0970	2066717.3988	2.034	GS
4294	427577.0735	2066705.4469	2.044	GS
4295	427577.9511	2066694.6845	2.017	GS
4296	427578.5958	2066686.7864	2.253	GS
4297	427579.0321	2066681.4409	3.202	GS
4298	427579.5588	2066674.9887	2.417	GS
4299	427580.3435	2066665.3747	2.627	GS
4300	427581.2651	2066654.0837	2.733	GS
4301	427582.1533	2066643.2025	2.576	GS
4302	427582.7837	2066635.4795	2.104	GS
4303	427582.9278	2066633.7137	0.683	GS
4304	427583.8816	2066622.0286	0.108	GS
4305	427584.7785	2066611.0416	-0.500	GS
4306	427600.0327	2066419.6512	2.371	TP0NL
4307	427554.2284	2066969.5538	3.950	SK0SET

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
4308	427548.0536	2067061.6454	3.315	SK0SET
4309	427541.7356	2067159.3659	4.031	SK0SET
4310	427531.4185	2067264.2934	4.958	SK0SET
4311	427520.9176	2067413.6136	7.141	SK0SET
4312	427519.3252	2067412.9268	7.136	GS
4313	427520.1834	2067402.4037	6.677	GS
4314	427521.0313	2067392.0163	6.561	GS
4315	427521.8842	2067381.5673	6.426	GS
4316	427522.8160	2067370.1686	6.187	GS
4317	427523.8294	2067357.7365	6.091	GS
4318	427524.7708	2067346.2033	6.255	GS
4319	427525.6622	2067335.2818	6.151	GS
4320	427526.5592	2067324.3107	6.234	GS
4321	427527.5711	2067313.0843	5.520	GS
4322	427528.4028	2067301.7170	5.427	GS
4323	427529.3050	2067290.6569	5.337	GS
4324	427530.1786	2067279.9510	5.510	GS
4325	427531.1111	2067268.5268	5.005	GS
4326	427532.0029	2067257.6017	4.927	GS
4327	427532.8570	2067247.1383	4.853	GS
4328	427533.8017	2067235.5715	4.768	GS
4329	427534.6589	2067225.0620	4.498	GS
4330	427535.6648	2067212.7432	4.427	GS
4331	427536.6701	2067200.4277	4.354	GS
4332	427537.5051	2067190.2072	4.182	GS
4333	427538.3939	2067179.3051	4.129	GS
4334	427539.4345	2067166.5557	3.985	GS
4335	427540.3080	2067155.8542	3.710	GS
4336	427541.2970	2067143.7386	3.742	GS
4337	427542.1977	2067132.7040	3.724	GS
4338	427543.0805	2067121.8889	3.494	GS
4339	427543.9150	2067111.6652	3.265	GS
4340	427544.7043	2067101.9955	3.303	GS
4341	427545.5838	2067091.2198	3.306	GS
4342	427546.4709	2067080.3575	3.538	GS
4343	427547.3629	2067069.4237	3.361	GS
4344	427548.3024	2067057.9145	3.375	GS
4345	427549.2964	2067045.7361	3.446	GS
4346	427550.1774	2067034.9441	3.565	GS
4347	427551.1809	2067022.6496	3.467	GS
4348	427552.1845	2067010.3666	3.544	GS
4349	427553.0384	2066999.8936	3.532	GS
4350	427554.0026	2066988.0804	3.379	GS
4351	427554.9514	2066976.4566	3.888	GS
4352	427555.4922	2066969.8412	3.972	GS
4353	427556.4200	2066958.4678	4.772	GS
4354	427557.0805	2066950.3729	4.570	GS
4355	427557.8967	2066940.3735	4.419	GS
4356	427558.9122	2066927.9328	4.443	GS
4357	427559.8673	2066916.2315	4.120	GS
4358	427560.7986	2066904.8311	3.775	GS
4359	427561.7077	2066893.6839	3.684	GS
4360	427562.5938	2066882.8424	3.662	GS
4361	427563.5602	2066870.9896	3.988	GS
4362	427666.0360	2065609.1000	4.861	SK0SET
4363	427659.8800	2065728.7070	5.081	BCR

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
4389	427673.5950	2065517.1180	5.701	SK0SET
4390	427680.6620	2065421.5180	5.288	SK0SET
4399	427636.7270	2066005.4630	2.803	TP0NL
6312	427654.7639	2065753.6473	5.412	GS
6313	427654.1148	2065761.5960	4.341	GS
6314	427653.2234	2065772.5136	4.283	GS
6315	427652.3254	2065783.5148	4.315	GS
6316	427651.4142	2065794.6786	4.559	GS
6317	427650.5191	2065805.6594	4.213	GS
6318	427649.6796	2065815.9288	4.160	GS
6319	427648.7348	2065827.5046	4.076	GS
6320	427647.9117	2065837.5885	4.106	GS
6321	427647.0479	2065848.2700	4.172	GS
6322	427646.1792	2065858.8127	3.885	GS
6323	427645.2402	2065870.3335	4.093	GS
6324	427644.3622	2065881.1891	3.912	GS
6325	427643.4303	2065892.4907	4.202	GS
6326	427642.6385	2065902.1913	4.201	GS
6327	427641.8109	2065912.3299	3.768	GS
6328	427640.9702	2065922.6289	3.859	GS
6329	427640.0953	2065933.4417	3.734	GS
6330	427639.2702	2065943.4569	3.660	GS
6331	427638.2750	2065955.7597	4.881	GS
6332	427637.4086	2065966.2624	3.741	GS
6333	427636.4631	2065977.8470	3.732	GS
6334	427635.5849	2065988.6058	3.304	GS
6335	427634.7687	2065998.6041	2.994	GS
6336	427633.9199	2066009.0031	2.779	GS
6337	427633.0646	2066019.5269	2.823	GS
6338	427632.2911	2066029.0253	2.555	GS
6339	427631.4823	2066038.8741	2.557	GS
6340	427630.6283	2066049.3299	2.297	GS
6341	427629.7890	2066059.6909	2.485	GS
6342	427629.0552	2066068.6011	2.047	GS
6343	427628.0900	2066080.4265	2.186	GS
6344	427627.2653	2066090.5304	2.645	GS
6345	427626.3636	2066101.6821	2.185	GS
6346	427625.4584	2066112.6668	2.543	GS
6347	427624.5298	2066124.0431	2.474	GS
6348	427623.7459	2066133.6470	2.394	GS
6349	427622.9664	2066143.2832	2.664	GS
6350	427622.0981	2066153.8515	2.205	GS
6351	427621.2390	2066164.4401	2.386	GS
6352	427620.6597	2066171.5552	2.280	GS
6353	427620.3577	2066175.1561	1.505	GS
6354	427619.5931	2066184.5229	1.318	GS
6355	427618.7570	2066194.7703	1.231	GS
6356	427617.9370	2066204.8553	1.606	GS
6357	427617.1231	2066214.7830	1.606	GS
6358	427616.3668	2066224.0484	1.206	GS
6359	427615.3370	2066236.6655	0.775	GS
6366	427655.7006	2065742.1651	5.600	GS
6367	427656.5143	2065732.3092	5.376	GS
6368	427656.7604	2065729.2443	5.371	GS
6369	427657.4266	2065721.0455	4.895	GS
6370	427658.1893	2065711.6758	4.830	GS

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
6371	427659.2809	2065698.4056	4.644	GS
6372	427660.1082	2065688.2558	4.786	GS
6373	427660.8843	2065678.7289	4.536	GS
6374	427661.9230	2065666.0512	5.103	GS
6375	427662.8170	2065655.0399	4.698	GS
6376	427663.8262	2065642.6998	4.646	GS
6377	427664.5190	2065634.1427	5.143	GS
6378	427665.5203	2065621.8675	5.127	GS
6379	427666.4208	2065610.9180	4.655	GS
6380	427667.3369	2065599.6935	4.944	GS
6381	427668.6650	2065583.3824	5.054	GS
6382	427669.4584	2065573.6171	5.501	GS
6383	427670.3375	2065562.8633	5.894	GS
6384	427671.2651	2065551.4821	5.569	GS
6385	427672.1022	2065541.2271	5.850	GS
6387	427673.1290	2065528.6482	5.759	GS
6388	427674.0695	2065517.1262	5.724	GS
6391	427681.3440	2065421.3980	5.304	GS
6392	427681.1678	2065430.1640	5.406	GS
6393	427683.2556	2065442.2828	5.175	GS
6394	427682.4355	2065451.0788	5.453	GS
6395	427681.3963	2065462.1002	5.273	GS
6396	427680.2907	2065473.8847	5.393	GS
6397	427676.7291	2065484.5422	5.852	GS
6398	427674.8986	2065506.9926	5.693	GS
SECTION SM11				
5440	428656.0696	2066843.7896	2.277	TP0BM
5441	428646.0689	2067188.7716	3.975	GS

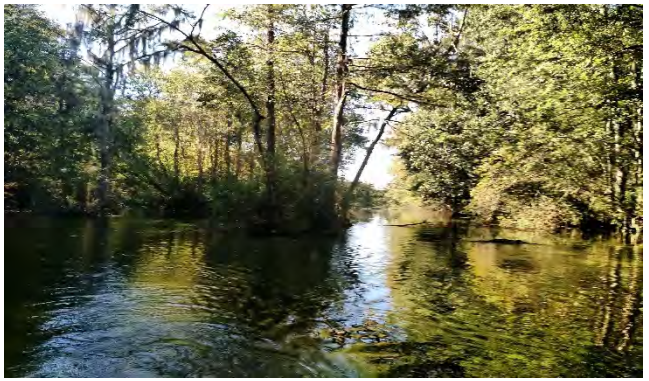
PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
5442	428641.9415	2065915.4116	2.708	GS
5443	428644.4971	2065947.1951	2.684	GS
5444	428648.1253	2065992.3186	2.125	GS
5445	428666.1888	2066216.9704	0.297	GS
5446	428667.7816	2066236.7798	1.517	GS
5447	428668.7226	2066248.4826	2.580	GS
5448	428669.1784	2066268.5218	3.514	GS
5449	428668.4345	2066286.6980	3.393	GS
5450	428665.4816	2066358.8409	2.502	GS
5451	428665.1272	2066426.3976	1.835	GS
5452	428662.0267	2066614.0733	-0.455	GS
5453	428661.0896	2066648.7159	-0.850	GS
5454	428658.4146	2066699.4041	-15.710	GS
5455	428657.1605	2066723.1705	-19.814	GS
5456	428654.0725	2066747.6050	-17.281	GS
5457	428653.5800	2066793.2507	-5.372	GS
5458	428655.5705	2066825.9882	-1.114	GS
10088	428733.0300	2065969.2650	5.327	TP0IR
10090	428658.8190	2066543.9080	2.877	TP0IR
10091	428661.6363	2066595.5336	-0.268	GR
10092	428661.4261	2066585.5555	2.420	GR
10093	428661.1616	2066573.0023	0.521	GR
10094	428660.8672	2066559.0241	0.858	GR
10095	428660.6560	2066549.0060	1.764	GR
10096	428661.3256	2066536.5965	1.414	GR

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
10097	428661.7643	2066528.4690	-0.647	GR
10098	428662.3130	2066518.3050	0.177	GR
10099	428662.7980	2066502.8140	1.544	GR
10100	428663.1109	2066492.2465	1.163	GR
10101	428663.3911	2066483.0952	1.418	GR
10102	428663.7231	2066472.2519	2.030	GR
10103	428664.0974	2066460.0294	2.339	GR
10104	428664.4694	2066447.8883	1.642	GR
10105	428664.8630	2066435.0261	1.883	GR
10106	428665.3914	2066417.7692	1.787	GR
10107	428665.7690	2066405.4370	2.007	GR
10108	428665.1107	2066391.5067	2.400	GR
10109	428664.5930	2066380.5540	2.382	GR
10110	428665.1399	2066367.1887	2.483	GR
10111	428665.8233	2066350.4930	2.520	GR
10112	428666.3742	2066337.0339	2.616	GR
10113	428667.1530	2066317.7150	3.188	GR
10114	428667.7106	2066304.3835	3.248	GR
10115	428666.6912	2066329.2894	2.959	PD
10116	428668.0803	2066295.3515	3.293	GR
10117	428668.7887	2066278.0445	3.493	GR
10118	428669.5682	2066258.9991	3.534	GR
10119	428661.7724	2066602.0066	-1.231	GR
10120	428662.2810	2066626.1400	0.321	GR
10121	428661.8014	2066635.2285	0.042	GR
10122	428660.3778	2066662.2033	-1.741	GR
10123	428659.7516	2066674.0690	-4.738	GR

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
10124	428659.0621	2066687.1342	-11.199	GR
10125	428657.7671	2066711.6741	-20.220	GR
10126	428656.5540	2066734.6670	-19.408	GR
10127	428651.5910	2066760.5430	-15.154	GR
10128	428652.6397	2066777.7872	-8.650	GR
10129	428654.5202	2066808.7142	-2.094	GR
10130	428655.1289	2066818.7249	-1.634	GR
10131	428656.0122	2066833.2514	-0.593	GR
10132	428652.7839	2066972.4496	2.269	GS
10133	428656.2420	2066837.0310	1.752	PD
10134	428655.9649	2066847.8972	1.546	GR
10135	428655.7784	2066855.2089	1.805	GR
10136	428655.6075	2066861.9127	1.417	GR
10137	428655.4363	2066868.6255	0.698	GR
10138	428655.1570	2066879.5765	0.744	GR
10139	428654.9149	2066889.0708	1.752	GR
10140	428654.6599	2066899.0760	1.903	GR
10141	428654.4243	2066908.3062	2.061	GR
10142	428654.1707	2066918.2532	2.032	GR
10143	428653.8861	2066929.4102	1.517	GR
10144	428653.6525	2066938.5783	1.470	GR
10145	428653.3392	2066950.8549	1.936	GR
10146	428653.0652	2066961.5993	2.277	GR
10147	428652.5026	2066983.2998	2.260	GR
10148	428652.2427	2066993.8532	1.799	GR

PT NUMBERS	NORTHING	EASTING	ELEVATION	DISCRIPTION
10149	428651.9524	2067005.2370	1.890	GR
10150	428651.8393	2067009.6707	2.641	GR
10151	428651.6821	2067015.8391	1.967	GR
10152	428651.3656	2067028.2455	2.264	GR
10153	428651.0517	2067040.5610	2.247	GR
10154	428650.7084	2067054.0160	2.568	GR
10155	428650.3880	2067066.5840	3.177	GR
10156	428649.9074	2067080.1795	3.250	GR
10157	428649.4251	2067093.8220	3.584	GR
10158	428648.9155	2067108.2392	4.212	GR
10159	428648.4573	2067121.2020	4.622	GR
10160	428648.0217	2067133.5245	4.281	GR
10161	428647.5800	2067145.9030	3.827	GR
10162	428647.2759	2067154.6230	4.233	GR
10163	428646.9932	2067162.6208	3.427	GR
10164	428646.4977	2067176.6391	3.710	GR
10165	428645.6400	2067200.9041	4.240	GR
10166	428645.2316	2067212.4598	3.874	GR
10167	428644.7990	2067224.6972	3.882	GR
10169	428643.9432	2067248.9093	4.139	GR
10170	428643.5082	2067261.2168	4.695	GR
10171	428643.1804	2067270.4896	4.806	GR
10172	428642.8553	2067279.6862	5.130	GR
10173	428642.5310	2067288.8617	4.467	GR
10174	428642.1606	2067299.3392	4.483	GR
10175	428641.8015	2067309.4983	4.404	GR
10176	428641.4220	2067320.2360	4.516	GR
10178	428675.1600	2066314.1810	3.289	TP0NL
10180	428666.8085	2066224.6772	0.419	GR
10181	428665.5692	2066209.2637	0.175	GR
10182	428664.6025	2066197.2445	0.113	GR
10183	428663.5072	2066183.6190	0.067	GR
10184	428662.5733	2066172.0043	0.307	GR
10185	428661.5959	2066159.8493	0.351	GR
10186	428660.5207	2066146.4816	-0.120	GR
10187	428659.4197	2066132.7846	-0.075	GR
10188	428658.3081	2066118.9685	0.306	GR
10190	428657.3148	2066106.6083	0.455	GR
10191	428656.4064	2066095.3090	0.667	GR
10192	428655.5250	2066084.2600	0.657	GR
10193	428654.5346	2066072.0290	0.725	GR
10194	428653.3800	2066057.5520	0.895	GR
10195	428652.0174	2066040.7237	1.742	GR
10196	428651.0529	2066028.7284	1.566	GR
10197	428650.0406	2066016.1407	1.963	GR
10198	428648.9321	2066002.3516	1.996	GR
10199	428647.3186	2065982.2857	2.254	GR
10200	428646.3337	2065970.0361	2.318	GR
10201	428645.4650	2065959.2325	2.490	GR
10202	428643.5292	2065935.1578	2.877	GR
10203	428642.5863	2065923.4307	2.789	GR
10204	428641.2967	2065907.3926	2.626	GR
10205	428640.4525	2065896.8933	2.924	GR
10206	428639.6780	2065887.2647	2.823	GR
10207	428638.9296	2065877.9565	3.393	GR

Appendix E Field photographs



Wakulla and St. Marks River MFL Vegetation Sampling Photos

Fall 2015

Wakulla River

Wakulla River W1 West

Wakulla River W1 West

Wakulla River

Wakulla River W2 East

Wakulla River W2 East

Wakulla River

Wakulla River W2 West

Wakulla River W2 West

Wakulla River

Wakulla River W3 East

Wakulla River W3 East

Wakulla River

Wakulla River W3 West

Wakulla River W3 West

Wakulla River

Wakulla River W4 East

Wakulla River W4 East

Wakulla River

Wakulla River W4 West

Wakulla River W4 West

Wakulla River

Wakulla River W5 East

Wakulla River W5 East

Wakulla River

Wakulla River W5 West

Wakulla River W5 West

Wakulla River

Wakulla River W6 East

Wakulla River W6 East

Wakulla River

Wakulla River W6 West

Wakulla River W6 West

Wakulla River

Wakulla River W7 East

Wakulla River W7 East

Wakulla River

Wakulla River W7 West

Wakulla River W7 West

Wakulla River

Wakulla River W8 East

Wakulla River W8 East

Wakulla River

Wakulla River

Wakulla River

Wakulla River

Survey equipment on the Wakulla River

Upstream view of Wakulla River in Wakulla State Park

St. Marks River

St. Marks River SM1 East

St. Marks River SM1 East

St. Marks River

St. Marks River SM2 West

St. Marks River SM2 West

St. Marks River

St. Marks River SM3 East

St. Marks River SM3 East

St. Marks River

St. Marks River SM3 West

St. Marks River SM3 West

St. Marks River

St. Marks River SM4 West

St. Marks River SM4 West

St. Marks River

St. Marks River SM5 West

St. Marks River SM5 West

St. Marks River

St. Marks River SM6 West

St. Marks River SM6 West

St. Marks River

St. Marks River SM7 West

St. Marks River SM7 West

St. Marks River

St. Marks River SM8 East

St. Marks River SM8 East

St. Marks River

St. Marks River SM9 East

St. Marks River SM9 East

St. Marks River

St. Marks River SM10 East

St. Marks River SM10 East

St. Marks River

St. Marks River SM10 West

St. Marks River SM10 West

St. Marks River

St. Marks River SM11 East

St. Marks River SM11 East

St. Marks River

St. Marks River SM11 West

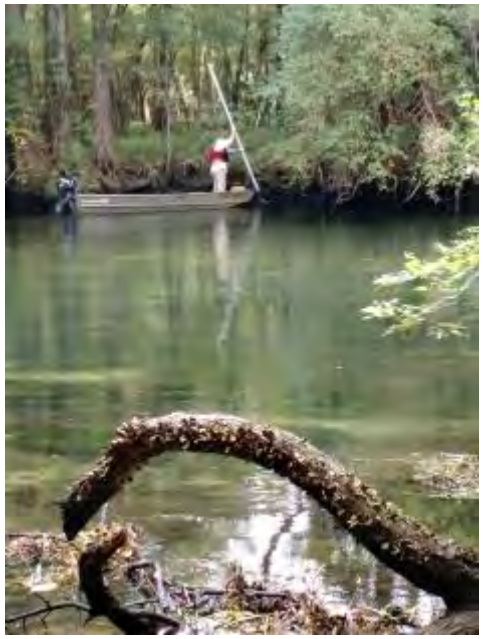
St. Marks River SM11 West

St. Marks River

St. Marks River

Surveying shoal on St. Marks River

St. Marks River



Surveying on the St. Marks River

St. Marks River

Transect: W1 East	Scientists: HF/SB	Community:
Date/Time: 10/7/15 1230	Dominant spp./%cover: NYS SYL 50%	Photos #/GPS #: W1 East start
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25		

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 22'	1	ILE CAS	8'1"	6.3	Mucky A7	0"	90%	90%	Cypress knees, around, Rhyncospora
	2	TAX DIS	17'5"	61.4	mineral				
	3	NYS SYL	13'0"	22.4	clay w/ stripped matrix	4"			
	4	ACE RUB	6'0"	4.1					
2 18'	1	NYS SYL *	15'6"	45.6	Mucky	0"	90%	90%	Cypress knees
	2	PER PAL	9'0"	11.7	Mineral				Photos #166-170
	3	Sugar maple/FL	13'11"	38.6					
	4	ILE CAS	5'8"	6.4					* Peeling bark
3 14'	1	NYS SYL	5'5"	37.7	Mucky	0'	90%	95%	
	2	NYS SYL	16'0"	11.8	Mineral				
	3	ACE RUB	10'0"	16.5					
	4	NYS again? *	15'9"	6.3					* looks like nyssa.
	1							A	27' to the next
	2								community
	3								
	4								

W1 East Upland

MAG GRA Magnolia grandiflora
Spruce Pine
Carya sp.
PIN ELL

MOR CER Morella cerifera
Acer rubrum
BASER RED

No hydric soil indicators

GC% 75%

CC% 90%

Survey line was not marked per State Park requests. located transect w/ GPS

Transect: W1 East			Scientists: HF/SB				Community:		
Date/Time: 10/7/15 1305			Dominant spp./%cover: NYS SYL 80%				Photos #/GPS #:		
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									
Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
4 23'	1	TAX DIS	5'4"	69.5	Muck	0"	10%	95%	Saturated, cypress knees
	2	NYS SYL	7'5"	79.0	70.5"				
	3	CAR CAR	6'0"	11.3					
	4	MOR CER	3'0"	7.7					
5 24'	1	Pop ash	14'6"	34.2	Muck	0"	10%	95%	Inundated, cypress knees >6"
	2	NYS SYL	13'8"	36.0	70.5"				
	3	LEP OLC	21'6"	4.0					
	4	MOR CER 9.11"	~~9'6"~~	~~2.5~~ 8.5					
6 ~~100~~ 36	1	COR FLO	6'3"	2.5	Muck	0"	~~0~~ 5"	90%	Inundated (1") Hammocks,
	2	Pop ash	7'1"	12.0	70.5"				Cypress knees
	3	Pop ash	17'0	13.7					
	4	NYS SYL	17'5"	13.2					
	1								
	2								
	3								
	4								

Transect: W1 West	Scientists: HF/SB	Community:
Date/Time: 10/5/15 1500	Dominant spp./%cover: NYS SYL 50%	Photos #/GPS #:

Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 11'	1	NYS SYL	13'6"	6.8	Mucky mineral	0"	60%	80%	Cypress knees
	2	Pop ash	16'5"	18.5					Saturated, crayfish
	3	CAR CAR	12'7"	16.1					burrows
	4	Pop ash	8'8"	18.3					
2 14'	1	Pop ash	5'0"	12.1	Muck >0.5"	0"	80%	90%	Cypress knees
	2	NYS SYL 7'2"	[illegible]	[illegible] → 6.8					photo 134
	3	Pop ash	9'0"	19.1					
	4	TAX DIS	6'8"	10.0					
3 9'	1	MOR CER	6'0	7.8	Muck >0.5"	0"	90%	80%	Cypress knees
	2	NYS SYL DBH	[illegible]	[illegible] 6.8					
	3	TAX DIS	11'11"	10.0					Photo #136-137
	4	NYS SYL	6'4"	25.6					
	1								8" from edge of water
	2								
	3								
	4								

43' down from stake # Elev. 8.645

W1-West Upland

JLE ~~OSA~~ SER REP
MAG GRA JLE VOM
Beech
QUE VIR
PER BOV

No hydric soil characteristics

GC% 30%

CC% 80%

Photos

#129-133

Transect: W2 East	Scientists: H#/SB	Community:
Date/Time: 10/7/15	Dominant spp./%cover: NYS SYL ~~TBZ~~ 60%	Photos #/GPS #: —

Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 36'	1	Cherry sp.	7'8"	23.0	Dark Soil	not in	60%	80%	Dark
	2	Haw. (Crataegus)	12'4"	3.0	no indicators	top 6"			
	3	~~[illegible]~~	8'3"	6.7					* 176-178 (photos) Ostrya sp.
	4	CAR CAR	16'7"	7.1					* Dark bark, looks oaky?
2 27'	1	PER PAL	2'9"	4.3	Stripping	4"	80%	90%	Cypress knees
	2	CAR CAR	2'4"	4.0	Sandy redox				
	3	Pop ash	5'11	22.2					
	4	Ostrya vir.	7'3"	15.3					~~similar to Cypress papery bark~~
3 26'	1	Ostrya vir.	4'11"	47.0	Mucky	2"	70%	90%	Cypress knees
	2	Pop ash	17'9"	7.1	mineral				
	3	Pop ash	7'4"	28.7					Photos # 179 - 183
	4	NYS SYL	8'7"	20.4					
	1								28' to edge of water
	2								hummocks extend into
	3								river but not part of
	4								land.

W2 East Upland

MAG GRA
PIN TAE
Basswood
ILE VOM
SER REP

Acer rubrum,
ILE OPA
Spiranthes sp.? white flower

No hydric soil characteristics.

GC% 80%

CC% 90%

No back stake in uplands. Transect starts @ CAR CAR

Transect: W2- West	Scientists: HF/SB	Community:
Date/Time: 10/5/15 1530	Dominant spp./%cover:	Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25		

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
24' 1	1	PER PAL	4'	5.4	Mucky Min	0"	70%	80%	Cypress knees, Hummocking, Aquatic Mosses
	2	PER PAL	10'2"	3.8	Stripping	2"			
	3	QUE NIG	5'	43.2					
	4	MOR CER	16'6"	4.9					
75' 2	1	MOR CER	1' 11"	5.7	Muck	0"	90%	70%	Aquatic ferns, wet ground cover, Saturation
	2	PER PAL	15'3"	5.9					
	3	MOR CER	6'8"	9.5					
	4	MOR CER	3'5"	8.3					
10' 3	1	POP ASH	6'3"	14	Muck	0"	80%	70%	Aquatic ferns, aquatic moss
	2	MOR CER	8'4"	6.2					
	3	ILE CAS	7'3"	8.3					
	4	PER PAL	9'9"	20					
	1								
	2								
	3								TO NEXT COMM: 7'0"
	4								

W2 (west) Upland

QUE VIR SER REP
MAG GRA Spruce pine
QUE NIG
PER BOR
ILE VOM

No hydric soil characteristics

GC% 50%

CC% 80%

Photos #124-127

Transect: WZ West			Scientists: HF/SB						Community:
Date/Time:	10/5/15 16:04		Dominant spp./%cover:						Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									
Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
4 21'	1	TAX DIS	4'8"	5.0	Muck @ Surf	0"	50%	80%	Exposed roots, saturated, water stained leaves
	2	COR FLO	4'6"	3.2					
	3	MOR CER	12'6"	4.7					
	4	MOR CER	5'8"	13.5					
5 14'	1	POP ASH	5'3"	6.1	Muck @ Surf	0"	30%	60%	Saturated, aquatic grasses, Cypress knees
	2	POP ASH	6'10"	9.0					
	3	POP ASH	11'8"	6.8					
	4	TAX DIS	9'0"	3.7					
6 22'	1	POP ASH	6'0"	16.8	Muck @ Surf	0"	20%	90%	Completely inundated, exposed roots, Cypress knees
	2	TAX DIS	3'1"	11.3					
	3	POP ASH	11'4"	4.4					
	4	NYS SYL	5'6"	20					
	1								
	2								
	3								
	4								

Transect: W3 East	Scientists: HF/SB	Community:
Date/Time: 10/8/15 1100	Dominant spp./%cover:	Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25		

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 22'	1	ILE OPA	13' 4"	3.1	Mucky Mineral	3"	70%	95%	Cypress knees, Exposed roots,
	2	ILE OPA	20'5"	10.1					
	3	CAR CAR	16'2"	7.5					
	4	CAR CAR	3'2"	9.8					
2 23'	1	ILE DEC	11'1"	3.7	Muck @ Surface	0"	70%	90%	Cypress knees, Aquatic moss, Exposed roots
	2	ILE DEC	7'7"	4.1					
	3	PER PAL	15'2"	6.1					
	4	NYS SYL	11'1"	16.6					
3 10'	1	NYS SYL	6'4"	19	Muck @ Surface	0"	60%	90%	Cypress knees, Aquatic Mosses, water stained leaves
	2	ILE DEC	2'	4.7					
	3	NYS SYL	11'10"	7.2					
	4	NYS SYL	7'8"	14					
	1								
	2								
	3								
	4								

W3 East Upland

MAG GRA ILE VOM
ILE OPA MOR CER
ULM AME
QUE VIR
Rod oak

No hydric soil characteristics

GL% 50%

CC% 90%

Photos 184 - 188

Transect: W3 East	Scientists: HF/SB	Community:
Date/Time: 10/8/15 / 11:30	Dominant spp./%cover:	Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25		

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
4 27'	1	LIQ STY	2'10"	16.8	Muck @ Surf	0"	50%	95%	Cypress knees, Aquatic moss, buttressing
	2	NYS SYL	2'2"	9.8					
	3	POP ASH	3'3"	7.5					
	4	PRU SPP	3'9"	21.2					
5 13'	1	NYS SYL	7'1"	20.2	Muck @ Surf	0"	50%	90%	~~Saturation~~ Cypress knees, Saturation, buttressing,
	2	NYS SYL	8'1"	4.7					
	3	NYS SYL	1'8"	6.9					
	4	NYS SYL	11'3"	40.8					
6 23'	1	POP ASH	5'8"	10.5	Muck @ Surf	0"	20%	80%	Inundated
	2	POP ASH	9'7"	7.2					
	3	TAX DIS	5'10"	4					
	4	POP ASH	15'4"	6.2					
7 20'	1	POP ASH	6'8"	11.5	Muck @ Surf	0"	40%	80%	(A) ~~7'4" from last pt to concrete mon~~
	2	POP ASH	6'2"	26.5					Inundation
	3	POP ASH	5'4"	4.2					
	4	ACE RUB	7'3"	18.7					

Permanently inundated Hummocks from this pt forward; part of the braided river channel

(A) 7'4" from pt 6 to concrete monument

Transect: W3 West			Scientists: HF/SB				Community:		
Date/Time: 10/5/15			Dominant spp./%cover: NYS SYL 40%				Photos #/GPS #:		

Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 8'	1	NYS SYL	10'3"	7.2	–	–	20%	90%	Cypress knees no hydric soil @ this location
	2	QUE NIG	8'6"	5.9					(on a small ridge)
	3	CAR CAR	12'1"	6.5					
	4	CAR CAR	7'4"	4.3					
2 10'	1	NYS SYL	10'4"	12.5	Stripping	6"	20%	90%	Cypress knees
	2	~~CAR CAR~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	8"			~~A~~ 8'1" ~~[illegible]~~ 3.4 CARCAR
	3	NYS SYL	12'1"	7.5	Sandy redox				
	4	NYS SYL	6'10"	11.8					
3 16'	1	NYS SYL	2'8"	9.9	Stripping	4"			Cypress knees
	2	NYS SYL	8'2"	12.6	Sandy redox	4"			
	3	NYS SYL	4'9"	12.3					
	4	NYS SYL	10'10"	13.7					
	1								
	2								
	3								
	4								

W3 West (Upland)

MAG GRA
QUE VIR
~~[illegible]~~
Beech
QUE NIG

SER REP
SAB PAL
ULM AME

~~[illegible]~~
No hydric soil characteristics

GC%	CC%
25%	75%

8' to next Community

Transect: W3 West	Scientists: HF/SB	Community:
Date/Time: 10/5/15	Dominant spp./%cover: NYS SYL HOB	Photos #/GPS #: 117-121

Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
4 25'	1	LIQ STY	5'10"	42.2	Muck 70.5"	0"	30%	90%	Large cypress in plot past this tree
	2	NYS SYL	3'7"	13.0					Cypress knees, saturation
	3	NYS SYL	5'11"	9.7					
	4	ACE RUB	12'5"	10.8					
5 20'	1	Pop ash	9'3"	6.5	Muck				Cypress knees, saturated
	2	NYS SYL	4'11"	22.8	70.5"	0"	50%	90%	
	3	Pop ash	3'6"	14.5					
	4	Pop ash	6'5"	8.6					
	1								
	2								
	3								
	4								
	1								
	2								
	3								
	4								

5' to next community

Transect: W3 West			Scientists: HF/SB						Community:
Date/Time:	10/5/15		Dominant spp./%cover: ~~NYS~~ SYL 75%						Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									
Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
6 71'	1	~~ACRU~~ NYS SYL	4'10"	13.8	Muck	0"	50%	60%	Inundated, cypress knees
	2	Pop ash	10'10"	7.6	70.5"				hummocking
	3	Pop ash	7'9"	8.1					
	4	NYS SYL	5'7"	8.3					
7 30'	1	Pop ash	4'5"	3.1	Muck	0"	20%	80%	Inundated, cypress knees
	2	Pop ash	5'3"	6.0	70.5"				lizard's tail
	3	Pop ash	9'0	3.2					
	4	CEP OCC	13'10"	10.6					
8 24'	1	Pop ash	2'6"	10.0	Muck	0"	30%	80%	Saturated, TOB
	2	ILE CAS	13'2"	6.6	70.5"				cypress knees
	3	CAR sp.	13'3"	16.5					
	4	TAX ~~SPP~~ ASC	3'4"	44.5					
1 4+40 TOB stake	1								
	2								
	3								
	4								

Suggest doing PHABSIM on W6

Transect: W4 E | Scientists: HF/SB | Community: Bottomland hardwood

Date/Time: 9/24/15 1200 | Dominant spp./%cover: NYS SYL 70% | Photos #/GPS #:

Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 45'	1	ULM AME	6'10"	22.0	Muck 7.5"	0"	90%	90%	Saturated, Cypress knees
	2	~~[illegible]~~	9'3"	4.4					Ilex decidua
	3	NYS SYL	6'4"	52.8					
	4	NYS SYL	12'4"	22.1					
2 37'	1	NYS SYL	12'7"	19.8	Muck	0"	90%	100%	Saturated, Cypress knees
	2	OST VIR	3'8"	18.5	7.5"	(			RHY sp, lizards tail
	3	NYS SYL	5'11"	30.7					
	4	ULM AME	9'3"	6.2					
3 28'	1	COR FLO	16'2"	2.6	Muck	0"	90%	100%	Cypress knees, Saturated
	2	NYS SYL	4'10"	22.5	7.5"				Lizards tail
	3	TAX DIS	19'3"	76.0					
	4	NYS SYL	9'1"	26.7					
4 50'	1	NYS SYL	2'11"	16.8	Muck	0"			Saturated, cypress knees
	2	LIQ STY	7'2"	32.9	7.5"				RHY JNU, Lizards tail,
	3	SAB PAL? Tall	8'10"	23.3					Washingtonia Palm?
	4	~~Pop~~ Pop ash	2'3"	8.5					

W4 - E Upland

PIN ELL
QUE VIR
MOR CER
MAG GRA
SAB PAL

ILE OPA
Bracken fern
Smilax

Sandy soils, no hydric soil characteristics

GC%	Can%
40%	80%

Transect: W4-E			Scientists: HF/SB						Community:
Date/Time:	9/24/15	1300	Dominant spp./%cover: NYS						Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
5 29'	1	COR FLO	5'6"	5.4	Muck	0%	90%	90%	Inundated, cypress knees
	2	Pop ash	5'5"	16.5	>5"				tidally influenced
	3	Pop ash	11'7"	11.2					water marks
	4	ACE BAR	7'6"	6.9					Photos # 81-84
	1								
	2								
	3								
	4								
	1								
	2								
	3								
	4								
	1								
	2								
	3								
	4								

5 From river to sampling point = 29'

Same

W4-W

Transect: ~~9/24/15 1500~~	Scientists: HF/SB	Community:
Date/Time: 9/24/15 1500	Dominant spp./%cover:	Photos #/GPS #:

Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 27'	1	CAR CAR	8'3"	9.8	Muck@Surface	0"	40%	90%	Cypress knees, buttressing, aq. Mosses ·
	2	CAR CAR	6'11"	6.2					- 1st 3 pts shifted N 20ft to accomodate
	3	OST VIR	9'3"	17.8					Wetland
	4	CAR CAR	11'9"	4.9					
2 26'	1	CARY GLA	3'10"	10.9	Muck@Surf	0"	30%	70%	Crayfish burrows, aq. Mosses, flow paths
	2	LIQ STY	13'11"	15.5					
	3	CAR CAR	4'6"	5.6					
	4	PER PAL	11'2"	11.3					
3 17'	1	CAR CAR	4'	9.5	Muck@Surf	0"	70%	90%	Saturated, Crayfish burrows, Lizards tail,
	2	LIQ STY	4'7"	15.2					Cypress knees
	3	NYS SYL	8'2"	20.3					
	4	LIQ STY	8'8"	13.8					
	1								
	2								
	3								
	4								

W4-W Upland

PIN ELL QUE VIR
QUE NIG CAL AME
MOR CER
ILE VOM
SAB PAL
SER REP

No hydric soils

66% 100%

Can % 75%

Photos # 89-90

Transect: WH - W				Scientists: HF / SB					Community:
Date/Time:	9/24/15	1530		Dominant spp./%cover: NYS/SYL 80%					Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									
Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
4 46'	1	NYS SYL	7'0"	14.2	Muck	0"	80%	80%	Cypress knees Saturated
	2	ILE DEC	3'9"	4.8	>0.5"				
	3	NYS SYL	7'1"	19.1					Photos # 91-95
	4	NYS SYL	5'2"	11.5					
5 47'	1	NYS SYL	4'6"	26.2	Muck	0"	90%	70%	Saturated
	2	NYS SYL	4'0"	12.6	>0.5"				Rhynchospora, Woodwardia
	3	NYS SYL	9'6"	31.0					Polygonum
	4	NYS SYL	10'9"	44.8					
6 36'	1	Pop ash	4'9"	6.4	Muck	0"			Saturated, cypress knees,
	2	NYS SYL	10"	10.1	>0.5"		100%		Polygonum, Woodwardia sp.
	3	NYS SYL	10'5"	4.2					
	4	NYS SYL	5'2	26.4					
7 50'	1	Pop ash	3'10"	3.3	Muck	0"	90%		Saturated, cypress knees
	2	NYS SYL	4'11"	11.6	>0.5"				Polygonum, Panicum sp
	3	Pop ash	7'10"	8.1					
	4	NYS SYL	6'7"	8.9					

Nyssa dominated, uniform for floodplain

Transect: W4-W			Scientists: HF/SB				Community:		
Date/Time: 9/24/15 1605			Dominant spp./%cover: NYS SYL				Photos #/GPS #:		
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									
Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
8 24' from river	1	OST VIR	7'4"	10.5	Muck	0"	90%	80%	Saturated, cypress knees, on edge of river. Photos #96-100
	2	NYS SYL	8'10"	17.5	>0.5"				
	3	NYS SYL	7'0"	17.5					
	4	ILE DEC	9'11"	3.2					
	1								
	2								
	3								
	4								
	1								
	2								
	3								
	4								
	1								
	2								
	3								
	4								

Transect: W5- E					Scientists: HF/SB				Community:
Date/Time:	9/24/15 / 10:00				Dominant spp./%cover: Ironwood (CARCAR)				Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									
Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1	1	MAG VIR	5'7"	32.2	Mucky Mineral	0"	80%	100%	Crayfish burrows, Exposed roots
	2	CAR CAR	11'6"	7.3	@Surface w/Org				
	3	LIQ STY	7'4"	35.5	Below				
	4	CEL LAE	12'7"	11.6					
2 46'	1	CARCAR	10'10"	7.0	Muck Presence	0"	90%	75%	Crayfish burrows, Exposed roots,
	2	CAR CAR	3'3"	8.8	>.5"				Buttressing
	3	ULM ALA	13'4"	20.9					
	4	LIQ STY	15'	13.8					
3 24' ~~57'~~	1	CAR GLA	6'6"	10.5	Muck@Surface	0"	90%	90%	Photos #72-74
	2	ULM AME	4'8"	16	>.5"				
	3	CAR CAR	4'2"	6.4					
	4	PER PAL	10'3"	36.8					
	1								
	2								
	3								
	4								

Transect: W5 - E			Scientists: HF / SB						Community:
Date/Time:	9/24/15	1030	Dominant spp./%cover: NYS SYL						Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
4 36'	1	ACE ~~RUB~~ BAR	7'8"	5.5	Muck 7.5"	0"	80%	95%	Saturated, Clay
	2	NYS SYL	4'0"	31.3					Lizards tail, Polygonum
	3	NYS SYL	2'11	15.8					Woodwardia virginiana
	4	ACE BAR	11'4"	8.6'					
5 27'	1	Pop ash	10'6"	14.4	Muck 7.5"	0"	90%	90%	Cypress knees Saturated
	2	NYS SYL	3'6"	47.2					Crabs, Lizards tail
	3	Pop ash	~~37~~ 37	15.1					Polygonum
	4	NYS SYL	9'0"	22.8					
6 26'	1	Pop ash 7'11"	~~7'8~~	~~15.1~~ 15.1	Muck	0"	95"	90%	Cypress knees, Saturated
	2	DER PAL	11'7"	3.5	7.5"	~~0~~	~~95%~~		lizards tail, polygonum
	3	Pop ash	4'10"	10.4					
	4	Pop ash	9'4"	4.3					
7 35'	1	NYS SYL	7'10"	34.6	Muck	0"	95%	95%	Saturated, Cypress knees
	2	Pop ash	3'9"	8.4	7.5				
	3	TAX DIS	9'4"	14.1					
	4	TAX DIS	4'3"	16.8					

Transect: W5 W		Scientists: HF/SB					Community:		
Date/Time:	9/24/15	Dominant spp./%cover:					Photos #/GPS #:		
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									
Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 17'	1	OST VIR	12'9"	13.0	Muck	0"	70%	95%	Crayfish burrows,
	2	PER PAL	10'4"	12.1	>0.5"				Woodwardia vir, Chasmanthium
	3	CAR CAR	3'2"	15.0					Saturated
	4	ILE CAS	8'3"	4.4					
2 32'	1	NYS SYL	4'8"	43.6	Muck	0"	90%	90%	Crayfish burrows Saturated
	2	LIQ STY	15'8"	12.7	7.5"				Woodwardia vir,
	3	OST VIR	5'3"	23.3					
	4	NYS SYL	18'8"	24.4					
3 49'	1	PER PAL	5'0"	12.4	Muck	0"	80%	95%	Saturated, Crayfish burrows
	2	QUE NIG	8'5"	13.2	>0.5"				
	3	NYS SYL	6'9"	12.3					
	4	TAX DIS	9.0	28.7					
	1								
	2								
	3								
	4								

W5-W Upland

PIN ELL
MOR CER
QUE VIR
~~VAC~~ SER REP
MAG GRA

Bracken fern
Vitis sp.

No hydric soils
Scaly

GC%	Can%
70%	70%

Transect: W5-W			Scientists: HF/SB						Community:
Date/Time:	9/24/15 / 2:15		Dominant spp./%cover:						Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									
Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
4 49'	1	ACE BAR	2'4"	15.9	Muck Presence @	0"	90%	100%	Crayfish burrows, Cypress knees,
	2	NYS SYL	7'1"	18.0	Surf				
	3	POP ASH	3'7"	7.3					
	4	PER PAL	5'3"	8.2					
5 20'	1	NYS SYL	2'8"	14.0	Muck Presence @	0"	80%	90%	Hummocking, Saturated Soils, Above
	2	PER PAL	11'9"	13.5	Surf				Ground Roots
	3	ACE RUB	4'5"	5.8					
	4	NYS SYL	4'7"	11.8	Muck Presence @	0"	1		
6 21'	1	TAX DIS	3'6"	53.2	Surf		60%	90%	Hummocking, Cypress Knees, Aquatic
	2	ACE RUB	5'8"	6.3					Mosses, Saturation
	3	NYS SYL	9'5"	48.9					
	4	PER PAL	11' 11"	10.1					
7 43'	1	NYS SYL	9'7"	11.5	Muck @ Surf	0"	50%	90%	Completely Submerged, Hummocking,
	2	NYS SYL	2'6"	9.6					Buttressing
	3	NYS SYL	3'2"	15.1					
	4	NYS SYL	15'8"	23.3					

Transcect: W6				Scientists: DL SB HF			Community: TOB - Sawgrass		
Date: 9/9/15 1120				Dominant spp./%cover: PER PAL 40%			Photos #/GPS #:		
Random # seq: 18 12 4 3 5 18 3 18 3 12 5 20 6 19 7 20 7 15 9 14 5 2 16 19 19 (f(comm width))									

Point (distance of edge of water)	PCQ	Random point dist (ft)	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric 1/0	Indicator A/S/F #	Depth SHS	Notes (Photo / GPS)
1 (24')	1	9	PER PAL	7'7"	16.5	1	A8	0"	Muck at surface Inundated
	2		PIN TAE	6'5"	38.5				GPS Point - W6-E1
	3		PER PAL	11'4"	10.5				
	4		Green? Ash Fraxinus? ROP	3'0"	11.25				
2 (35'10")	1	6	Cep occ	5'0"	3.1		A8		
	2		Cep occ	16'4"	7.9 cm			0"	Peat @ surface
	3		Cep occ	15'9"	5.2 cm				2'3" Sawgrass w/ humm.
	4		Per pal	13'10	11.5				20% Canopy cover 100% Sawgrass
3 (8')	1	8	Cep occ	10'8	4.9		A8	0"	40% Canopy
	2		Cep occ	12'9	7.9				
	3		Per pal	10'5	4.6 cm				Dominant Cep occ & Sawgrass; Taxodium
	4		Cep occ	16'3	9 cm				Peaty Soils
4	1								
	2								
	3								
	4								

canopy cover / % cover / inundation / Satd.

W noon

Transect: W6-E	Scientists:	Community:
Date: 9 Sep 2015	Dominant spp./%cover:	Photos #/GPS #: 18 looking W to Water / 19 E to land

Random # seq: 18 12 4 3 5 ~~18~~ 3 18 3 12 5 20 6 19 7 20 7 15 9 14 5 2 16 19 19 (f(comm width))

Point	PCQ	Random point dist (ft)	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (in)	Hydric 1/0	Indicator A/S/F #	Depth SHS	Notes (Photo / GPS)
11:50 4	1	18	PER PAL	9'6"	20cm	1	Mucky Mineral	0"	Inundated (6"-1')
	2	12	CEP OCC	4'9"	5.9cm				
	3	4	CEP OCC	8'7"	8cm				50% Ground cover (Sanguinus, Polyg)
	4	3	PER PAL	7'	11.8cm				
12:10 5	1		Cep occ	3'1	3cm	1	Peat/Mucky Mineral (Sandy)	0"	Inundated (7")
	2		Mor cer	11'4'	3.5cm				60% Canopy Cover (Perpal
	3		Mor cer	9'6"	4.7cm				Gound - 50% (Polyg, Nemernet, Liztail,
	4		Mor cer	6'8"	3.7cm				
10	1		Carya spp	4'8"	3.8cm				Inundated (4")
	2		Carya spp	4'4"	9.3cm	1			Canopy - 80% (Perpal, Carya spp)
	3		Carya spp	5'10"	9.7cm				Ground - 90% (Nemernet, Lizard's, Polyg)
	4		~~Carya spp~~ Per Pal	5'	11.8cm				
11:50 rm (11)	1		Nyssyl	12'8"	20.9			4"	redox @ 4" 5" stripped
	2		Nyssyl	8'3"	13.0	1			morus sp. / bamboo
	3		Que Nig	10'5"	23,0				fiddler crabs
	4		Acerub	5'8"	5.2				

last one!

upland 19' landward of 700 stake / BM.
Disturbed soils / fill to ≥ 12"

12:30

Transect: W6-E	Scientists: w-myatt	Community: Nyssa?
Date: 9 Sep	Dominant spp./%cover: Nyssa (carya, perpal,	Photos #/GPS #: Photo 21 (Knees)
Random # seq: 18 12 4 3 5 18 3 18 3 12 5 20 6 19 7 20 7 15 9 14 5 2 16 19 19 (f(comm width))		

Point	PCQ	Random point dist (ft)	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (in)	Hydric 1/0	Indicator A/S/F #	Depth SHS	Notes (Photo / GPS)
7	1	~~18~~	Cargla	2'11"	9.7	1	A9 mucky min	0"	Inundated 1"
	2	~~12~~	Cargla	3'7"	5.0cm				cypress knees (80% canopy cover)
	3	~~29~~	Nyssyl	7'8"	19.5				Nyssa, rhynch
	4	3	Cargla	4'8"	7.8				
8	1		Nyssa sylv	3'0	11.8	1	~~A9~~ Muck ~~Mucky Min~~	0"	1" Inundation
	2		Nyssa sylv	6'3"	15.6				90% Canopy Cover
	3		Nyssa syl	5'9"	10.2				90% Ground cover
	4		Carya spp	3'9	15cm				
9	1		Nyssa syl	5'3	26.2cm	1	Muck	0"	90% Canopy Cover (Nyssa Carya)
	2		Carya spp	2'	8.2				100% Ground (Lizards, Carex)
	3		Nyssa syl	4'4"	23.4				
	4		Carya spp.	1'11"	7.4				
10	1		Carya spp.	6'5"	6.4	1	Muck	0"	Lots of Cyp knees, very few Cyp
	2		Nyssa sylv	2'7"	13.2				Inundated (1") Mucky/Peaty
	3		Nyssa sylv	4'3"	14.8				GCover - 60% (Lizards)
	4		Carya spp.	4'4"	5.2				Canopy - 95 - 100%

Transect: W 6 - W	Scientists: PL, SB, HF	Community:
Date: 9/9/15	Dominant spp./%cover: PER PAL 90%	Photos #/GPS #: 22E 23 West

Random # seq: 18 12 4 3 5 18 3 18 3 12 5 20 6 19 7 20 7 15 9 14 5 2 16 19 19 (f(comm width))

Point	PCQ	Random point dist (ft)	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm / ~~in~~)	Hydric 1/0	Indicator A/S/F #	Depth SHS	Notes (Photo / GPS)
18' 1	1	18	PER PAL	28' 3"	3.0	1	Mucky Mineral A7	3"	Persea, Ilex,
	2	12	PER PAL	1' 11"	3.5	1	Saturated		90% Canopy
	3	4	PER PAL	9' 10"	6.5	1			95% GC Rhyncospora, Iris
	4	3	ILE VOM	13' 5"	4.3	1			
4' 2	1		~~Taxdis~~ Perpal	2' 11"	14.9 cm	1	depleted matrix @ 1"		80% gr. cove
	2		Perpal	3' 6"	12.2	1	mucky min @ 4"		95% can. cover
	3		~~Perpal~~ Acerub	5' 3"	20.1	1		1"	privy, muskmint
	4		Perpal	1' 8"	9.8	1			~~Sat'd~~ ~~photos~~
3	1		popash	2' 8	4.4"		sandy redox	1"	water at surface
	2		Taxasc	8' 8"	16"				80% can cover
	3		popash	3' 11"	3.5				60% gr. cover
	4		perpal	7' 4"	20.6				
18 4	1		popash	9' 8"	7.5		Sandy redox	1"	inundated 2" water
	2		cepocc	9' 6"	3.8				60% can cover
	3		cepocc	1' 9"	3.2				75% gr. cove
	4		popash	6.1"	7.1				

Transect: WG W	Scientists: PL, SB, HF	Community: Nu
Date: 9 Sep, 3:18 pm	Dominant spp./%cover: Nyssa, popash, cyp,	Photos #/GPS #:
Random # seq: 18 12 4 3 5 18 3 18 3 12 5 20 6 19 7 20 7 15 9 14 5 2 16 19 19 (f(comm width))		

Point	PCQ	Random point dist (ft)	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric 1/0	Indicator A/S/F #	Depth SHS	Notes (Photo / GPS)
5	1	18	Perpal	6'7"	11.4	1	surface mucky mineral	0"	6½" water depth
	2	12	Cepocc	9'2"	8.6				80% gr. cov
	3	4	Tax dist	11'6"	4.4				50% can cov.
	4	3	popash	10'8"	7.3				Rhyn., saururus, polygonum
6	1		pop ash	6'5"	19.5	1	Mucky mineral peat	0"	18" water depth
	2		NYS SLY	14'1"	20.5		inundated		70% canopy cover
	3		TAX DIS	3'7"	16.6				70% ground cover
	4		pop ash	11'5"	9.2				Pontederia, Rhynchospora, Polygonum
3	1								
	2								
	3								
	4								
4	1								
	2								
	3								
	4								

Transect: ~~W8 E8~~ W7-E	Scientists: HF/SB	Community:
Date/Time: 9/21/15 1345	Dominant spp./%cover:	Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25		

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 17'	1	COR FLO	1'6"	5.0	A8	0"	60%	80%	Saturated cypress knees
	2	NYS SYL	2'6"	15.8	Muck c surface				Crayfish burrows, fiddler crabs
	3	NYS SYL	5'8"	7.4					
	4	PER PAL	1'9"	14.1					~~Saturated, cypress knees~~
2 32'	1	PER PAL	1'4"	8.8	Stripping	0"	20%	100%	Crayfish burrows
	2	PER PAL	5'1"	3.0	Sandy redox	2"			Saturated soils, cypress knees
	3	MOR CER	2'8"	2.7					flow patterns
	4	PER PAL	8'2"	6.2					
3 49'	1	MOR CER	3'2"	5.6	Stripping@Surface	0"	50%	100%	Crayfish burrows; Cypress knees
	2	NYS SYL	2'6"	3.5					Aquatic Mosses
	3	MOR CER	2'7"	5.9					
	4	MOR CER	9'9"	3.6					
	1								
	2								
	3								
	4								

East side Upland

MAG GRA
QUE VIR
~~SAB~~ SAB PAL
PIN ELL
ILE VOM
QUE NIG

Bracken fern
SER REP
TOX RAD
RUB sp.

No hydric soils

GC%
85%

Can%
95%

Dry soil, no saturation, no hydric soil characteristics

Photos #24-28

Transect: ~~W8-E~~ W7-E	Scientists: HF/SB	Community:
Date/Time: 9/21/15 2:41	Dominant spp./%cover:	Photos #/GPS #:

Random #: 17 10 32 49 ~~41~~ ~~42~~ 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
41' 4	1	QUE NIG	7'9"	6.1	Mucky Mineral	0"	45%	100%	Multiple Cyp knees, Aquatic Mosses
	2	PER PAL	3'7"	31.7					Crayfish burrows
	3	MOR CER	3'4"	5.9					
	4	COR FLO	6'3"	3.6					
21' 5	1	PER PAL	1'9"	10.9	Muck Surface	0"	40%	80%	Aquatic Mosses, Hydric understory (Liz tail)
	2	PER PAL	7'5"	12.1					
	3	SAB PAL	6'2"	16.1					
	4	PER PAL	4'1"	10.4					
12' 6	1	MAG VIR	1'10"	8.1	Muck @ Surface	0"	30%	90%	Aquatic Mosses, Cypress knees, buttressing
	2	MOR CER	11' 11"	4.7					Crayfish burrows
	3	MOR CER	11"	4.7					
	4	PER PAL	2'10"	7.8					
	1								
	2								
	3								
	4								

W7-E

Transect: ~~W6~~-E	Scientists: HE/SB	Community:
Date/Time: 9/21/15 1500	Dominant spp./%cover:	Photos #/GPS #:

Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
7 43'	1	NYS SYL	2'8"	9.3	AS	0"	40%	60%	Inundated / Sawgrass
	2	NYS SYL	4'2"	14.8	Mucke surface				Polygonum, Rhyncospora inundata
	3	Pop ash	5'1"	11.0					photos # 29-33
	4	Pop ash	6'8"	4.0					
8 15'	1	Pop ash	8'2"	9.6	AS	0"	90%	50%	Inundated
	2	MOR CER	4'9"	3.4	Mucke surface				Sawgrass, polygonum
	3	Pop ash	8'9"	7.0					
	4	NYS SYL	7'8"	31.5					
9 30'	1	Pop ash	5'2"	11.5	AS	0"	50%	50%	Inundated
	2	Pop ash	3'6"	4.0	Mucke surface				Sawgrass, Rhyncospora inundata
	3	Pop ash	11'4"	7.6					
	4	Pop ash	11'2"	9.2					
	1								
	2								
	3								
	4								

W7-E

Transect: ~~W6~~ -E	Scientists: HF/SB	Community:
Date/Time: 9/21/15 1530	Dominant spp./%cover:	Photos #/GPS #:

Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
10 24'	1	PER PAL	14'4"	6.2	AS	0"	10%	80%	Inundation
	2	~~Pop~~ CEP occ	6'2"	7.9	Muck e				Photo #134-35 (tree)
	3	PER PAL	7'3"	12.6	Surface				Sawgrass, lizards tail
	4	Pop ash	2'6"	16.0					
11 24'	1	PER PAL	2'9"	9.2	AS	0"	20%	65%	Inundated
	2	NYS SYL	3'8	78.0	Muck e				Sawgrass
	3	Pop ash	9'2"	7.4	Surface				
	4	Pop ash	4'6"	22.7					
12 50'	1	Pop ash	3'5"	12.8	AS	0"	40%	80%	Inundated
	2	~~PER PAL~~ MAG VIR	3'10"	11.6	Muck e				Lizards tail, Sawgrass
	3	MAG VIR	11'6"	8.7	Surface				
	4	~~Pop ash~~ CEP occ	3'2"	7.4					
	1								
	2								
	3								
	4								

Transect: W7-W | Scientists: HF/SB | Community:

Date/Time: 9/22/15 1015 | Dominant spp./%cover: | Photos #/GPS #:

Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 5'	1	MOR CER	2'6"	4.0	Stripping (S6)	1"	80%	90%	Cypress knees
	2	NYS SYL	3'6"	7.8	Sandy redox	4"			Arundinaria, chasmanthium
	3	NYS SYL	15'8"	20.6					
	4	MOR CER	7'5"	4.7					
2 10'	1	MOR CER	9'6"	4.7	~~A8~~ A7	0"	70%	80%	Cypress knees
	2	NYS SYL	8'7"	7.8	Mucky				frogs
	3	MOR CER	8'9"	3.8	mineral				
	4	MOR CER	6'11"	4.0					
3 19'	1	SAB PAL	14'3"	28.5	Stripping	2"	80%	80%	Cypress knees, saturated
	2	~~PER RAD~~ 7'5"	~~[illegible]~~	~~[illegible]~~ 26.2	S6				Crayfish burrows, Arundinaria sp.
	3	CEP OCC	7'7"	6.1					
	4								
	1								
	2								
	3								
	4								

NYS SYL

West side Upland

PIN ELL
QUE NIG
MOR CER
QUE VEL
Carya sp.
MAG GRA
ILE VOM
Arundinaria sp.
Vitis spp
SER REP

No hydric soils

GC% 95%

Can% 90%

Dry soil, no saturation, no hydric soil characteristics in top 12"

stripping > 12"

Photos # 36-39

Transect: W7-W		Scientists: HF/SB							Community:
Date/Time:	9/22/15 11:10	Dominant spp./%cover:							Photos #/GPS #:
Random #: 17 10 32 ~~49 41~~ 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
25' 4	1	PER PAL	5'10"	8.5	Mucky Min	0"	50%	80%	Cyp Knees, Saturation, Crayfish Burrows, Fiddler Crabs
	2	SAB PAL	12'	27.5					
	3	CEP OCC	8'1"	8.0					
	4	ULM AME	12'2"	5.9					
20.5' 5	1	POP ASH	2'8"	18.1	Mucky Min	0"	50%	60%	Multiple Cyp knees, Lizard's Tail, Fiddlers
	2	MOR CER	8'1"	2.6			5		
	3	ULM AME	10'4"	5.9					
	4	PER PAL	10'2"	13.3					
21' 6'	1	CEP OCC	4'6"	7.0	Muck @ Surf	0"	70%	50%	Cyp Knees, Fiddlers, Lizard's Tail, RHY INU, Buttressing
	2	POP ASH	13'	12.1					
	3	NYS ~~BET~~ SYL	9'2"	20.5					
	4	POP ASH	5'3"	15.2					
	1								
	2								
	3								
	4								

Transect: ~~9/22/15~~ WT-W	Scientists: HF / SB	Community: ~~HB~~
Date/Time: 9/22/15 1130	Dominant spp./%cover: NYS SYL	Photos #/GPS #: 40-44

Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
7 22'	1	Pop ash	10'3"	17.2	A8	0"	50%	40%	Cypress knees, fiddler crabs
	2	PER PAL	4'6"	11.6	Muck				Sawgrass, Sagittaria, lizards tail
	3	Pop ash	11'6"	8.0					Inundated
	4	PER PAL	10'10"	11.3					
8 30'	1	NYS SYL	2'6"	12.2	A8	0"	70%	50%	Inundated,
	2	NYS SYL	5'0	15.6	Muck				Lizards tail, Polygonum, Sawgrass
	3	NYS SYL	5'5"	11.1					Rhyncospora inundata
	4	NYS SYL	5'9"	21.2					
9 24'	1	PER PAL	4'10"	26.2	A8	0"	60%	60%	Inundated
	2	Pop Ash	4'11"	5.2	Muck				Sawgrass, polygonum
	3	NYS SYL	10'8"	20.2					
	4	Pop ash	4'3"	3.9					
10 60'	1	NYS SYL	3'0"	18.3	A8	0"	60%	95%	Inundated, on the bank
	2	NYS SYL	5'0"	22.5	Muck				Lizards tail, sawgrass
	3	TAX DIS	2'6"	9.1					Polygonum
	4	MAG VIR	3'3"	2.8					Hummocking, buttress trees

Transect: WS- E	Scientists: HF/SB	Community:
Date/Time: 9/22/15 1245	Dominant spp./%cover:	Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25		

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 0'	1	Ironwood	5'10"	6.5	Stripping	~~1~~"	70%	100%	
	2	SAB PAL	10'11"	57.0	Sandy redox	1"			
	3	MOR CER	3'2"	5.1					end E edge / wetland/upland
	4	~~NYS SYL~~	9'5"	11.7					
2 17'	1	Pop ash	5'8"	4.2	Mucky Mineral	0"	60%	90%	Saturated, fiddler crabs
	2	Ulmus amer.	10'1"	6.3					Aquatic mosses
	3	NYS SYL	3'1"	26.1					
	4	MAG VIR	4'2"	13.1					
3 D'	1	NYS SYL	8'9"	59.6	Muck 70.5in	0"	80%	90%	Saturated, fiddler crabs
	2	MOR CER	2'2"	6.8					hummocking
	3	NYS SYL	11'11"	24.7					
	4	Pop ash	5'2"	4.1					
	1								
	2								
	3								
	4								

WS-E Upland

~~WETLAND~~

PIN ELL ILE VOM
QUE VIR
SAB PAL
Carya spp.
MAG GRA

No hydric soils
salt and pepper
sand

GC% 40%

Can% 95%

Dry soil, no saturation, no hydric soil characteristics

Photos # 45-49

Transect: W8-E		Scientists: AF/SB							Community:
Date/Time:	9/22/15 1:20	Dominant spp./%cover: Pop Ash 60%							Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
4 16'	1	POP ASH	10'4"	4.8	Muck @ Surf	0"	30	70	Lizard's Tail, Full Saturation, Flooded @ High Water
	2	PER PAL	6'5"	16.0					
	3	POP ASH	9'5"	6.4					
	4	POP ASH	14'1"	8.9					
5 25'	1	NYS SYL	2'7"	15.2	Muck Surf	0"	30	90	Lizard's Tail, Full Saturation, Flooded @ High
	2	POP ASH	3'11"	11.4					
	3	PER PAL	3'10"	9.9					
	4	POP ASH	10'	4.4					
6 20'	1	POP ASH	13'6"	10.5	Muck @ Surf	0"	30	90	Photo's #50-53
	2	POP ASH	15'7"	5.8					See Above
	3	POP ASH	10'3"	10.4					
	4	NYS SYL	9'2"	28.4					
	1								
	2								
	3								
	4								

Transect: W8-W	Scientists: HF/SB	Community: Feeds to creek to the N
Date/Time: 9/22/15 1445	Dominant spp./%cover:	Photos #/GPS #:

Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 5"	1	ILE CAS	7'6"	6.0	Mucky	0"	90%	70%	Inundated, cypress knees
	2	PER PAL	7'2"	2.7	mineral				Saw grass
	3	NYS SYL	4'3"	17.7					
	4	NYS SYL	7'0"	4.0					
2 15'	1	PER PAL	11.5"	6.8	Mucky	0"			Inundated, cypress knees
	2	NYS SYL	11'5"	16.5	Mineral				saw grass
	3	TAX DIS	8'1"	21.6					
	4	NYS SYL	14'8"	17.3					
	1								
	2								
	3								
	4								
	1								
	2								
	3								
	4								

had to go North to get to ~~water~~ upland

W8-W Upland

PIN ELL
QUE VIR
SAB PAL
MAG GRA
SER REP
MOR CER

No hydric soil

GC% 40%

Can% 90%

GPS End
30.16463 N
84.23435 W

Dry soil, no saturation, no hydric soil characteristics

Transect: WS-W			Scientists: HF/SB						Community: PFO
Date/Time:	9/22/15	1500	Dominant spp./%cover: NYS SYL	60%					Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									
Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
3 50' (from upland Island)	1	NYS SYL	1'7"	14.8	Muck 7.5	0"	100%	80%	Inundation, exposed roots
	2	NYS SYL	8'4"	10.5	A9				connects to creek to south
	3	NYS SYL	6'3"	18.1					Saw grass
	4	NYS SYL	3'2"	18.6					
4 19'	1	Pop ash	2'9"	2.8	Muck 7.5"	0"	100%	80%	Inundation, fiddler crabs, crayfish burrows
	2	NYS SYL	6'1"	19.8	A9				Saw grass
	3	Pop ash	18'2"	20.9					
	4	Pop ash	8'3"	2.7					
5 21'	1	NYS SYL	4'4"	22.7	Muck 7.5"	0"	60%	90%	Inundation, cypress knees
	2	NYS SYL	5'5"	8.4	A9				Saw grass, polygonum, lizards tail
	3	NYS SYL	3'2"	9.0					
	4	TAX DIS	5'10"	68.0					
	1								
	2								
	3								
	4								

Transect: WS-W		Scientists: HF/SB							Community:
Date/Time:	9/22/15 1530	Dominant spp./%cover:							Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
7 19'	1	NYS SYL	2'11"	7.8	Muck Presence	0"	60%	80%	Lizard tail, Cypress knees, Saturated
	2	NYS SYL	10'3"	22.8					
	3	NYS SYL	13'6"	14.5					
	4	NYS SYL	9'1"	17.9					
8 11'	1	NYS SYL	3'3"	14.5	Muck Presence	0"	50%	90%	See Above
	2	PER PAL	14'11"	2.6					
	3	NYS SYL	3'2"	22.8					
	4	NYS SYL	6'10"	28.9					
9 14'	1	NYS SYL	3'10"	27.9	Muck Presence	0"	60%	95%	See Above
	2	MOR CER	3'11"	7.0					
	3	NYS SYL	9'4"	28.3					
	4	PER PAL	4'11"	10.4					
10 22' Top of Bank	1	CEP OCC	4'4"	7.1	~~No~~ Muck Presence	0"	60%	90%	Fiddler Burrows, Soil Moist but not Saturated
	2	PER PAL	3'4"	12.4					
	3	POP ASH	4'11"	14.5					
	4	PER PAL	4'1"	12.5					

1

(★) 43' from Back Flagging to Start of wet

Transect: SM1 East	Scientists: HF/SB	Community: Mixed Hardwoods
Date/Time: 10/6/15 / 11:00	Dominant spp./%cover:	Photos #/GPS #:

Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 (17')	1	CAR CAR	6'2"	4.6	Stripping & Sandy	5"	10%	95%	Crawfish burrows, Carex,
	2	QUE NIG	4'8"	8.6	Redox				
	3	CAR CAR	19'8"	23.2					
	4	CAR CAR	18'6"	25.5					
2 (10')	1	PIN ELL	4'10"	45.5	Stripping	0"	20%	80%	Crawfish burrows, Waterstained
	2	CEL LAE	4'4"	16	Redox	>6"			leaves
	3	CAR CAR	22'11"	27					
	4	CAR CAR	5'4"	23.5					
3 (32')	1	CAR CAR	10'4"	14	Stripping/Depleted	0"	50%	70%	Cypress knees, crawfish burrows, H2O
	2	MOR CER	2'	12.2					Stained leaves
	3	LIQ STY	2'4"	9.8					
	4	NYS SYL	6'5"	13.8					
	1								
	2								
	3								
	4								

SM1 East Upland

QUE VIR
PIN TAE
SER REP
white oak
ILE OPA
Beech

No hydric soil indicators

GC%	CC%
60%	75%

⊗ Photos 138-142

Transect: SM1 East	Scientists: HF/SB	Community: Bottomland Cypress
Date/Time: 10/6/15 / 11:00	Dominant spp./%cover:	Photos #/GPS #:
Random #: ~~17~~ ~~10~~ ~~32~~ ~~49~~ ~~41~~ ~~42~~ 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25		

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
4 25'	1	CAR CAR	12'8"	4.8	Stripping/Depl	1"	80%	80%	Cypress knees, water stained leaves,
	2	TAX DIS	6'6"	27					crawfish burrows
	3	POP ASH	9'4"	10.6					
	4	TAX DIS	6'11"	6.3					
5 20'	1	TAX DIS	6'11"	7	Mucky Mineral	0"	70%	60%	Crawfish burrows, cypress knees
	2	NYS SYL	5'10"	41					
	3	TAX DIS	5'10"	3					
	4	TAX DIS	6'1"	5.8					
6 21'	1	TAX DIS	8'3"	12.5	Muck@Surf	0"	80%	70%	Crawfish burrows, cypress knees
	2	TAX DIS	4'0"	9.7					
	3	NYS SYL	8'2"	5.1					
	4	TAX DIS	6'9"	3.3					
7 22'	1	PER PAL	4'3"	12.3	Muck@Surf	0"	80%	90%	Crawfish burrows, saturated, water stained
	2	MOR CER	10'4"	5.5					leaves, cypress
	3	ILE CAS	2'4"	3					
	4	TAX ASC	3'3"	4.8					

Transect: ~~SM1~~ SM2 W	Scientists: HF/SB	Community: Mixed Hardwoods
Date/Time: 9/25/15, 1150	Dominant spp./%cover:	Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25		

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 49'	1	CAR CAR	4'8"	16.5	Clayey	4"	20%	95%	Marginal wetland on edge
	2	PER PAL	10'9"	4.1	depleted matrix				Survey line extends past wetland line 2-3 flags.
	3	CAR CAR	2'1"	4.9	redox				
	4	Pop ash	6'9"	2.8					
2 ~~20~~ 0'	1	LIQ STY	4'0"	23.9	Mucky	0"	40%	95%	Crayfish burrows
	2	CAR CAR	15'10"	11.1	Mineral				flow patterns
	3	PIN ELL	15'3"	66.0	Depleted	4"			
	4	CAR CAR	10'8"	8.9	matrix clay				
3 30'	1	CAR CAR	4'4"	3.3	Sandy soil	0"	50%	100%	Crayfish burrows, flow patterns
	2	Pop ash	3'10"	11.3	Stripping				stain lines
	3	CAR CAR	7'5"	2.6	1156				
	4	CAR CAR	7'0"	2.9					
	1								
	2								
	3								
	4								

SM2W Upland

MAT CRA

PIN ELL
Ironwood
SER REP
ILE OPA

No hydric soils

60% / 20%

Can% / 60%

Transect: SM 02 W			Scientists: HF/SB						Community:
Date/Time:	9/25/15 1230		Dominant spp./%cover:						Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									
Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
4 24'	1	CAR CAR	16'6"	17.3	Mucky	2"	80%	50%	Crayfish burrows
	2	CAR CAR	14'1"	16.6	Mineral				Saturated
	3	CAR CAR	4'3"	7.7					photos #103-107
	4	CAR CAR	12'9"	3.8					
5 50'	1	CAR CAR	7'10"	4.1	Mucky	0"	70%	90%	Crayfish burrows
	2	CAR CAR	12'1"	13.8	mineral				Saturated, Chasmanthium
	3	CEL LAE	4'11"	3.7					
	4	PER PAL ☆	2'7"	45.6					☆ photo 108
6 39'	1	Blackbird	6'10"	32.5	Mucky	0"	60%	90%	☆ photo - 110
	2	CAR CAR	7'3"	17.2	Mineral				Crayfish burrows
	3	ILE OPA	9'3"	3.4					Saturated - Chasmanthium, Panicum
	4	CAR CAR	7'1"	7.3					
	1								
	2								
	3								
	4								

Transect: SM 2 W			Scientists: HF/SB				Community:		
Date/Time: 9/25/15 1300			Dominant spp./%cover: CEL LAE 50%				Photos #/GPS #:		
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									
Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
7 21'	1	ACE RUB	1'5"	5.6	Clayey	1"	30%	95%	Flow patterns
	2	LIQ STY	~~2~~ 1'11"	~~4~~ 7.2	red ox dark				
	3	PER PAL	2'11"	15.1	surface				
	4	CAR CAR	7'10"	3.0					
8 38'	1	CEL LAE	3'10"	15.1	Mucky	0"	80%	90%	Bignonium, Chasmanthium sp.
	2	~~CAR GLA~~ Pop ash	8'8"	18.1	mineral				flow pattern
	3	Pop ash	1'10"	5.7	clay, dark	4"	~~80%~~		
	4	CEL LAE	9'2"	12.4	surface				
9 21'	1	CAR CAR	5'7"	9.5	Mucky	3"	80%	90%	Chasmanthium, SER REP
	2	LIQ STY	5'7"	45.2	mineral				
	3	CAR CAR	2'2"	12.7					
	4	CEL LAE	9'2"	7.2					
	1								51' to next community
	2								
	3								
	4								

Transect: SM2 W			Scientists: HF/SB NYS SYL 40%						Community:
Date/Time:	9/25/15 1320		Dominant spp./%cover: ~~NYS [illegible]~~						Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									
Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
10 22'	1	NYS SYL	8'6"	6.6	Muck, mineral	3"	20%	60%	Cypress knees
	2	NYS SYL	8'2"	8.2					Saturated
	3	LIQ STY	7'7"	6.0					
	4	CAR CAR	6'5"	33.2					
11 18'	1	ACE ~~BA~~ BAR	7'5"	10.8	Muck	0"	10%	90%	Lizards tail, saturated
	2	LIQ STY	6'4"	26.2	>0.5"				Cypress knees
	3	LIQ STY	6'0"	30.6					
	4	Pop ash	4'11"	4.8					
12 23	1	NYS SYL	12'8"	4.3	Muck	0"	50%	90%	Cypress knees, saturated
	2	MOR CER	6'4"	3.3	>0.5"				Clearmanthus on top of bank
	3	CAR CAR	~~8~~ 12'8"	7.9					
	4	CAR CAR	3'3"	8.7					
	1								21' to edge of water
	2								
	3								
	4								

Transect: SM 3 East | Scientists: HF/SB | Community:

Date/Time: 10/6/15 1540 | Dominant spp./%cover: | Photos #/GPS #:

Random #: 17 10 32 49 41 42 43 ~~15~~ 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 0' (TOB) 15'	1	TAX DIS	~~4'~~ 7'0"	42.0	Stripped	0'	50%	90%	Cypress knees
	2	LIQ STY	9'2"	5.5	matrix				Photos # 153-157
	3	Pop ash	17'0"	4.5					This point is associated w/ creek
	4	ACE RUB	12'4"	27.4			~~0~~		that feeds into river
2 28' from river TOB	1	TAX DIS	9'11"	22.5	Dark surface	6"	60%	100%	TOB, cypress knees
	2	LIQ STY	25'8"	15.3	dry, stripping				Photos # 158-162
	3	CAR CAR	4'3"	21.7	relox				TOB of creek that flows
	4	TAX DIS	10'4"	17.0					into river. Creek is 15' wide
3 Not good from Point 4 under hummock	1								
	2								
	3								
	4	on TOB.							
	1								
	2								
	3								
	4								

Sm3 East Upland

SAB PAL
SER REP
QUE MIC (swamp chestnut?)
LIQ STY
Hickory
PIN ELL

No hydric soil characteristics

GC%: 60%

CC%: 75%

Line extends far into upland.. wetland starts @ 42' west of 5th 5 stake from East (Stakes 100' apart)

Transect: SM3 West	Scientists: HF/SB	Community: Cypress/Gum
Date/Time: ~~10~~ 10/6/15	Dominant spp./%cover:	Photos #/GPS #: 143-144
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25		

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 0' @ last stake	1	SAB PAL	9'0"	30.5	Muck	0"	10%	90%	
	2	TAX DIS	7'3"	20.2	>0.5"				Photos 143-144
	3	ULM AME	11'11"	5.9					28' to wetland →
	4	CAR CAR	12'4"	13.6					46' upland to next wetland
2 15'	1	CAR CAR	15'8"	11.9	clay, dark surface	0"	80%	70%	~~Eq~~ Crayfish burrows, Saturated
	2	~~A~~ photo	9'4"	6.9					Photos 145-146
	3	Carya sp	5'9"	32.2					Cypress knees
	4	TAX DIS	7'4"	9.2					
~~SB~~ 3 15'	1	CAR CAR	2'2"	10.8	Muck	0"	70%	100%	Cypress knees, saturated
	2	CAR CAR	7'9"	11.8	>0.5"				
	3	TAX DIS	8'1"	9.1					Photo facing east #147
	4	CAR CAR	11.3"	4.6					7' to TOB → water flags to river (28' wide)
	1								
	2								
	3								
	4								

SM3 west Upland

PIN ELL — Disturbed (close to house)
QUE VIR
Basswood
SER REP

No hydric soils

GLY% 100%

CC% 90%

Notes

Survey line does not ~~go~~ go to upland edge. Upland is 41ft. ~~from~~ west of last survey marker

Transect: SM3 West		Scientists: FE / SB							Community: Cypress
Date/Time:	10/6/15	Dominant spp./%cover: Cypress 75%							Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									
Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
4 TOB → 24'	1	TAX DIS	4'3"	31.5	Muck	0"	50%	90%	Lots of cypress knees (ft. 11)
	2	Pop ash	7'0	21.5	70.5"				Saturated
	3	CAR CAR	19'4"	6.9					
	4	TAX ~~DIS~~ ASL	5'1"	52.4					
5 25'	1	TAX ASL	6'9"	101.0	Muck	0"	20%	90%	~~Cypress knees~~ hummock (big large cypress (152cm) dbh
	2	Pop ash	10'5"	3.5	70.5"				
	3	NYS SYL	9'6"	4.1					
	4	SAB PAL	9'2"	29.5					
6 38'	1	NYS SYL	6'11"	45.0	Muck	0"	20%	90%	On hummock (TOB)
	2	NYS SYL	3'3"	16.1	70.5"				
	3	MOR CER	7'1"	4.0					Photos 150 - 152
	4	ACE RUB	4'5"	26.3					
	1								
	2								
	3								
	4								

Transect: SM4 West	Scientists: HF BSB	Community:
Date/Time: 11/11/15	Dominant spp./%cover:	Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25		

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 (125' ~~50~~)	1	CAR CAR	9'	4.6	Clay, Dark Surf	0"	80%	90%	Water-stained leaves, close to water, grass
	2	CAR CAR	10'	23.7	Redox				top of bank for braided channel system
	3	CAR CAR	16'9"	13.6					
	4	CAR CAR	10'	6					
2 (60')	1	ULM AME	5'7"	23	Dark Surf	~~0~~ 3"	10%	100%	water-stained leaves, edge of channel
	2	ACE RUB	~~4'8~~	7.1	Clay	3"			
	3	CAR CAR	5'3"	8	Redox	3"			
	4	QUE VIR	12'7"	73					
3 (64')	1	CAR CAR	15'1"	18.5	Clay/Depleted	2"	20%	90%	Cypress knees, water-stained leaves,
	2	SAB PAL	15'4"	28					Hummocking
	3	CAR CAR	6'9"	12.3					
	4	CAR CAR	7'2"	15.5					
4 (123')	1	CEP OCC	8'7"	6.2	Sandy Redox	1"	30%	70%	Lizard's Tail; Water-stained leaves,
	2	CAR ~~SPP~~	6'9"	17.9					Cypress knees
	3	OST VIR	3'10"	23					
	4	CEP OCC	16'9"	2.9					

↓ New CommType

SM4 West Upland

MAG GRA
PIN sp. cleared recently
SER REP
SMI sp.

60%
20%

CC%
5*
*recently cleared

No hydric soil

Photos 52-54

Transect: SM4 West	Scientists: HF/SB	Community:
Date/Time: 11/11/15	Dominant spp./%cover:	Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25		

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
5 131'	1	CAR CAR	11'5"	6.7"	Muck >.5"	2"	10%	100%	Cypress knees, water stained leaves,
	2	TAX DIS	8'4"	47.6					Hydric veg
	3	ACE RUB	7'7"	26.2					
	4	CAR CAR	8'6"	4.2					
6 75'	1	CARCAR	2'10"	4.0	Muck Presence	0"	90%	30%	inundation, saturation,
	2	CARCAR	12'10"	6.5	Sandy Redox	4"			Cypress
	3	ACE RUB	7'11"	10.9	Stripping	4"			
	4	CARCAR	27'6"	20.3					
	1								
	2								
	3								
	4								
	1								
	2								
	3								
	4								

(*) Transect crosses 4 Braided Channels; Community types flw each are very similar

(*) 115' feet from Point 6 To River Edge

- 54cm Cypress
(*) Knees
-9ft
-21ft
-29ft
-55ft → Another Cypress ~ 30ft from the 55' marker

Transect: SM 5 W	Scientists: HF/SB	Community:
Date/Time: 9/25/15 1430	Dominant spp./%cover:	Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25		

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 22'	1	POP ASH	18'7"	3.8	Stripping & Redox	1"	80%	90%	Crayfish burrows, Saturated, Hummocking
	2	POP ASH	20'8"	25.3					
	3	POP ASH	13'	7.5					
	4	POP ASH	7'6"	4.5					
2 28'	1	POP ASH	11'5"	5.1	Mucky Mineral	2"	30%	100%	Crayfish burrows, Hummocking, Wetland Grasses
	2	POP ASH	13'9"	3.5					
	3	~~CRT VIR~~ ULM AME	8'5"	12.5					
	4	CAR CAR	4'6"	5.7					
3 18'	1	CAR CAR	15'9"	8.8	Stripping	2"	60%	70%	Crayfish burrows, Saturated soil, Wetland Grasses
	2	MOR CER	8'10"	14.0					
	3	ULM AME	14'1"	10.8					
	4	ULM AME	13'1"	6.3					
~~4~~ 39'	1								
	2								
	3								
	4								

SM 5 Upland

PTN FIL
MAG GRA
VIT sp
Bracken fern
ILE VOM

No hydric soil

GC% 70%

Can% 80%

30 Additional ft to water edge; area btw 4 & water edge is upland

Transect: SM6 W	Scientists: HF SB	Community:
Date/Time: 9/23/15 1600	Dominant spp./%cover:	Photos #/GPS #: 66-71
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25		

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 20'	1	LIQ STY	2'11	20.5	Mucky 5"	0"	50%	100%	Inundated, Crayfish burrows
	2	ULM AME	10'9"	8.9					Spilligia, Rhyncospora, Polygonum
	3	LIQ STY	13.1"	27.5					
	4	Basswood	10'7"	12.2					
2 13'	1	CAR CAR	11'0"	3.3	Muck	0"	~~80~~60%	100%	Inundated, crayfish burrows
	2	ULM AME	2'1"	8.6	7.5"				Rhyncospora, Acanthinacia
	3	~~QUE RUB~~ NYS SYL	5'3"	12.5					
	4	NYS SYL	8'6"	11.7					
3 15'	1	MOR CER	10'1"	2.7	Muck	0"	80%	80%	Saturated
	2	CAR CAR	7'0"	4.2	7.5"				Acanthinacia, Panicum,
	3	ULM AME	8'8"	3.1					
	4	CAR CAR	8'11"	16.3					
	1								
	2								
	3								
	4								

SM6 W - Upland

Hickory (Pignut)
PINE
QUE (white)
SER REP
~~ILE~~ ILE OPA
ILE VOM
Vitis sp
Bracken fern
Smilax spp

No hydric soil
Sandy soils

GC%	Can%
70%	95%

Upland | Wetland | Upland | river

Transect: SM7 W | Scientists: HF SB | Community:

Date/Time: 9/23/15 1550 | Dominant spp./%cover: | Photos #/GPS #:

Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18/46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 46	1	LIQ STY	12'8"	43.4	Sandy	3"	95%	90%	Mesic, Magnolia, oak, Woodwardia virginica/t aerolata
	2	MOR CER	11'4"	9.4	redox				
	3	QUE LAU	9'5"	17.0					
	4	MAG GRA	13.3"	13.6					
2 47'	1	MOR CER	2'10"	3.3	Sandy redox	4"	75%	95%	Mesic, Magnolia, oak, Hardwood deciduous
	2	Ironwood 14'7	~~5'8"~~	~~[illegible]~~ 13.2					Arundinaria, Chasmanthium
	3	Ironwood 1'4"	~~4'2"~~	3.8					Soils - clayey below sandy redox
	4	~~[illegible]~~ * Basswood	3'2"	11.3					~~* Basswood?~~
3 19'	1	Elm	3'8"	4.4	Thick dark				Mesic
	2	MOR CER	8'3"	2.5	surface				Woodwardia virginiana, PER PAL
	3	Hickory	7'11"	5.6	clayey 26"				depleted surface, dark below, clay
	4	Elm	9'9"	3.1					redox present 5%?
	1								
	2								
	3								
	4								

SM 7 W - Upland

PIN ELL
MAG GRA
Beech
winged Elm
SER REP
Vitis sp.
Red Oak

No hydric soil

GC%
20%

Canopy%
90%

Notes
Sandy soils
Surveyors continue line

Transect: SM-7W		Scientists: HF/SB							Community:
Date/Time:	9/23/15 2:30	Dominant spp./%cover:							Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
27' 4	1	LIQ STY	8'2"	17.5	Clayey Soil, Depleted Matrix, Redox	Surface	80%	100%	Crayfish burrow, Exposed roots, aquatic mosses
	2	PER PAL	7'2"	3.2					
	3	PER PAL	10'8"	12.7					
	4	LIQ STY	8'7"	~~18.2~~ 30.7					
26' 5	1	PER PAL	5'7"	8.0	Clayey Soil, Depleted Matrix, Redox	1"	10%	100%	Hummocking
	2	QUE LAU	3'6"	27.2					
	3	PER PAL	7'8"	10.7					
	4	PER PAL	2'9"	10.6					
23' 6	1	LIQ STY	9'9"	30.5	Mucky Min	2"	10%	100%	Hummocking
	2	LIQ STY	9'6"	15.8					
	3	CAR CAR	2'11"	9.1					
	4	MOR CER	8'8"	2.8					
	1								
	2								
	3								
	4								

East

Transect: ~~SM~~ SM 8	Scientists: HF / SB	Community:
Date: 11/4/15	Dominant spp./%cover:	Photos #/GPS #:
Random # seq: 18 12 4 3 5 18 3 18 3 12 5 20 6 19 7 20 7 15 9 14 5 2 16 19 19 (f(comm width)) x 2		

Point	PCQ	Random point dist (ft)	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm ~~in~~)	Hydric 1/0	Indicator A/S/F #	Depth SHS	Notes (Photo / GPS) GCZ CCZ
1	1	36'	PER PAL	5'11	19.6		Stripping Sand	3"	
	2		QUE LYR	5'5"	22.7				crayfish burrows
	3		PER PAL	11'5"	14.5				
	4		OST VIR	9'2"	12.0				
2	1	24'	OST VIR	6'3"	4.2		Mucky mineral	0"	Saturated, moist soils
	2		MOR CER	4'7"	3.0				Crayfish burrows.
	3		MOR CER	4'6"	2.9				
	4		PER PAL	9'5"	20.7				
3	1	24'	NYS SYL	6'2"	11.0		Mucky mineral	0"	Saturated
	2		OST VIR	7'0"	5.8				
	3		NYS SYL	6'8"	16.7				
	4		PER PAL	7'4"	6.0				
4	1								
	2								
	3								
	4								

Upland Notes on Back

East

Transect: ~~HF~~ SM 8	Scientists: HF/SB	Community:
Date: 11/4/15	Dominant spp./%cover:	Photos #/GPS #:
Random # seq: 18 12 4 3 5 18 3 18 3 12 5 20 6 19 7 20 7 15 9 14 5 2 16 19 19 (f(comm width))		

Point	PCQ	Random point dist (ft)	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric 1/0	Indicator A/S/F #	Depth SHS	Notes (Photo / GPS)
4	1	20'	MOR CER	5'9"	5.1		Mucky mineral	0"	Saturated
	2		NYS SYL	14'10"	24.3				more Nyssa present
	3		OST VIR	2'0"	3.4				
	4		NYS SYL	9'10"	8.4				
5	1	38'	MOR CER	8'10"	3.9				Saturated, crayfish
	2		OST VIR	5'10"	5.0				burrows, exposed roots
	3		FAG AME	7'2"	10.5				buttressing
	4		CAR CAR	7'8"	8.3				
3	1								90' to the TOB
	2								
	3								
	4								
4	1								
	2								
	3								
	4								

Transect: SM9 East	Scientists: HF/SB	Community:
Date/Time: 10/26/15	Dominant spp./%cover:	Photos #/GPS #:

Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 17'	1	SAB PAL	4'3"	42	Stripping (Sandy)	5"	50%	85%	Soils marginal, but seepage, ferns present
	2	QUE NIG	4'8"	5.5					
	3	QUE NIG	6'9"	6.2					WOO ARE, OSM CIN, WOO VIR
	4	PIN TAE	6'11"	46.1					
2 10'	1	MAG GRA	4'8"	9.8	Stripping (Sandy)	3"	50%	90%	Soils marginal seepage Slope ferns
	2	NYS SYL	1'2"	15.1					
	3	MAG GRA	2'6"	13.8					Photos #1-5
	4	NYS SYL	4'3"	22.5					
3 16'	1	PER PAL	2'0"	5.2	Stripping	1"			Soils marginal
	2	PER PAL	3'1"	33.6	Sandy redox	0"	60%	80%	
	3	NYS SYL	7'5"	53.6		Surface			
	4	NYS SYL	5'7"	30.5					
	1								
	2								
	3								
	4								

SM9 East Upland

PIN ELL (Plantation)
SER REP
MOR CER
QUE NIG
ILE VOM

No hydric soil characteristics

GC% 90%

C% 60%

Upland
↑ 20'
↓ wetland start

Transect: SM9 East		Scientists: HI/SB							Community:
Date/Time:	10/26/15 1330	Dominant spp./%cover:							Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
4 49'	1	CAR CAR	9'9"	4.1	Mucky	0"	80%	85	Photos #6
	2	PER PAL	3'3"	46.3	Mineral				
	3	PER PAL	10'6"	6.7					
	4	LIQ STY	7'8"	14.5					
5 41'	1	PER PAL	15'3"	12.7	Mucky	0"	80%	80%	Saturated (noticeably high tide)
	2	LIQ STY	1'2"	5.8	mineral				
	3	CAR CAR	11'9"	7.8					
	4	CAR CAR	11'9"	8.1					
6 42'	1	CAR CAR	2'1"	7.5	Mucky	0	30%	80%	Saturated (very high tide)
	2	MOR CER	2'7"	7.7	Mineral				
	3	NYS SYL	15'8"	15'7					
	4	QUE NIG	4'7"	4.1					
	1								~30 ft to the edge of the river
	2								
	3								
	4								

Transect: SM10 -E	Scientists: HF/SB	Community: ~~Upland~~
Date/Time: 9/23/15 1000	Dominant spp./%cover:	Photos #/GPS #: 55-58 / GPS: SM10-E

Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 ~~18 46 47~~ 36 27 26 23 11 20 13 31 35 45 12 37 28 25

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 18'	1	CAR SPP	4'2"	18.8	Muck @ Surface	0"	20%	90%	Fiddler Burrows, Potential Flowways
	2	POP ASH	7'7"	5.8					
	3	POP ASH	9'9"	7.2					
	4	QUE NIG	6'11"	6.2					
2 46'	1	POP ASH	5'10"	7.8	Muck @ Surf	0"	70%	95%	Fiddler Burrows, Water Stained leaves, Hummocking
	2	NYS SYL	~~7~~ 3'11"	~~5.8~~					
	3	MOR CER	12'6"	5					
	4	ILE VOM	7'1"	3.8					
3 23'	1	ULM AME	~~13'9"~~	13.8	Muck @ Surface	0"	80%	80%	Fiddler Burrows, Buttressing, Hummocking, Liz Tail
	2	POP ASH	10'5"	20.1					
	3	POP ASH	3'7"	9.7					
	4	QUE NIG	11'4"	8.8					
	1								
	2								
	3								
	4								

SM10 - E Upland

QUE VIR
SAB PAL
MAG GRA
Vaccinium sp
SER REP
QUE NIG
Bracken fern
MOR CER

No hydric soils

GC% 60%

Can% 80%

Notes

Sandy soil, no hydric soil characteristics

Transect: SM-10 E	Scientists: HF/SB	Community:
Date/Time: 9/23/15 1115	Dominant spp./%cover: NYS SYL / 50%	Photos #/GPS #: 59-63
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25		

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
4 15'	1	MOR CER	4'0"	3.3	Mucky	0"	40%	90%	Top of bank, aquatic mosses, buttress trees, stain lines
	2	Pop ash	6'7"	3.9	Mineral, 4" thick				Arundinaria
	3	NYS SYL	4'6"	19.6					
	4	QUE NIG	8'9"	12.2					
5 14'	1	NYS SYL	3'5"	34.0	Muck >5" thick	0"	60%	100%	Stain lines, arundinaria, ser rep.
	2	Pop ash	6'1"	5.6					
	3	PER PAL	5'4"	8.1					
	4	~~PER PAL~~ NYS SYL	6'10"	4.8					
6 13'	1	PER PAL	4'8"	9.8	Staining	1"	20%	100%	on bank, a lot of debris
	2	NYS SYL	3'4"	48.0	Sandy redox	0"			ser rep, MOR CER subcanopy
	3	Pop ash	7'4"	5.6					
	4	MOR CER	4'9"	6.1					
	1								
	2								
	3								
	4								

Transect: SM 10 West	Scientists: HF/SB	Community:
Date/Time: 10/27/15 / 9:40	Dominant spp./%cover:	Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25		

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 21'	1	SAB PAL	4'6"	43	Stripping	3"	30%	20%	Saturated, Hummocking, Heavy Duff Layer
	2	ILE VOM	32'10"	4.6					
	3	ACE ~~RUB~~ SAC	16'	16.5					
	4	QUE LAU	15'2"	24.1					
2 38'	1	PER PAL	2'7"	8.6	Mucky Min	0"	40%	50%	Saturated, Aquatic Mosses, Water Marks
	2	PER PAL	5'4"	7.8	Stripping	4"			
	3	MAG VIR	6'5"	20.7					
	4	MAG GRA	4'11"	15.6					
3 22'	1	PER PAL	8'7"	11.4	Mucky Min	0"	60%	60%	Saturated, Aquatic Mosses, Water Stained
	2	Willow Oak	9'3"	16.3					Leaves
	3	NYS SYL	17'1"	11.2					
	4	PER PAL	9"8"	14.1					
	1								
	2								
	3								
	4								

SM10 west Upland

PIN TAE SER REP
SAB ~~CA~~ PAL PER BOR
QUE NIG
MAG GRA
QUE LAU

No hydric soil characteristics

GC% 10%

CC% 60%

Transect ~~ends~~ extends to a structure in yard. Long of floodplain transect

Transect: SM10 West			Scientists: HF/SB						Community:
Date/Time:	10/27/15/10:00		Dominant spp./%cover:						Photos #/GPS #: 7-10
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 ~~14~~ 18 ~~46~~ 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									
Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
28' 4	1	CEL LAE (NYS something, look up)	4'2"	3.6	Mucky Min	0"	80%	70%	Inundation, Hummocking
	2	POP ASH	10'11"	6.7					
	3	MOR CER	5'7"	5.0					
	4	MAG GRA	6'9"	6.2					
36' 5	1	~~NYS~~ MOR CER	7'2"	7.6	Muck	0"	40%	80%	inundated, Buttressing, Aquatic Moss
	2	CEL LAE?	12'3"	5.1					
	3	NYS SYL	5'10"	12.6					
	4	NYS SYL	3'8"	10.1					
46' 6	1	MOR CER	5'10"	8.3	Mucky Min	0"	30%	90%	Saturation, Cray fish burrows, Aq Moss
	2	MOR CER	8'9"	3.9					
	3	NYS SYL	6'9"	18.2					
	4	PER PAL	11'5"	14.8					
	1								
	2								
	3								
	4								

(*) 47' to Next Community Type

Transect: SM 10 West	Scientists: HF/SB	Community:
Date/Time: 10/27/15/ 10:30	Dominant spp./%cover:	Photos #/GPS #: 11-13 from Top of Bank

Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 ~~14 18 46 47~~ 36 27 26 23 11 20 13 31 35 45 12 37 28 25

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
7 47'	1	PER PAL	3'6"	7.0	Muck	0"	40%	70%	Saturation, Exposed Roots, Fiddler
	2	CEP OCC	10'11"	3.0					Burrows
	3	MOR HET	11'9"	2.6					
	4	NYS SYL	7'9"	19.8					
8 36'	1	NYS SYL	8'9"	9.5	Mucky Min	0"	80%	40%	Inundated, Lizard's Tail
	2	MOR CER	4'3"	6.8					
	3	NYS SYL	18'10"	19.2					
	4		~~38'9"~~						
	1	~~NYS SY~~ ILE CAS	34'9"	7.8					
	2								
	3								
	4								
	1								
	2								
	3								
	4								

(*) 37' from Pt 8 to Edge of Water

Transect: SM11 East	Scientists: HF/SB	Community:
Date/Time: 11/4/15 1015	Dominant spp./%cover:	Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25		

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 22'	1	MAG GRA	1'2"	4.6	Mucky	3"	20%	95%	~~Start of~~
	2	MAG GRA	7'8"	8.6	mineral				slope going down to hardwood swamp.
	3	PER PAL	2'1"	5.8	Stripping	3"			
	4	PER PAL	11'5"	13.5					
2 14'	1	SAB PAL	7'10"	25.5	Mucky	0"	40%	95%	~~Start of hardwood~~
	2	Red cedar	7'7"	44.6	mineral				transition to ~~swamp~~ hardwood.
	3	PER PAL	7'3"	13.4					
	4	PER PAL	4'7"	5.8					20' to next community
3 18'	1	PER PAL	5'1"	11.2	Mucky	0"	40%	90%	Saturated
	2	NYS SYL	3'10"	10.7	mineral				* starts new community
	3	PER PAL	6'3"	6.5					
	4	NYS SYL	7'6"	6.8					
4 46'	1	PER PAL	13'9"	11.7	Mucky	0"	30%	90%	
	2	ACE SAC *	3'9"	6.9	mineral				* or FL maple
	3	MOR CER	6'3"	2.7					
	4	PER PAL	11'10"	7.8					

SM11 East Upland

MAG GRA
PIN TAE
SAB PAL
PIE ABA
QUE VIR
~~ACR~~
ILE DEC

GL% 30%

CC% 95%

No hydric soil indicators

-Similar to GL
-Survey extends too far upland. Measurements start up/wet line.

Transect: SM 11 East	Scientists: HF/SB	Community:
Date/Time: 11/4/15	Dominant spp./%cover:	Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25		

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
5 47'	1	MOR CER TS	[redacted]"	5.5	Mucky	0"	20%	85%	Saturated
	2	NYS SYL	3'7"	7.2	Mineral				
	3	~~MOR~~ CER	7'6"	3.6					
	4	MOR CER	6'3"	4.9					
6 36'	1	NYS SYL	6'8"	23.3	Mucky	0"	60%	80%	Inundated
	2	NYS SYL	12'4"	25.0	mineral				Rhy inundata, lizards tail, sawgrass
	3	NYS SYL	11'5"	5.6					
	4	NYS SYL	12'9"	21.5					
	1								~~4~~ 29 ft to the ~~tree~~ TOB
	2								
	3								
	4								
	1								
	2								
	3								
	4								

Transect: SM11 West		Scientists: HF/SR		Community:
Date/Time: 10/4/15		Dominant spp./%cover:		Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 21 38 22 14 18 46 47 36 27 26 23 11 20 13 ~~31 35~~ 45 12 37 28 25				

Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
1 31'	1	MOR CER	15'11"	2.8	Stripping	5"	40%	80%	Water-stained leaves, aquatic Moss
	2	MOR CER	3'9"	2.6					
	3	MOR CER	4'9"	4.0					
	4	MOR CER	14'6"	3.6					
2 35'	1	ULM AME	5'0	18.8	Dark Surface	0"	60%	70%	Water-stained leaves, hydro veg,
	2	POP ASH	6'10"	6.9	Redox	4"			
	3	SAB PAL	5'11"	27.9					
	4	ILE VOM	10'2"	3.6					
3 45'	1	POP ASH	6'3"	18.7	Mucky Min	0"	80%	70%	Aquatic Mosses, hydro veg,
	2	PER PAL	5'7"	53.1					
	3	ACE RUB	4'8"	16.7					
	4	SAB PAL	12'10"	32.3					
4 24'	1	OST VIR	1'8"	4.4	Mucky Min	0"	95%	70%	Hummocking, Hydro veg, Aquatic
	2	ACE RUB	7'4"	22.4					Mosses
	3	OST VIR	11'5"	4.4					
	4	PER PAL	~~[illegible]~~ 9'9"	~~[illegible]~~ 36.5					

210' to Next Comm TYPR

SM 11 West
SER REP
PIN TAE
MAG GRA

No hydric soil characteristics

GC% 20%

CC% 90%

Survey line extends too far ~~to~~ into upland.

Transect: SM11 West			Scientists: HF/SB						Community:
Date/Time: 11/4/15			Dominant spp./%cover:						Photos #/GPS #:
Random #: 17 10 32 49 41 42 43 15 44 30 24 50 39 ~~21~~ ~~38~~ 22 14 18 46 47 36 27 26 23 11 20 13 31 35 45 12 37 28 25									
Point and Dist (feet)	PCQ	Species (e.g. NYS SYL)	PCQ dist (ft)	DBH (cm)	Hydric/ Indicator A/S/F #	Depth SHS	% Ground Cover	% Canopy cover	Notes (e.g. inundation depth, saturation, cypress knees)
21' 5	1	NYS SYL	7'6"	6.6	Mucky Min	0"	40%	95%	Saturated, aquatic moss
	2	FAG AME	6'10"	6.0					
	3	ACE RUB	9'5"	14.8					
	4	NYS SYL	2'8"	15.3					
38' 6	1	PER PAL	7'0"	59.2	Mucky Min	0"	30%	70%	Saturated, Cypress knees
	2	NYS SYL	3'6"	30.9					
	3	NYS SYL	9'2"	21.3					
	4	NYS SYL	5'2"	29.7					
44' ~~50~~ 7	1	NYS SYL	5'0"	20.3	Mucky Min	0"	40%	60%	Saturated, Cypress knees, Exposed roots
	2	NYS SYL	8'6"	7.9					
	3	NYS SYL	6'9"	15.5					
	4	ACE RUB	6'10"	14.0					
	1								~~8~~ 95' more to edge of H2O
	2								
	3								
	4								